

# PRODUCT SELECTION GUIDE



# About Us

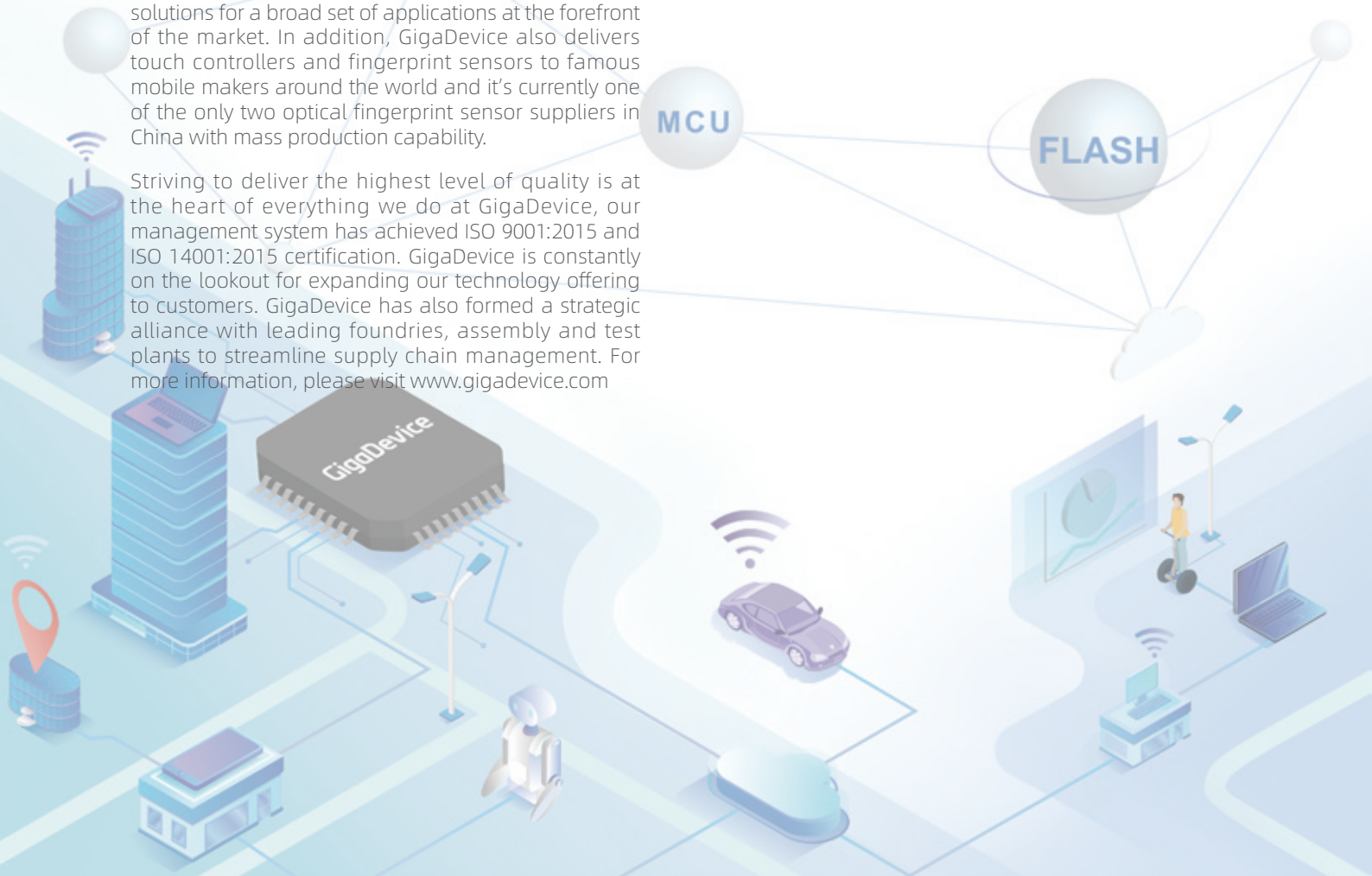
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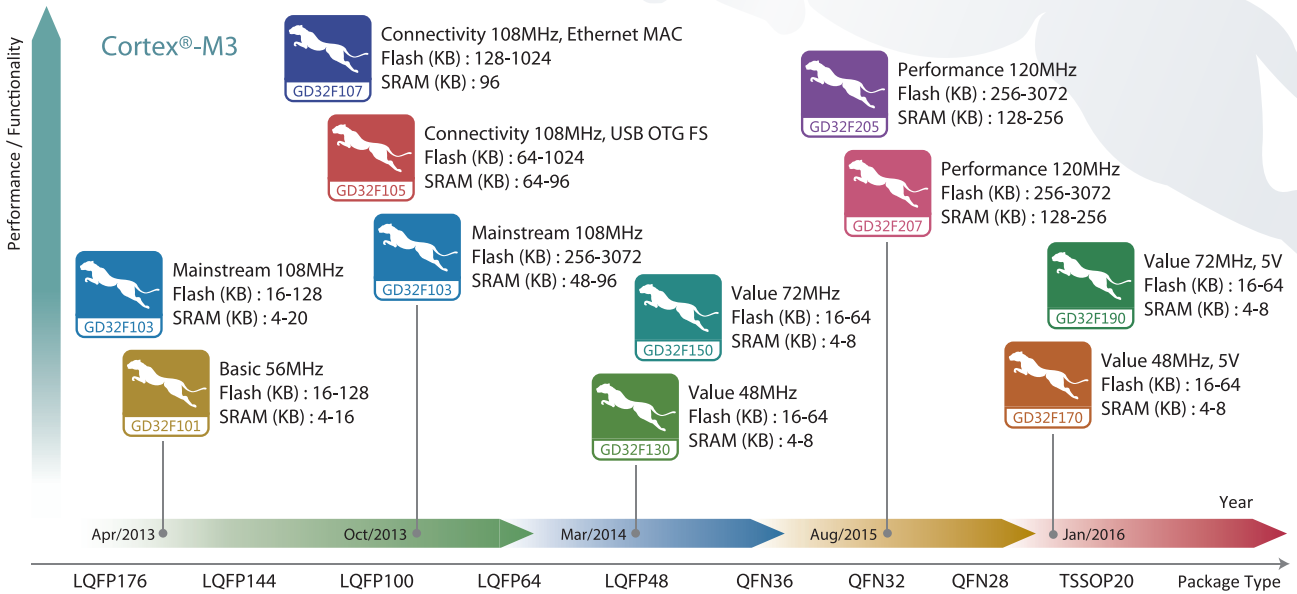
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# GD32 MCU

## GD32 Cortex®-M3 MCU Portfolios



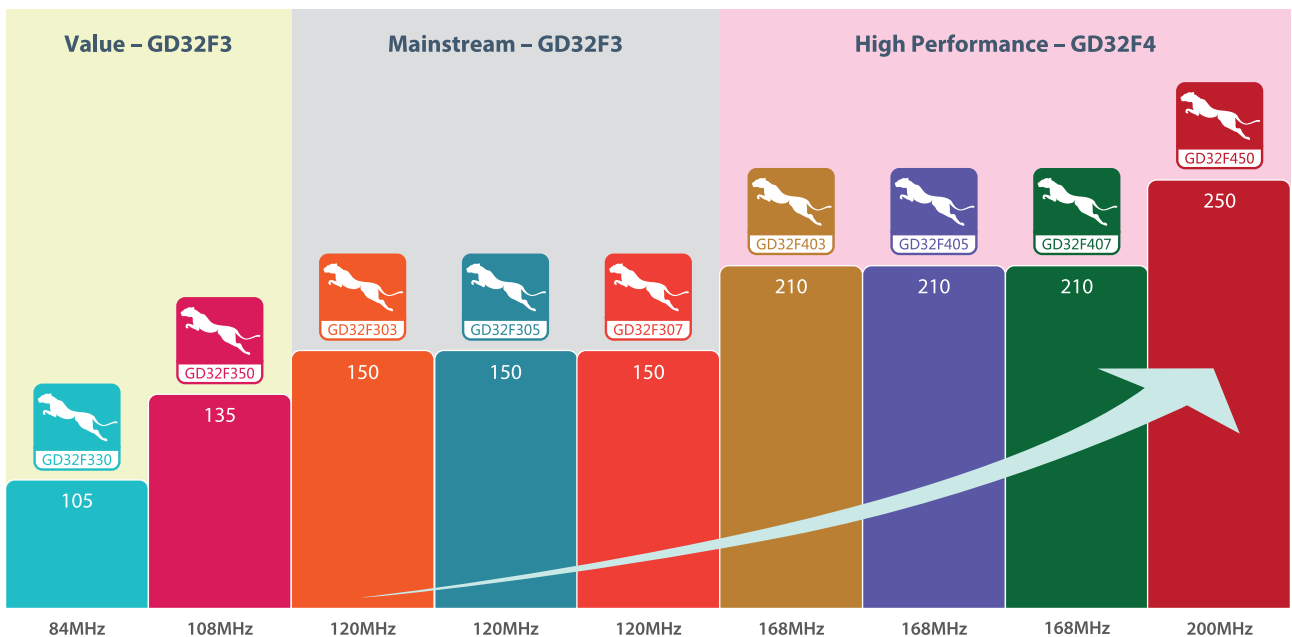
## GD32 Cortex®-M4 MCU Portfolios



## GD32 Cortex®-M3 MCU 200+ Part numbers



## GD32 Cortex®-M4 MCU 100+ Part numbers





## GD32 Cortex®-M23 MCU 20+ Part numbers



- ☑ GD32E230 & GD32E231 & GD32E232 Arm Cortex®-M23 value line @ 72MHz
- ☑ 16K-64K Flash, 4K-8K SRAM
- ☑ 1.8-3.6V supply; 5V tolerance I/Os
- ☑ -40°C to +85°C industrial level operating temperature
- ☑ Series pin to pin compatible and flexible S/W compatible



## GD32VF103 RISC-V MCU 14 Part numbers



- ☑ GD32VF103 RISC-V Bumblebee Core Mainstream Line
- ☑ Max F<sub>cpu</sub> 108MHz, 16K-128K Flash, 6K-32K SRAM
- ☑ 2.6-3.6V supply; 5V tolerance I/Os; all support USB OTG & CAN 2.0B
- ☑ -40°C to +85°C industrial level operating temperature
- ☑ Series pin to pin compatible and flexible S/W compatible



# GD32 Arm® MCU Product Family

|                 | Performance      | Arm® Cortex®-M 32-bit MCUs                  |   |   |   |  |
|-----------------|------------------|---|---|---|---|--|
|                 |                  | Cortex®-M23                                 | Cortex®-M3                                    |   | Cortex®-M4                                    |  |
| GD32 MCU Family | High-Performance |   |   |   | <b>GD32F450</b><br>200MHz, 3M Flash, 512K RAM | <b>GD32F407</b><br>168MHz, 3M Flash, 192K RAM  |
|                 |                  |   | <b>GD32F205</b><br>120MHz, 3M Flash, 256K RAM | <b>GD32F207</b><br>120MHz, 3M Flash, 256K RAM | <b>GD32F405</b><br>168MHz, 3M Flash, 192K RAM | <b>GD32F403</b><br>168MHz, 3M Flash, 128K RAM  |
|                 | Mainstream       |   | <b>GD32F105</b><br>108MHz, 1M Flash, 96K RAM  | <b>GD32F107</b><br>108MHz, 1M Flash, 96K RAM  | <b>GD32F305</b><br>120MHz, 1M Flash, 96K RAM  | <b>GD32F307</b><br>120MHz, 1M Flash, 96K RAM   |
|                 |                  |   | <b>GD32F103</b><br>108MHz, 3M Flash, 96K RAM  | <b>GD32F101</b><br>56MHz, 3M Flash, 80K RAM   | <b>GD32F303</b><br>120MHz, 3M Flash, 96K RAM  | <b>GD32E103</b><br>120MHz, 128K Flash, 32K RAM |
|                 | Entry-Level      |   | <b>GD32E232</b><br>72MHz, 64K Flash, 8K RAM   |   |   |  |
|                 |                  | <b>GD32E231</b><br>72MHz, 64K Flash, 8K RAM | <b>GD32F170</b><br>48MHz, 64K Flash, 8K RAM   | <b>GD32F190</b><br>72MHz, 64K Flash, 8K RAM   |   |  |
|                 |                  | <b>GD32E230</b><br>72MHz, 64K Flash, 8K RAM | <b>GD32F130</b><br>48MHz, 64K Flash, 8K RAM   | <b>GD32F150</b><br>72MHz, 64K Flash, 8K RAM   | <b>GD32F330</b><br>84MHz, 128K Flash, 16K RAM | <b>GD32F350</b><br>108MHz, 128K Flash, 16K RAM |
| Specific        |                  |   |   | <b>GD32FFPR</b><br>168MHz, 1M Flash, 128K RAM |   |  |

## MCU Package Types

|   |   |   |  |   |   |   |   |   |
|---|---|---|--|---|---|---|---|---|
| LQFP176<br>(24*24mm)  | LQFP144<br>(20*20mm)  | LQFP100<br>(14*14mm)  | LQFP64<br>(10*10mm)  | LQFP48<br>(7*7mm)   | LQFP32<br>(7*7mm)   |   |   |   |
|  |  |  |  |  |  |   |   |   |
| BGA176<br>(10*10mm)   | BGA100<br>(7*7mm)   | QFN36<br>(6*6mm)  | QFN32<br>(5*5mm)   | QFN32<br>(4*4mm)  | QFN28<br>(4*4mm)  | QFN24<br>(3*3mm)  | TSSOP20<br>(6.5*4.4mm)  | LGA20<br>(3*3mm)  |
|  |  |  |   |    |    |  |  |  |

# GD32 Development Ecosystem



# GD32V series of 32-bit RISC-V MCUs Selection Guide



| Series        | Part No.      | Max Speed (MHz) | Memory (Bytes) |          | I/O      | Timer        |                     |                  |                 |     |     | Connectivity |                  |     |          |            |                  |      | EXMC | Analog Interface |                       | Package |                 |
|---------------|---------------|-----------------|----------------|----------|----------|--------------|---------------------|------------------|-----------------|-----|-----|--------------|------------------|-----|----------|------------|------------------|------|------|------------------|-----------------------|---------|-----------------|
|               |               |                 | Flash          | SRAM     |          | GPTM (16bit) | Advanced TM (16bit) | Basic TM (16bit) | SysTick (24bit) | WDG | RTC | USART+UART   | I <sup>2</sup> C | SPI | CAN 2.0B | USB 2.0 FS | I <sup>2</sup> S | SDIO |      | Ether-net        | 12bit ADC Units (CHs) |         | 12bit DAC Units |
| GD32VF103     | GD32VF103T4U6 | 108             | 16K            | 6K       | up to 26 | 2            | 1                   | 2                | 1               | 2   | 1   | 2+0          | 1                | 1   | 2        | OTG        |                  |      |      |                  | 2(10)                 | 2       | QFN36           |
|               | GD32VF103T6U6 | 108             | 32K            | 10K      | up to 26 | 2            | 1                   | 2                | 1               | 2   | 1   | 2+0          | 1                | 1   | 2        | OTG        |                  |      |      |                  | 2(10)                 | 2       | QFN36           |
|               | GD32VF103T8U6 | 108             | 64K            | 20K      | up to 26 | 4            | 1                   | 2                | 1               | 2   | 1   | 2+0          | 1                | 1   | 2        | OTG        |                  |      |      |                  | 2(10)                 | 2       | QFN36           |
|               | GD32VF103TBU6 | 108             | 128K           | 32K      | up to 26 | 4            | 1                   | 2                | 1               | 2   | 1   | 2+0          | 1                | 1   | 2        | OTG        |                  |      |      |                  | 2(10)                 | 2       | QFN36           |
|               | GD32VF103C4T6 | 108             | 16K            | 6K       | up to 37 | 2            | 1                   | 2                | 1               | 2   | 1   | 2+0          | 1                | 1   | 2        | OTG        |                  |      |      |                  | 2(10)                 | 2       | LQFP48          |
|               | GD32VF103C6T6 | 108             | 32K            | 10K      | up to 37 | 2            | 1                   | 2                | 1               | 2   | 1   | 2+0          | 1                | 1   | 2        | OTG        |                  |      |      |                  | 2(10)                 | 2       | LQFP48          |
|               | GD32VF103C8T6 | 108             | 64K            | 20K      | up to 37 | 4            | 1                   | 2                | 1               | 2   | 1   | 3+0          | 2                | 3   | 2        | OTG        | 2                |      |      |                  | 2(10)                 | 2       | LQFP48          |
|               | GD32VF103CBT6 | 108             | 128K           | 32K      | up to 37 | 4            | 1                   | 2                | 1               | 2   | 1   | 3+0          | 2                | 3   | 2        | OTG        | 2                |      |      |                  | 2(10)                 | 2       | LQFP48          |
|               | GD32VF103R4T6 | 108             | 16K            | 6K       | up to 51 | 2            | 1                   | 2                | 1               | 2   | 1   | 2+0          | 1                | 1   | 2        | OTG        |                  |      |      |                  | 2(16)                 | 2       | LQFP64          |
|               | GD32VF103R6T6 | 108             | 32K            | 10K      | up to 51 | 2            | 1                   | 2                | 1               | 2   | 1   | 2+0          | 1                | 1   | 2        | OTG        |                  |      |      |                  | 2(16)                 | 2       | LQFP64          |
|               | GD32VF103R8T6 | 108             | 64K            | 20K      | up to 51 | 4            | 1                   | 2                | 1               | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG        | 2                |      |      |                  | 2(16)                 | 2       | LQFP64          |
|               | GD32VF103RBT6 | 108             | 128K           | 32K      | up to 51 | 4            | 1                   | 2                | 1               | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG        | 2                |      |      |                  | 2(16)                 | 2       | LQFP64          |
|               | GD32VF103V8T6 | 108             | 64K            | 20K      | up to 80 | 4            | 1                   | 2                | 1               | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG        | 2                |      |      | •                | 2(16)                 | 2       | LQFP100         |
| GD32VF103VBT6 | 108           | 128K            | 32K            | up to 80 | 4        | 1            | 2                   | 1                | 2               | 1   | 3+2 | 2            | 3                | 2   | OTG      | 2          |                  |      | •    | 2(16)            | 2                     | LQFP100 |                 |

# GD32E23x series of 32-bit ARM® Cortex®-M23 MCUs Selection Guide

| Series   | Part No.     | Max Speed (MHz) | Memory (Bytes) |      | I/O      | Timer        |              |                     |                  |                 |     | Connectivity |       |                  |     |            |                  |      | Analog Interface |                       | Package |                 |         |       |
|----------|--------------|-----------------|----------------|------|----------|--------------|--------------|---------------------|------------------|-----------------|-----|--------------|-------|------------------|-----|------------|------------------|------|------------------|-----------------------|---------|-----------------|---------|-------|
|          |              |                 | Flash          | SRAM |          | GPTM (32bit) | GPTM (16bit) | Advanced TM (16bit) | Basic TM (16bit) | SysTick (24bit) | WDG | RTC          | USART | I <sup>2</sup> C | SPI | USB 2.0 FS | I <sup>2</sup> S | Comp | OP-AMP           | 12bit ADC Units (CHs) |         | 12bit DAC Units |         |       |
| GD32E230 | GD32E230F4P6 | 72              | 16K            | 4K   | up to 15 |              | 4            | 1                   | 1                | 1               | 2   | 1            | 1     | 1                | 1   |            | 1                | 1    |                  |                       | 1(9)    |                 | TSSOP20 |       |
|          | GD32E230F6P6 | 72              | 32K            | 6K   | up to 15 |              | 4            | 1                   | 1                | 1               | 2   | 1            | 2     | 1                | 1   |            | 1                | 1    |                  |                       | 1(9)    |                 | TSSOP20 |       |
|          | GD32E230F8P6 | 72              | 64K            | 8K   | up to 15 |              | 4            | 1                   | 1                | 1               | 2   | 1            | 2     | 2                | 2   |            | 1                | 1    |                  |                       | 1(9)    |                 | TSSOP20 |       |
|          | GD32E230F4V6 | 72              | 16K            | 4K   | up to 15 |              | 4            | 1                   | 1                | 1               | 2   | 1            | 1     | 1                | 1   |            | 1                | 1    |                  |                       | 1(9)    |                 | LGA20   |       |
|          | GD32E230F6V6 | 72              | 32K            | 6K   | up to 15 |              | 4            | 1                   | 1                | 1               | 2   | 1            | 2     | 1                | 1   |            | 1                | 1    |                  |                       | 1(9)    |                 | LGA20   |       |
|          | GD32E230F8V6 | 72              | 64K            | 8K   | up to 15 |              | 4            | 1                   | 1                | 1               | 2   | 1            | 2     | 2                | 2   |            | 1                | 1    |                  |                       | 1(9)    |                 | LGA20   |       |
|          | GD32E230G4U6 | 72              | 16K            | 4K   | up to 23 |              | 4            | 1                   | 1                | 1               | 2   | 1            | 1     | 1                | 1   |            | 1                | 1    |                  |                       | 1(10)   |                 | QFN28   |       |
|          | GD32E230G6U6 | 72              | 32K            | 6K   | up to 23 |              | 4            | 1                   | 1                | 1               | 2   | 1            | 2     | 1                | 1   |            | 1                | 1    |                  |                       | 1(10)   |                 | QFN28   |       |
|          | GD32E230G8U6 | 72              | 64K            | 8K   | up to 23 |              |              | 5                   | 1                | 1               | 1   | 2            | 1     | 2                | 2   | 2          |                  | 1    | 1                |                       |         | 1(10)           |         | QFN28 |
|          | GD32E230K4U6 | 72              | 16K            | 4K   | up to 27 |              | 4            | 1                   | 1                | 1               | 2   | 1            | 1     | 1                | 1   |            | 1                | 1    |                  |                       | 1(10)   |                 | QFN32   |       |
|          | GD32E230K6U6 | 72              | 32K            | 6K   | up to 27 |              | 4            | 1                   | 1                | 1               | 2   | 1            | 2     | 1                | 1   |            | 1                | 1    |                  |                       | 1(10)   |                 | QFN32   |       |
|          | GD32E230K8U6 | 72              | 64K            | 8K   | up to 27 |              | 5            | 1                   | 1                | 1               | 2   | 1            | 2     | 2                | 2   |            | 1                | 1    |                  |                       | 1(10)   |                 | QFN32   |       |
|          | GD32E230K4T6 | 72              | 16K            | 4K   | up to 25 |              | 4            | 1                   | 1                | 1               | 2   | 1            | 1     | 1                | 1   |            | 1                | 1    |                  |                       | 1(10)   |                 | LQFP32  |       |



| Series   | Part No.     | Max Speed (MHz) | Memory (Bytes) |      | I/O      | Timer        |              |                     |                  |                 |     | Connectivity |       |                  |     |            |                  | Analog Interface |        | Package |                       |                 |
|----------|--------------|-----------------|----------------|------|----------|--------------|--------------|---------------------|------------------|-----------------|-----|--------------|-------|------------------|-----|------------|------------------|------------------|--------|---------|-----------------------|-----------------|
|          |              |                 | Flash          | SRAM |          | GPTM (32bit) | GPTM (16bit) | Advanced TM (16bit) | Basic TM (16bit) | SysTick (24bit) | WDG | RTC          | USART | I <sup>2</sup> C | SPI | USB 2.0 FS | I <sup>2</sup> S | Comp             | OP-AMP |         | 12bit ADC Units (CHs) | 12bit DAC Units |
| GD32E230 | GD32E230K6T6 | 72              | 32K            | 6K   | up to 25 |              | 4            | 1                   | 1                | 1               | 2   | 1            | 2     | 1                | 1   |            | 1                | 1                |        | 1(10)   |                       | LQFP32          |
|          | GD32E230K8T6 | 72              | 64K            | 8K   | up to 25 |              | 5            | 1                   | 1                | 1               | 2   | 1            | 2     | 2                | 2   |            | 1                | 1                |        | 1(10)   |                       | LQFP32          |
|          | GD32E230C4T6 | 72              | 16K            | 4K   | up to 39 |              | 4            | 1                   | 1                | 1               | 2   | 1            | 1     | 1                |     | 1          | 1                |                  | 1(10)  |         | LQFP48                |                 |
|          | GD32E230C6T6 | 72              | 32K            | 6K   | up to 39 |              | 4            | 1                   | 1                | 1               | 2   | 1            | 2     | 1                | 1   |            | 1                | 1                |        | 1(10)   |                       | LQFP48          |
|          | GD32E230C8T6 | 72              | 64K            | 8K   | up to 39 |              | 5            | 1                   | 1                | 1               | 2   | 1            | 2     | 2                | 2   |            | 1                | 1                |        | 1(10)   |                       | LQFP48          |
| GD32E231 | GD32E231C4T6 | 72              | 16K            | 4K   | up to 39 |              | 4            | 1                   | 1                | 1               | 2   | 1            | 1     | 1                |     | 1          | 1                | 2                | 1(10)  |         | LQFP48                |                 |
|          | GD32E231C6T6 | 72              | 32K            | 6K   | up to 39 |              | 4            | 1                   | 1                | 1               | 2   | 1            | 2     | 1                | 1   |            | 1                | 1                | 2      | 1(10)   |                       | LQFP48          |
|          | GD32E231C8T6 | 72              | 64K            | 8K   | up to 39 |              | 5            | 1                   | 1                | 1               | 2   | 1            | 2     | 2                | 2   |            | 1                | 1                | 2      | 1(10)   |                       | LQFP48          |
| GD32E232 | GD32E232E4U7 | 72              | 16K            | 4K   | up to 23 | 1            | 4            | 1                   | 2                | 1               | 2   | 1            | 2     | 2                | 1   |            | 1                |                  |        | 1(13)   | 4                     | QFN24           |
|          | GD32E232E6U7 | 72              | 32K            | 6K   | up to 23 | 1            | 4            | 1                   | 2                | 1               | 2   | 1            | 2     | 2                | 1   |            | 1                |                  |        | 1(13)   | 4                     | QFN24           |
|          | GD32E232E8U7 | 72              | 64K            | 8K   | up to 23 | 1            | 5            | 1                   | 2                | 1               | 2   | 1            | 2     | 2                | 2   |            | 1                |                  |        | 1(13)   | 4                     | QFN24           |
|          | GD32E232K4Q7 | 72              | 16K            | 4K   | up to 28 | 1            | 4            | 1                   | 2                | 1               | 2   | 1            | 2     | 2                | 1   |            | 1                |                  |        | 1(16)   | 4                     | QFN32           |
|          | GD32E232K6Q7 | 72              | 32K            | 6K   | up to 28 | 1            | 4            | 1                   | 2                | 1               | 2   | 1            | 2     | 2                | 1   |            | 1                |                  |        | 1(16)   | 4                     | QFN32           |
|          | GD32E232K8Q7 | 72              | 64K            | 8K   | up to 28 | 1            | 5            | 1                   | 2                | 1               | 2   | 1            | 2     | 2                | 2   |            | 1                |                  |        | 1(16)   | 4                     | QFN32           |

## GD32E1 series of 32-bit ARM® Cortex®-M4F MCUs Selection Guide



| Series   | Part No.     | Max Speed (MHz) | Memory (Bytes) |      | I/O      | Timer        |                |                |                 |     |     | Connectivity |                  |     |          |            |                  | EXMC | Analog Interface |           | Package |                       |                 |
|----------|--------------|-----------------|----------------|------|----------|--------------|----------------|----------------|-----------------|-----|-----|--------------|------------------|-----|----------|------------|------------------|------|------------------|-----------|---------|-----------------------|-----------------|
|          |              |                 | Flash          | SRAM |          | GPTM (16bit) | Adv TM (16bit) | Bsc TM (16bit) | SysTick (24bit) | WDG | RTC | USART +UART  | I <sup>2</sup> C | SPI | CAN 2.0B | USB 2.0 FS | I <sup>2</sup> S |      | SDIO             | Ether-net |         | 12bit ADC Units (CHs) | 12bit DAC Units |
| GD32E103 | GD32E103T8U6 | 120             | 64K            | 20K  | up to 26 | 4            | 1              | 2              | 1               | 2   | 1   | 2+0          | 1                | 1   | 2 x FD   | OTG        |                  |      |                  |           | 2(10)   | 2                     | QFN36           |
|          | GD32E103TBU6 | 120             | 128K           | 32K  | up to 26 | 4            | 1              | 2              | 1               | 2   | 1   | 2+0          | 1                | 1   | 2 x FD   | OTG        |                  |      |                  |           | 2(10)   | 2                     | QFN36           |
|          | GD32E103C8T6 | 120             | 64K            | 20K  | up to 37 | 10           | 1              | 2              | 1               | 2   | 1   | 3+0          | 2                | 3   | 2 x FD   | OTG        | 2                |      |                  |           | 2(10)   | 2                     | LQFP48          |
|          | GD32E103CBT6 | 120             | 128K           | 32K  | up to 37 | 10           | 1              | 2              | 1               | 2   | 1   | 3+0          | 2                | 3   | 2 x FD   | OTG        | 2                |      |                  |           | 2(10)   | 2                     | LQFP48          |
|          | GD32E103R8T6 | 120             | 64K            | 20K  | up to 51 | 10           | 2              | 2              | 1               | 2   | 1   | 3+2          | 2                | 3   | 2 x FD   | OTG        | 2                |      |                  |           | 2(16)   | 2                     | LQFP64          |
|          | GD32E103RBT6 | 120             | 128K           | 32K  | up to 51 | 10           | 2              | 2              | 1               | 2   | 1   | 3+2          | 2                | 3   | 2 x FD   | OTG        | 2                |      |                  |           | 2(16)   | 2                     | LQFP64          |
|          | GD32E103V8T6 | 120             | 64K            | 20K  | up to 80 | 10           | 2              | 2              | 1               | 2   | 1   | 3+2          | 2                | 3   | 2 x FD   | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP100         |
|          | GD32E103VBT6 | 120             | 128K           | 32K  | up to 80 | 10           | 2              | 2              | 1               | 2   | 1   | 3+2          | 2                | 3   | 2 x FD   | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP100         |

# GD32F4 series of 32-bit ARM® Cortex®-M4F MCUs Selection Guide



| Series       | Part No.     | Max Speed (MHz) | Memory (Bytes) |           | I/O       | Timer        |                |              |                |     |     | Connectivity |                  |     |          |         |                  |      |         |        |         | EXMC/SDRAM | Analog Interface |                       | Package |                 |
|--------------|--------------|-----------------|----------------|-----------|-----------|--------------|----------------|--------------|----------------|-----|-----|--------------|------------------|-----|----------|---------|------------------|------|---------|--------|---------|------------|------------------|-----------------------|---------|-----------------|
|              |              |                 | Flash          | SRAM      |           | GPTM (16bit) | Adv TM (16bit) | GPTM (32bit) | Bsc TM (16bit) | WDG | RTC | USART+UART   | I <sup>2</sup> C | SPI | CAN 2.0B | USB OTG | I <sup>2</sup> S | SDIO | LCD-TFT | Camera | ETH MAC |            | IPA              | 12bit ADC Units (CHs) |         | 12bit DAC Units |
| GD32F450     | GD32F450VET6 | 200             | 512K           | 256K      | up to 82  | 8            | 2              | 2            | 2              | 2   | 1   | 4+4          | 3                | 5   | 2        | FS+HS   | 2                | 1    | 1       | 1      | 1       | 1          | 1/0              | 3(16)                 | 2       | LQFP100         |
|              | GD32F450VGT6 | 200             | 1024K          | 256K      | up to 82  | 8            | 2              | 2            | 2              | 2   | 1   | 4+4          | 3                | 5   | 2        | FS+HS   | 2                | 1    | 1       | 1      | 1       | 1          | 1/0              | 3(16)                 | 2       | LQFP100         |
|              | GD32F450VIT6 | 200             | 2048K          | 512K      | up to 82  | 8            | 2              | 2            | 2              | 2   | 1   | 4+4          | 3                | 5   | 2        | FS+HS   | 2                | 1    | 1       | 1      | 1       | 1          | 1/0              | 3(16)                 | 2       | LQFP100         |
|              | GD32F450VKT6 | 200             | 3072K          | 256K      | up to 82  | 8            | 2              | 2            | 2              | 2   | 1   | 4+4          | 3                | 5   | 2        | FS+HS   | 2                | 1    | 1       | 1      | 1       | 1          | 1/0              | 3(16)                 | 2       | LQFP100         |
|              | GD32F450ZET6 | 200             | 512K           | 256K      | up to 114 | 8            | 2              | 2            | 2              | 2   | 1   | 4+4          | 3                | 6   | 2        | FS+HS   | 2                | 1    | 1       | 1      | 1       | 1          | 1/1              | 3(24)                 | 2       | LQFP144         |
|              | GD32F450ZGT6 | 200             | 1024K          | 256K      | up to 114 | 8            | 2              | 2            | 2              | 2   | 1   | 4+4          | 3                | 6   | 2        | FS+HS   | 2                | 1    | 1       | 1      | 1       | 1          | 1/1              | 3(24)                 | 2       | LQFP144         |
|              | GD32F450ZIT6 | 200             | 2048K          | 512K      | up to 114 | 8            | 2              | 2            | 2              | 2   | 1   | 4+4          | 3                | 6   | 2        | FS+HS   | 2                | 1    | 1       | 1      | 1       | 1          | 1/1              | 3(24)                 | 2       | LQFP144         |
|              | GD32F450ZKT6 | 200             | 3072K          | 256K      | up to 114 | 8            | 2              | 2            | 2              | 2   | 1   | 4+4          | 3                | 6   | 2        | FS+HS   | 2                | 1    | 1       | 1      | 1       | 1          | 1/1              | 3(24)                 | 2       | LQFP144         |
|              | GD32F450IGH6 | 200             | 1024K          | 256K      | up to 140 | 8            | 2              | 2            | 2              | 2   | 1   | 4+4          | 3                | 6   | 2        | FS+HS   | 2                | 1    | 1       | 1      | 1       | 1          | 1/1              | 3(24)                 | 2       | BGA176          |
|              | GD32F450IHH6 | 200             | 2048K          | 512K      | up to 140 | 8            | 2              | 2            | 2              | 2   | 1   | 4+4          | 3                | 6   | 2        | FS+HS   | 2                | 1    | 1       | 1      | 1       | 1          | 1/1              | 3(24)                 | 2       | BGA176          |
| GD32F450IKH6 | 200          | 3072K           | 256K           | up to 140 | 8         | 2            | 2              | 2            | 2              | 1   | 4+4 | 3            | 6                | 2   | FS+HS    | 2       | 1                | 1    | 1       | 1      | 1       | 1/1        | 3(24)            | 2                     | BGA176  |                 |
| GD32F405     | GD32F405RET6 | 168             | 512K           | 192K      | up to 51  | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      |         |            |                  | 3(16)                 | 2       | LQFP64          |
|              | GD32F405RGT6 | 168             | 1024K          | 192K      | up to 51  | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      |         |            |                  | 3(16)                 | 2       | LQFP64          |
|              | GD32F405RKT6 | 168             | 3072K          | 192K      | up to 51  | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      |         |            |                  | 3(16)                 | 2       | LQFP64          |
|              | GD32F405VGT6 | 168             | 1024K          | 192K      | up to 82  | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      |         |            |                  | 3(16)                 | 2       | LQFP100         |
|              | GD32F405VKT6 | 168             | 3072K          | 192K      | up to 82  | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      |         |            |                  | 3(16)                 | 2       | LQFP100         |
|              | GD32F405VGH6 | 168             | 1024K          | 192K      | up to 82  | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      |         |            |                  | 3(16)                 | 2       | BGA100          |
|              | GD32F405VKH6 | 168             | 3072K          | 192K      | up to 82  | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      |         |            |                  | 3(16)                 | 2       | BGA100          |
|              | GD32F405ZGT6 | 168             | 1024K          | 192K      | up to 114 | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      |         |            |                  | 3(24)                 | 2       | LQFP144         |
|              | GD32F405ZKT6 | 168             | 3072K          | 192K      | up to 114 | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      |         |            |                  | 3(24)                 | 2       | LQFP144         |
| GD32F407     | GD32F407RET6 | 168             | 512K           | 192K      | up to 51  | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      | 1       |            |                  | 3(16)                 | 2       | LQFP64          |
|              | GD32F407RGT6 | 168             | 1024K          | 192K      | up to 51  | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      | 1       |            |                  | 3(16)                 | 2       | LQFP64          |
|              | GD32F407RKT6 | 168             | 3072K          | 192K      | up to 51  | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      | 1       |            |                  | 3(16)                 | 2       | LQFP64          |
|              | GD32F407VET6 | 168             | 512K           | 192K      | up to 82  | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      | 1       |            | 1/0              | 3(16)                 | 2       | LQFP100         |
|              | GD32F407VGT6 | 168             | 1024K          | 192K      | up to 82  | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      | 1       |            | 1/0              | 3(16)                 | 2       | LQFP100         |
|              | GD32F407VKT6 | 168             | 3072K          | 192K      | up to 82  | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      | 1       |            | 1/0              | 3(16)                 | 2       | LQFP100         |
|              | GD32F407VEH6 | 168             | 512K           | 192K      | up to 82  | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      | 1       |            | 1/0              | 3(16)                 | 2       | BGA100          |
|              | GD32F407VGH6 | 168             | 1024K          | 192K      | up to 82  | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      | 1       |            | 1/0              | 3(16)                 | 2       | BGA100          |
|              | GD32F407VKH6 | 168             | 3072K          | 192K      | up to 82  | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      | 1       |            | 1/0              | 3(16)                 | 2       | BGA100          |
|              | GD32F407ZET6 | 168             | 512K           | 192K      | up to 114 | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      | 1       |            | 1/1              | 3(24)                 | 2       | LQFP144         |
|              | GD32F407ZGT6 | 168             | 1024K          | 192K      | up to 114 | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      | 1       |            | 1/1              | 3(24)                 | 2       | LQFP144         |
|              | GD32F407ZKT6 | 168             | 3072K          | 192K      | up to 114 | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      | 1       |            | 1/1              | 3(24)                 | 2       | LQFP144         |
|              | GD32F407IEH6 | 168             | 512K           | 192K      | up to 140 | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      | 1       |            | 1/1              | 3(24)                 | 2       | BGA176          |
|              | GD32F407IGH6 | 168             | 1024K          | 192K      | up to 140 | 8            | 2              | 2            | 2              | 2   | 1   | 4+2          | 3                | 3   | 2        | FS+HS   | 2                | 1    |         | 1      | 1       |            | 1/1              | 3(24)                 | 2       | BGA176          |
| GD32F407IKH6 | 168          | 3072K           | 192K           | up to 140 | 8         | 2            | 2              | 2            | 2              | 1   | 4+2 | 3            | 3                | 2   | FS+HS    | 2       | 1                |      | 1       | 1      |         | 1/1        | 3(24)            | 2                     | BGA176  |                 |

| Series   | Part No.     | Max Speed (MHz) | Memory (Bytes) |      | I/O       | Timer        |                |              |                |     |     | Connectivity |                  |     |          |         |                  |      |         |         |         | EXMC/SDRAM | Analog Interface |                       | Package |                 |         |
|----------|--------------|-----------------|----------------|------|-----------|--------------|----------------|--------------|----------------|-----|-----|--------------|------------------|-----|----------|---------|------------------|------|---------|---------|---------|------------|------------------|-----------------------|---------|-----------------|---------|
|          |              |                 | Flash          | SRAM |           | GPTM (16bit) | Adv TM (16bit) | GPTM (32bit) | Bsc TM (16bit) | WDG | RTC | USART +UART  | I <sup>2</sup> C | SPI | CAN 2.0B | USB OTG | I <sup>2</sup> S | SDIO | LCD-TFT | Cam era | ETH MAC |            | IPA              | 12bit ADC Units (Chs) |         | 12bit DAC Units |         |
| GD32F403 | GD32F403RCT6 | 168             | 256K           | 64K  | up to 51  | 8            | 2              |              | 2              | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG     | 2                | 1    |         |         |         |            |                  | 0/0                   | 3(16)   | 2               | LQFP64  |
|          | GD32F403RET6 | 168             | 512K           | 96K  | up to 51  | 8            | 2              |              | 2              | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG     | 2                | 1    |         |         |         |            |                  | 0/0                   | 3(16)   | 2               | LQFP64  |
|          | GD32F403RGT6 | 168             | 1024K          | 128K | up to 51  | 8            | 2              |              | 2              | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG     | 2                | 1    |         |         |         |            |                  | 0/0                   | 3(16)   | 2               | LQFP64  |
|          | GD32F403RIT6 | 168             | 2048K          | 128K | up to 51  | 8            | 2              |              | 2              | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG     | 2                | 1    |         |         |         |            |                  | 0/0                   | 3(16)   | 2               | LQFP64  |
|          | GD32F403RKT6 | 168             | 3072K          | 128K | up to 51  | 8            | 2              |              | 2              | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG     | 2                | 1    |         |         |         |            |                  | 0/0                   | 3(16)   | 2               | LQFP64  |
|          | GD32F403VCT6 | 168             | 256K           | 64K  | up to 80  | 8            | 2              |              | 2              | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG     | 2                | 1    |         |         |         |            |                  | 1/0                   | 3(16)   | 2               | LQFP100 |
|          | GD32F403VET6 | 168             | 512K           | 96K  | up to 80  | 8            | 2              |              | 2              | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG     | 2                | 1    |         |         |         |            |                  | 1/0                   | 3(16)   | 2               | LQFP100 |
|          | GD32F403VGT6 | 168             | 1024K          | 128K | up to 80  | 8            | 2              |              | 2              | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG     | 2                | 1    |         |         |         |            |                  | 1/0                   | 3(16)   | 2               | LQFP100 |
|          | GD32F403VIT6 | 168             | 2048K          | 128K | up to 80  | 8            | 2              |              | 2              | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG     | 2                | 1    |         |         |         |            |                  | 1/0                   | 3(16)   | 2               | LQFP100 |
|          | GD32F403VKT6 | 168             | 3072K          | 128K | up to 80  | 8            | 2              |              | 2              | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG     | 2                | 1    |         |         |         |            |                  | 1/0                   | 3(16)   | 2               | LQFP100 |
|          | GD32F403VCH6 | 168             | 256K           | 64K  | up to 80  | 8            | 2              |              | 2              | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG     | 2                | 1    |         |         |         |            |                  | 1/0                   | 3(16)   | 2               | BGA100  |
|          | GD32F403VEH6 | 168             | 512K           | 96K  | up to 80  | 8            | 2              |              | 2              | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG     | 2                | 1    |         |         |         |            |                  | 1/0                   | 3(16)   | 2               | BGA100  |
|          | GD32F403VGH6 | 168             | 1024K          | 128K | up to 80  | 8            | 2              |              | 2              | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG     | 2                | 1    |         |         |         |            |                  | 1/0                   | 3(16)   | 2               | BGA100  |
|          | GD32F403VIH6 | 168             | 2048K          | 128K | up to 80  | 8            | 2              |              | 2              | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG     | 2                | 1    |         |         |         |            |                  | 1/0                   | 3(16)   | 2               | BGA100  |
|          | GD32F403VKH6 | 168             | 3072K          | 128K | up to 80  | 8            | 2              |              | 2              | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG     | 2                | 1    |         |         |         |            |                  | 1/0                   | 3(16)   | 2               | BGA100  |
|          | GD32F403ZCT6 | 168             | 256K           | 64K  | up to 112 | 8            | 2              |              | 2              | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG     | 2                | 1    |         |         |         |            |                  | 1/0                   | 3(21)   | 2               | LQFP144 |
|          | GD32F403ZET6 | 168             | 512K           | 96K  | up to 112 | 8            | 2              |              | 2              | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG     | 2                | 1    |         |         |         |            |                  | 1/0                   | 3(21)   | 2               | LQFP144 |
|          | GD32F403ZGT6 | 168             | 1024K          | 128K | up to 112 | 8            | 2              |              | 2              | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG     | 2                | 1    |         |         |         |            |                  | 1/0                   | 3(21)   | 2               | LQFP144 |
|          | GD32F403ZIT6 | 168             | 2048K          | 128K | up to 112 | 8            | 2              |              | 2              | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG     | 2                | 1    |         |         |         |            |                  | 1/0                   | 3(21)   | 2               | LQFP144 |
|          | GD32F403ZKT6 | 168             | 3072K          | 128K | up to 112 | 8            | 2              |              | 2              | 2   | 1   | 3+2          | 2                | 3   | 2        | OTG     | 2                | 1    |         |         |         |            |                  | 1/0                   | 3(21)   | 2               | LQFP144 |

## GD32F3 series of 32-bit ARM® Cortex®-M4 MCUs Selection Guide



| Series   | Part No.     | Max Speed (MHz) | Memory (Bytes) |      | I/O       | Timer        |                     |                  |                 |     |     | Connectivity |                  |     |          |            |                  |      |           | EXMC | Analog Interface      |                 | Package |       |   |         |
|----------|--------------|-----------------|----------------|------|-----------|--------------|---------------------|------------------|-----------------|-----|-----|--------------|------------------|-----|----------|------------|------------------|------|-----------|------|-----------------------|-----------------|---------|-------|---|---------|
|          |              |                 | Flash          | SRAM |           | GPTM (16bit) | Advanced TM (16bit) | Basic TM (16bit) | SysTick (24bit) | WDG | RTC | USART +UART  | I <sup>2</sup> C | SPI | CAN 2.0B | USB 2.0 FS | I <sup>2</sup> S | SDIO | Ether-net |      | 12bit ADC Units (Chs) | 12bit DAC Units |         |       |   |         |
| GD32F303 | GD32F303CCT6 | 120             | 256K           | 48K  | up to 37  | 4            | 1                   | 2                | 1               | 2   | 1   | 3            | 2                | 3   | 1        | 1          | 2                |      |           |      |                       |                 |         | 3(10) | 2 | LQFP48  |
|          | GD32F303CET6 | 120             | 512K           | 64K  | up to 37  | 4            | 1                   | 2                | 1               | 2   | 1   | 3            | 2                | 3   | 1        | 1          | 2                |      |           |      |                       |                 |         | 3(10) | 2 | LQFP48  |
|          | GD32F303CGT6 | 120             | 1024K          | 96K  | up to 37  | 10           | 1                   | 2                | 1               | 2   | 1   | 3            | 2                | 3   | 1        | 1          | 2                |      |           |      |                       |                 |         | 3(10) | 2 | LQFP48  |
|          | GD32F303RCT6 | 120             | 256K           | 48K  | up to 51  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |           |      |                       |                 |         | 3(16) | 2 | LQFP64  |
|          | GD32F303RET6 | 120             | 512K           | 64K  | up to 51  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |           |      |                       |                 |         | 3(16) | 2 | LQFP64  |
|          | GD32F303RGT6 | 120             | 1024K          | 96K  | up to 51  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |           |      |                       |                 |         | 3(16) | 2 | LQFP64  |
|          | GD32F303RIT6 | 120             | 2048K          | 96K  | up to 51  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |           |      |                       |                 |         | 3(16) | 2 | LQFP64  |
|          | GD32F303RKT6 | 120             | 3072K          | 96K  | up to 51  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |           |      |                       |                 |         | 3(16) | 2 | LQFP64  |
|          | GD32F303VCT6 | 120             | 256K           | 48K  | up to 80  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |           |      |                       |                 |         | 3(16) | 2 | LQFP100 |
|          | GD32F303VET6 | 120             | 512K           | 64K  | up to 80  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |           |      |                       |                 |         | 3(16) | 2 | LQFP100 |
|          | GD32F303VGT6 | 120             | 1024K          | 96K  | up to 80  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |           |      |                       |                 |         | 3(16) | 2 | LQFP100 |
|          | GD32F303VIT6 | 120             | 2048K          | 96K  | up to 80  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |           |      |                       |                 |         | 3(16) | 2 | LQFP100 |
|          | GD32F303VKT6 | 120             | 3072K          | 96K  | up to 80  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |           |      |                       |                 |         | 3(16) | 2 | LQFP100 |
|          | GD32F303ZCT6 | 120             | 256K           | 48K  | up to 112 | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |           |      |                       |                 |         | 3(21) | 2 | LQFP144 |
|          | GD32F303ZET6 | 120             | 512K           | 64K  | up to 112 | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |           |      |                       |                 |         | 3(21) | 2 | LQFP144 |
|          | GD32F303ZGT6 | 120             | 1024K          | 96K  | up to 112 | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |           |      |                       |                 |         | 3(21) | 2 | LQFP144 |
|          | GD32F303ZIT6 | 120             | 2048K          | 96K  | up to 112 | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |           |      |                       |                 |         | 3(21) | 2 | LQFP144 |
|          | GD32F303ZKT6 | 120             | 3072K          | 96K  | up to 112 | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |           |      |                       |                 |         | 3(21) | 2 | LQFP144 |

# GD32F3 series of 32-bit ARM® Cortex®-M4 MCUs Selection Guide



| Series       | Part No.     | Max Speed (MHz) | Memory (Bytes) |           | I/O       | Timer        |                     |                  |                 |     |     | Connectivity |                  |     |          |            |                  |      | EXMC | Analog Interface |                       | Package |                 |
|--------------|--------------|-----------------|----------------|-----------|-----------|--------------|---------------------|------------------|-----------------|-----|-----|--------------|------------------|-----|----------|------------|------------------|------|------|------------------|-----------------------|---------|-----------------|
|              |              |                 | Flash          | SRAM      |           | GPTM (16bit) | Advanced TM (16bit) | Basic TM (16bit) | SysTick (24bit) | WDG | RTC | USART +UART  | I <sup>2</sup> C | SPI | CAN 2.0B | USB 2.0 FS | I <sup>2</sup> S | SDIO |      | Ether-net        | 12bit ADC Units (CHs) |         | 12bit DAC Units |
| GD32F305     | GD32F305RBT6 | 120             | 128K           | 64K       | up to 51  | 4            | 1                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |      |                  | 2(16)                 | 2       | LQFP64          |
|              | GD32F305RCT6 | 120             | 256K           | 96K       | up to 51  | 4            | 1                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |      |                  | 2(16)                 | 2       | LQFP64          |
|              | GD32F305RET6 | 120             | 512K           | 96K       | up to 51  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |      |                  | 2(16)                 | 2       | LQFP64          |
|              | GD32F305RGT6 | 120             | 1024K          | 96K       | up to 51  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |      |                  | 2(16)                 | 2       | LQFP64          |
|              | GD32F305VCT6 | 120             | 256K           | 96K       | up to 80  | 4            | 1                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |      | •                | 2(16)                 | 2       | LQFP100         |
|              | GD32F305VET6 | 120             | 512K           | 96K       | up to 80  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |      | •                | 2(16)                 | 2       | LQFP100         |
|              | GD32F305VGT6 | 120             | 1024K          | 96K       | up to 80  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |      | •                | 2(16)                 | 2       | LQFP100         |
|              | GD32F305ZCT6 | 120             | 256K           | 96K       | up to 112 | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |      | •                | 2(16)                 | 2       | LQFP144         |
|              | GD32F305ZET6 | 120             | 512K           | 96K       | up to 112 | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |      | •                | 2(16)                 | 2       | LQFP144         |
| GD32F307     | GD32F307ZGT6 | 120             | 1024K          | 96K       | up to 112 | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |      | •                | 2(16)                 | 2       | LQFP144         |
|              | GD32F307RCT6 | 120             | 256K           | 96K       | up to 51  | 4            | 1                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |      | •                | 2(16)                 | 2       | LQFP64          |
|              | GD32F307RET6 | 120             | 512K           | 96K       | up to 51  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |      | •                | 2(16)                 | 2       | LQFP64          |
|              | GD32F307RGT6 | 120             | 1024K          | 96K       | up to 51  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |      | •                | 2(16)                 | 2       | LQFP64          |
|              | GD32F307VCT6 | 120             | 256K           | 96K       | up to 80  | 4            | 1                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |      | •                | 2(16)                 | 2       | LQFP100         |
|              | GD32F307VET6 | 120             | 512K           | 96K       | up to 80  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |      | •                | 2(16)                 | 2       | LQFP100         |
|              | GD32F307VGT6 | 120             | 1024K          | 96K       | up to 80  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |      | •                | 2(16)                 | 2       | LQFP100         |
|              | GD32F307ZCT6 | 120             | 256K           | 96K       | up to 112 | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |      | •                | 2(16)                 | 2       | LQFP144         |
|              | GD32F307ZET6 | 120             | 512K           | 96K       | up to 112 | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |      | •                | 2(16)                 | 2       | LQFP144         |
| GD32F307ZGT6 | 120          | 1024K           | 96K            | up to 112 | 10        | 2            | 2                   | 1                | 2               | 1   | 5   | 2            | 3                | 2   | OTG      | 2          |                  |      | •    | 2(16)            | 2                     | LQFP144 |                 |

| Series   | Part No.     | Max Speed (MHz) | Memory (Bytes) |      | I/O      | Timer        |              |                     |                  |                 |     | Connectivity |       |                  |     |            |                  |     | Analog Interface |                       | Package |                 |         |
|----------|--------------|-----------------|----------------|------|----------|--------------|--------------|---------------------|------------------|-----------------|-----|--------------|-------|------------------|-----|------------|------------------|-----|------------------|-----------------------|---------|-----------------|---------|
|          |              |                 | Flash          | SRAM |          | GPTM (32bit) | GPTM (16bit) | Advanced TM (16bit) | Basic TM (16bit) | SysTick (24bit) | WDG | RTC          | USART | I <sup>2</sup> C | SPI | USB 2.0 FS | I <sup>2</sup> S | CEC | Comp             | 12bit ADC Units (CHs) |         | 12bit DAC Units |         |
| GD32F330 | GD32F330F4P6 | 84              | 16K            | 4K   | up to 15 | 1            | 4            | 1                   |                  |                 | 1   | 2            | 1     | 1                | 1   | 1          |                  |     |                  |                       | 1(9)    |                 | TSSOP20 |
|          | GD32F330F6P6 | 84              | 32K            | 4K   | up to 15 | 1            | 4            | 1                   |                  |                 | 1   | 2            | 1     | 2                | 1   | 1          |                  |     |                  |                       | 1(9)    |                 | TSSOP20 |
|          | GD32F330F8P6 | 84              | 64K            | 8K   | up to 15 | 1            | 4            | 1                   |                  |                 | 1   | 2            | 1     | 2                | 2   | 2          |                  |     |                  |                       | 1(9)    |                 | TSSOP20 |
|          | GD32F330G4U6 | 84              | 16K            | 4K   | up to 23 | 1            | 4            | 1                   |                  |                 | 1   | 2            | 1     | 1                | 1   | 1          |                  |     |                  |                       | 1(10)   |                 | QFN28   |
|          | GD32F330G6U6 | 84              | 32K            | 4K   | up to 23 | 1            | 4            | 1                   |                  |                 | 1   | 2            | 1     | 2                | 1   | 1          |                  |     |                  |                       | 1(10)   |                 | QFN28   |
|          | GD32F330G8U6 | 84              | 64K            | 8K   | up to 23 | 1            | 5            | 1                   |                  |                 | 1   | 2            | 1     | 2                | 2   | 2          |                  |     |                  |                       | 1(10)   |                 | QFN28   |
|          | GD32F330K4U6 | 84              | 16K            | 4K   | up to 27 | 1            | 4            | 1                   |                  |                 | 1   | 2            | 1     | 1                | 1   | 1          |                  |     |                  |                       | 1(10)   |                 | QFN32   |
|          | GD32F330K6U6 | 84              | 32K            | 4K   | up to 27 | 1            | 4            | 1                   |                  |                 | 1   | 2            | 1     | 2                | 1   | 1          |                  |     |                  |                       | 1(10)   |                 | QFN32   |
|          | GD32F330K8U6 | 84              | 64K            | 8K   | up to 27 | 1            | 5            | 1                   |                  |                 | 1   | 2            | 1     | 2                | 2   | 2          |                  |     |                  |                       | 1(10)   |                 | QFN32   |
|          | GD32F330C4T6 | 84              | 16K            | 4K   | up to 39 | 1            | 4            | 1                   |                  |                 | 1   | 2            | 1     | 1                | 1   | 1          |                  |     |                  |                       | 1(10)   |                 | LQFP48  |
|          | GD32F330C6T6 | 84              | 32K            | 4K   | up to 39 | 1            | 4            | 1                   |                  |                 | 1   | 2            | 1     | 2                | 1   | 1          |                  |     |                  |                       | 1(10)   |                 | LQFP48  |
|          | GD32F330C8T6 | 84              | 64K            | 8K   | up to 39 | 1            | 5            | 1                   |                  |                 | 1   | 2            | 1     | 2                | 2   | 2          |                  |     |                  |                       | 1(10)   |                 | LQFP48  |
|          | GD32F330CBT6 | 84              | 128K           | 16K  | up to 39 | 1            | 5            | 1                   |                  |                 | 1   | 2            | 1     | 2                | 2   | 2          |                  |     |                  |                       | 1(10)   |                 | LQFP48  |
|          | GD32F330R8T6 | 84              | 64K            | 16K  | up to 55 | 1            | 5            | 1                   |                  |                 | 1   | 2            | 1     | 2                | 2   | 2          |                  |     |                  |                       | 1(16)   |                 | LQFP64  |
|          | GD32F330RBT6 | 84              | 128K           | 16K  | up to 55 | 1            | 5            | 1                   |                  |                 | 1   | 2            | 1     | 2                | 2   | 2          |                  |     |                  |                       | 1(16)   |                 | LQFP64  |



| Series       | Part No.     | Max Speed (MHz) | Memory (Bytes) |          | I/O      | Timer        |              |                     |                  |                 |     |     | Connectivity |                  |     |            |                  |     |       | Analog Interface      |                 | Package |       |
|--------------|--------------|-----------------|----------------|----------|----------|--------------|--------------|---------------------|------------------|-----------------|-----|-----|--------------|------------------|-----|------------|------------------|-----|-------|-----------------------|-----------------|---------|-------|
|              |              |                 | Flash          | SRAM     |          | GPTM (32bit) | GPTM (16bit) | Advanced TM (16bit) | Basic TM (16bit) | SysTick (24bit) | WDG | RTC | USART        | I <sup>2</sup> C | SPI | USB 2.0 FS | I <sup>2</sup> S | CEC | Comp  | 12bit ADC Units (CHs) | 12bit DAC Units |         |       |
| GD32F350     | GD32F350G4U6 | 108             | 16K            | 4K       | up to 24 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 1            | 1                | 1   | 1          | OTG              | 1   | 1     | 2                     | 1(10)           | 1       | QFN28 |
|              | GD32F350G6U6 | 108             | 32K            | 6K       | up to 24 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 2            | 1                | 1   | OTG        | 1                | 1   | 2     | 1(10)                 | 1               | QFN28   |       |
|              | GD32F350G8U6 | 108             | 64K            | 8K       | up to 24 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 2            | 2                | 2   | OTG        | 1                | 1   | 2     | 1(10)                 | 1               | QFN28   |       |
|              | GD32F350K4U6 | 108             | 16K            | 4K       | up to 27 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 1            | 1                | 1   | OTG        | 1                | 1   | 2     | 1(10)                 | 1               | QFN32   |       |
|              | GD32F350K6U6 | 108             | 32K            | 6K       | up to 27 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 2            | 1                | 1   | OTG        | 1                | 1   | 2     | 1(10)                 | 1               | QFN32   |       |
|              | GD32F350K8U6 | 108             | 64K            | 8K       | up to 27 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 2            | 2                | 2   | OTG        | 1                | 1   | 2     | 1(10)                 | 1               | QFN32   |       |
|              | GD32F350C4T6 | 108             | 16K            | 4K       | up to 39 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 1            | 1                | 1   | OTG        | 1                | 1   | 2     | 1(10)                 | 1               | LQFP48  |       |
|              | GD32F350C6T6 | 108             | 32K            | 6K       | up to 39 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 2            | 1                | 1   | OTG        | 1                | 1   | 2     | 1(10)                 | 1               | LQFP48  |       |
|              | GD32F350C8T6 | 108             | 64K            | 8K       | up to 39 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 2            | 2                | 2   | OTG        | 1                | 1   | 2     | 1(10)                 | 1               | LQFP48  |       |
|              | GD32F350CBT6 | 108             | 128K           | 16K      | up to 39 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 2            | 2                | 2   | OTG        | 1                | 1   | 2     | 1(10)                 | 1               | LQFP48  |       |
|              | GD32F350R4T6 | 108             | 16K            | 4K       | up to 55 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 1            | 1                | 1   | OTG        | 1                | 1   | 2     | 1(16)                 | 1               | LQFP64  |       |
|              | GD32F350R6T6 | 108             | 32K            | 8K       | up to 55 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 2            | 1                | 1   | OTG        | 1                | 1   | 2     | 1(16)                 | 1               | LQFP64  |       |
|              | GD32F350R8T6 | 108             | 64K            | 16K      | up to 55 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 2            | 2                | 2   | OTG        | 1                | 1   | 2     | 1(16)                 | 1               | LQFP64  |       |
| GD32F350RBT6 | 108          | 128K            | 16K            | up to 55 | 1        | 5            | 1            | 1                   | 1                | 2               | 1   | 2   | 2            | 2                | OTG | 1          | 1                | 2   | 1(16) | 1                     | LQFP64          |         |       |

## GD32F2 series of 32-bit ARM® Cortex®-M3 MCUs Selection Guide



| Series       | Part No.     | Max Speed (MHz) | Memory (Bytes) |           | I/O       | Timer        |                |                |                 |     |     |            | Connectivity     |     |          |            |                  |      |         |         |         |             | EXMC/SDRAM | Analog Interface      |                 | Package |         |         |        |        |
|--------------|--------------|-----------------|----------------|-----------|-----------|--------------|----------------|----------------|-----------------|-----|-----|------------|------------------|-----|----------|------------|------------------|------|---------|---------|---------|-------------|------------|-----------------------|-----------------|---------|---------|---------|--------|--------|
|              |              |                 | Flash          | SRAM      |           | GPTM (16bit) | Adv TM (16bit) | Bsc TM (16bit) | SysTick (24bit) | WDG | RTC | USART+UART | I <sup>2</sup> C | SPI | CAN 2.0B | USB 2.0 FS | I <sup>2</sup> S | SDIO | LCD-TFT | Cam era | ETH MAC | Crypto/Hash |            | 12bit ADC Units (CHs) | 12bit DAC Units |         |         |         |        |        |
| GD32F205     | GD32F205RCT6 | 120             | 256K           | 128K      | up to 51  | 10           | 2              | 2              | 1               | 2   | 1   | 4+2        | 3                | 3   | 2        | OTG        | 2                | 1    |         |         |         |             |            |                       |                 |         |         | 3(16)   | 2      | LQFP64 |
|              | GD32F205RET6 | 120             | 512K           | 128K      | up to 51  | 10           | 2              | 2              | 1               | 2   | 1   | 4+2        | 3                | 3   | 2        | OTG        | 2                | 1    |         |         |         |             |            |                       |                 |         |         | 3(16)   | 2      | LQFP64 |
|              | GD32F205RGT6 | 120             | 1024K          | 256K      | up to 51  | 10           | 2              | 2              | 1               | 2   | 1   | 4+2        | 3                | 3   | 2        | OTG        | 2                | 1    |         |         |         |             |            |                       |                 |         | 3(16)   | 2       | LQFP64 |        |
|              | GD32F205RKT6 | 120             | 3072K          | 256K      | up to 51  | 10           | 2              | 2              | 1               | 2   | 1   | 4+2        | 3                | 3   | 2        | OTG        | 2                | 1    |         |         |         |             |            |                       |                 |         | 3(16)   | 2       | LQFP64 |        |
|              | GD32F205VCT6 | 120             | 256K           | 128K      | up to 82  | 10           | 2              | 2              | 1               | 2   | 1   | 4+4        | 3                | 3   | 2        | OTG        | 2                | 1    | 1       |         |         |             |            |                       | 1/0             | 3(16)   | 2       | LQFP100 |        |        |
|              | GD32F205VET6 | 120             | 512K           | 128K      | up to 82  | 10           | 2              | 2              | 1               | 2   | 1   | 4+4        | 3                | 3   | 2        | OTG        | 2                | 1    | 1       |         |         |             |            |                       | 1/0             | 3(16)   | 2       | LQFP100 |        |        |
|              | GD32F205VGT6 | 120             | 1024K          | 256K      | up to 82  | 10           | 2              | 2              | 1               | 2   | 1   | 4+4        | 3                | 3   | 2        | OTG        | 2                | 1    | 1       |         |         |             |            |                       | 1/0             | 3(16)   | 2       | LQFP100 |        |        |
|              | GD32F205VKT6 | 120             | 3072K          | 256K      | up to 82  | 10           | 2              | 2              | 1               | 2   | 1   | 4+4        | 3                | 3   | 2        | OTG        | 2                | 1    | 1       |         |         |             |            |                       | 1/0             | 3(16)   | 2       | LQFP100 |        |        |
|              | GD32F205ZCT6 | 120             | 256K           | 128K      | up to 114 | 10           | 2              | 2              | 1               | 2   | 1   | 4+4        | 3                | 3   | 2        | OTG        | 2                | 1    | 1       |         |         |             |            |                       | 1/1             | 3(24)   | 2       | LQFP144 |        |        |
|              | GD32F205ZET6 | 120             | 512K           | 128K      | up to 114 | 10           | 2              | 2              | 1               | 2   | 1   | 4+4        | 3                | 3   | 2        | OTG        | 2                | 1    | 1       |         |         |             |            |                       | 1/1             | 3(24)   | 2       | LQFP144 |        |        |
|              | GD32F205ZGT6 | 120             | 1024K          | 256K      | up to 114 | 10           | 2              | 2              | 1               | 2   | 1   | 4+4        | 3                | 3   | 2        | OTG        | 2                | 1    | 1       |         |         |             |            |                       | 1/1             | 3(24)   | 2       | LQFP144 |        |        |
|              | GD32F205ZKT6 | 120             | 3072K          | 256K      | up to 114 | 10           | 2              | 2              | 1               | 2   | 1   | 4+4        | 3                | 3   | 2        | OTG        | 2                | 1    | 1       |         |         |             |            |                       | 1/1             | 3(24)   | 2       | LQFP144 |        |        |
|              | GD32F207     | GD32F207RCT6    | 120            | 256K      | 128K      | up to 51     | 10             | 2              | 2               | 1   | 2   | 1          | 4+2              | 3   | 3        | 2          | OTG              | 2    | 1       |         |         |             |            |                       |                 |         |         | 3(16)   | 2      | LQFP64 |
| GD32F207RET6 |              | 120             | 512K           | 128K      | up to 51  | 10           | 2              | 2              | 1               | 2   | 1   | 4+2        | 3                | 3   | 2        | OTG        | 2                | 1    |         |         |         |             |            |                       |                 |         | 3(16)   | 2       | LQFP64 |        |
| GD32F207RGT6 |              | 120             | 1024K          | 256K      | up to 51  | 10           | 2              | 2              | 1               | 2   | 1   | 4+2        | 3                | 3   | 2        | OTG        | 2                | 1    |         |         |         |             |            |                       |                 | 3(16)   | 2       | LQFP64  |        |        |
| GD32F207RKT6 |              | 120             | 3072K          | 256K      | up to 51  | 10           | 2              | 2              | 1               | 2   | 1   | 4+2        | 3                | 3   | 2        | OTG        | 2                | 1    |         |         |         |             |            |                       |                 | 3(16)   | 2       | LQFP64  |        |        |
| GD32F207VCT6 |              | 120             | 256K           | 128K      | up to 82  | 10           | 2              | 2              | 1               | 2   | 1   | 4+4        | 3                | 3   | 2        | OTG        | 2                | 1    | 1       | 1       | 1       | 1           |            |                       | 1/0             | 3(16)   | 2       | LQFP100 |        |        |
| GD32F207VET6 |              | 120             | 512K           | 128K      | up to 82  | 10           | 2              | 2              | 1               | 2   | 1   | 4+4        | 3                | 3   | 2        | OTG        | 2                | 1    | 1       | 1       | 1       | 1           |            |                       | 1/0             | 3(16)   | 2       | LQFP100 |        |        |
| GD32F207VGT6 |              | 120             | 1024K          | 256K      | up to 82  | 10           | 2              | 2              | 1               | 2   | 1   | 4+4        | 3                | 3   | 2        | OTG        | 2                | 1    | 1       | 1       | 1       | 1           |            |                       | 1/0             | 3(16)   | 2       | LQFP100 |        |        |
| GD32F207VKT6 |              | 120             | 3072K          | 256K      | up to 82  | 10           | 2              | 2              | 1               | 2   | 1   | 4+4        | 3                | 3   | 2        | OTG        | 2                | 1    | 1       | 1       | 1       | 1           |            |                       | 1/0             | 3(16)   | 2       | LQFP100 |        |        |
| GD32F207ZCT6 |              | 120             | 256K           | 128K      | up to 114 | 10           | 2              | 2              | 1               | 2   | 1   | 4+4        | 3                | 3   | 2        | OTG        | 2                | 1    | 1       | 1       | 1       | 1           |            |                       | 1/1             | 3(24)   | 2       | LQFP144 |        |        |
| GD32F207ZET6 |              | 120             | 512K           | 128K      | up to 114 | 10           | 2              | 2              | 1               | 2   | 1   | 4+4        | 3                | 3   | 2        | OTG        | 2                | 1    | 1       | 1       | 1       | 1           |            |                       | 1/1             | 3(24)   | 2       | LQFP144 |        |        |
| GD32F207ZGT6 |              | 120             | 1024K          | 256K      | up to 114 | 10           | 2              | 2              | 1               | 2   | 1   | 4+4        | 3                | 3   | 2        | OTG        | 2                | 1    | 1       | 1       | 1       | 1           |            |                       | 1/1             | 3(24)   | 2       | LQFP144 |        |        |
| GD32F207ZKT6 |              | 120             | 3072K          | 256K      | up to 114 | 10           | 2              | 2              | 1               | 2   | 1   | 4+4        | 3                | 3   | 2        | OTG        | 2                | 1    | 1       | 1       | 1       | 1           |            |                       | 1/1             | 3(24)   | 2       | LQFP144 |        |        |
| GD32F207IET6 |              | 120             | 512K           | 128K      | up to 140 | 10           | 2              | 2              | 1               | 2   | 1   | 4+4        | 3                | 3   | 2        | OTG        | 2                | 1    | 1       | 1       | 1       | 1           |            |                       | 1/1             | 3(24)   | 2       | LQFP176 |        |        |
| GD32F207IGT6 | 120          | 1024K           | 256K           | up to 140 | 10        | 2            | 2              | 1              | 2               | 1   | 4+4 | 3          | 3                | 2   | OTG      | 2          | 1                | 1    | 1       | 1       | 1       |             |            | 1/1                   | 3(24)           | 2       | LQFP176 |         |        |        |
| GD32F207IKT6 | 120          | 3072K           | 256K           | up to 140 | 10        | 2            | 2              | 1              | 2               | 1   | 4+4 | 3          | 3                | 2   | OTG      | 2          | 1                | 1    | 1       | 1       | 1       |             |            | 1/1                   | 3(24)           | 2       | LQFP176 |         |        |        |

# GD32F1 series of 32-bit ARM® Cortex®-M3 MCUs Selection Guide



| Series       | Part No.     | Max Speed (MHz) | Memory (Bytes) |          | I/O      | Timer        |              |                     |                  |                 |     |     | Connectivity |                  |     |            |                  |     | Analog Interface      |                 | Package |       |       |        |         |
|--------------|--------------|-----------------|----------------|----------|----------|--------------|--------------|---------------------|------------------|-----------------|-----|-----|--------------|------------------|-----|------------|------------------|-----|-----------------------|-----------------|---------|-------|-------|--------|---------|
|              |              |                 | Flash          | SRAM     |          | GPTM (32bit) | GPTM (16bit) | Advanced TM (16bit) | Basic TM (16bit) | SysTick (24bit) | WDG | RTC | USART        | I <sup>2</sup> C | SPI | USB 2.0 FS | I <sup>2</sup> S | CEC | 12bit ADC Units (CHs) | 12bit DAC Units |         |       |       |        |         |
| GD32F130     | GD32F130F4P6 | 48              | 16K            | 4K       | up to 15 | 1            | 4            | 1                   |                  | 1               | 2   | 1   | 1            | 1                | 1   |            |                  |     |                       |                 |         |       | 1(9)  |        | TSSOP20 |
|              | GD32F130F6P6 | 48              | 32K            | 4K       | up to 15 | 1            | 4            | 1                   |                  | 1               | 2   | 1   | 2            | 1                | 1   |            |                  |     |                       |                 |         |       | 1(9)  |        | TSSOP20 |
|              | GD32F130F8P6 | 48              | 64K            | 8K       | up to 15 | 1            | 4            | 1                   |                  | 1               | 2   | 1   | 2            | 2                | 2   |            |                  |     |                       |                 |         |       | 1(9)  |        | TSSOP20 |
|              | GD32F130G4U6 | 48              | 16K            | 4K       | up to 23 | 1            | 4            | 1                   |                  | 1               | 2   | 1   | 1            | 1                | 1   |            |                  |     |                       |                 |         |       | 1(10) |        | QFN28   |
|              | GD32F130G6U6 | 48              | 32K            | 4K       | up to 23 | 1            | 4            | 1                   |                  | 1               | 2   | 1   | 2            | 1                | 1   |            |                  |     |                       |                 |         |       | 1(10) |        | QFN28   |
|              | GD32F130G8U6 | 48              | 64K            | 8K       | up to 23 | 1            | 5            | 1                   |                  | 1               | 2   | 1   | 2            | 2                | 2   |            |                  |     |                       |                 |         |       | 1(10) |        | QFN28   |
|              | GD32F130K4T6 | 48              | 16K            | 4K       | up to 27 | 1            | 4            | 1                   |                  | 1               | 2   | 1   | 1            | 1                | 1   |            |                  |     |                       |                 |         |       | 1(10) |        | QFN32   |
|              | GD32F130K6T6 | 48              | 32K            | 4K       | up to 27 | 1            | 4            | 1                   |                  | 1               | 2   | 1   | 2            | 1                | 1   |            |                  |     |                       |                 |         |       | 1(10) |        | QFN32   |
|              | GD32F130K8T6 | 48              | 64K            | 8K       | up to 27 | 1            | 5            | 1                   |                  | 1               | 2   | 1   | 2            | 2                | 2   |            |                  |     |                       |                 |         |       | 1(10) |        | QFN32   |
|              | GD32F130K4U6 | 48              | 16K            | 4K       | up to 27 | 1            | 4            | 1                   |                  | 1               | 2   | 1   | 1            | 1                | 1   |            |                  |     |                       |                 |         |       | 1(10) |        | QFN32   |
|              | GD32F130K6U6 | 48              | 32K            | 4K       | up to 27 | 1            | 4            | 1                   |                  | 1               | 2   | 1   | 2            | 1                | 1   |            |                  |     |                       |                 |         |       | 1(10) |        | QFN32   |
|              | GD32F130K8U6 | 48              | 64K            | 8K       | up to 27 | 1            | 5            | 1                   |                  | 1               | 2   | 1   | 2            | 2                | 2   |            |                  |     |                       |                 |         |       | 1(10) |        | QFN32   |
|              | GD32F130C4T6 | 48              | 16K            | 4K       | up to 39 | 1            | 4            | 1                   |                  | 1               | 2   | 1   | 1            | 1                | 1   |            |                  |     |                       |                 |         |       | 1(10) |        | LQFP48  |
|              | GD32F130C6T6 | 48              | 32K            | 4K       | up to 39 | 1            | 4            | 1                   |                  | 1               | 2   | 1   | 2            | 1                | 1   |            |                  |     |                       |                 |         |       | 1(10) |        | LQFP48  |
|              | GD32F130C8T6 | 48              | 64K            | 8K       | up to 39 | 1            | 5            | 1                   |                  | 1               | 2   | 1   | 2            | 2                | 2   |            |                  |     |                       |                 |         |       | 1(10) |        | LQFP48  |
| GD32F130R8T6 | 48           | 64K             | 8K             | up to 55 | 1        | 5            | 1            |                     | 1                | 2               | 1   | 2   | 2            | 2                |     |            |                  |     |                       |                 |         | 1(16) |       | LQFP64 |         |
| GD32F150     | GD32F150G4U6 | 72              | 16K            | 4K       | up to 24 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 1            | 1                | 1   | 1          | 1                | 1   | 1                     | 1               | 1       | 1     | 1(10) | 1      | QFN28   |
|              | GD32F150G6U6 | 72              | 32K            | 6K       | up to 24 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 2            | 1                | 1   | 1          | 1                | 1   | 1                     | 1               | 1       | 1     | 1(10) | 1      | QFN28   |
|              | GD32F150G8U6 | 72              | 64K            | 8K       | up to 24 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 2            | 2                | 2   | 1          | 1                | 1   | 1                     | 1               | 1       | 1     | 1(10) | 1      | QFN28   |
|              | GD32F150K4U6 | 72              | 16K            | 4K       | up to 27 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 1            | 1                | 1   | 1          | 1                | 1   | 1                     | 1               | 1       | 1     | 1(10) | 1      | QFN32   |
|              | GD32F150K6U6 | 72              | 32K            | 6K       | up to 27 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 2            | 1                | 1   | 1          | 1                | 1   | 1                     | 1               | 1       | 1     | 1(10) | 1      | QFN32   |
|              | GD32F150K8U6 | 72              | 64K            | 8K       | up to 27 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 2            | 2                | 2   | 1          | 1                | 1   | 1                     | 1               | 1       | 1     | 1(10) | 1      | QFN32   |
|              | GD32F150C4T6 | 72              | 16K            | 4K       | up to 39 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 1            | 1                | 1   | 1          | 1                | 1   | 1                     | 1               | 1       | 1     | 1(10) | 1      | LQFP48  |
|              | GD32F150C6T6 | 72              | 32K            | 6K       | up to 39 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 2            | 1                | 1   | 1          | 1                | 1   | 1                     | 1               | 1       | 1     | 1(10) | 1      | LQFP48  |
|              | GD32F150C8T6 | 72              | 64K            | 8K       | up to 39 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 2            | 2                | 2   | 1          | 1                | 1   | 1                     | 1               | 1       | 1     | 1(10) | 1      | LQFP48  |
|              | GD32F150R4T6 | 72              | 16K            | 4K       | up to 55 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 1            | 1                | 1   | 1          | 1                | 1   | 1                     | 1               | 1       | 1     | 1(16) | 1      | LQFP64  |
|              | GD32F150R6T6 | 72              | 32K            | 6K       | up to 55 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 2            | 1                | 1   | 1          | 1                | 1   | 1                     | 1               | 1       | 1     | 1(16) | 1      | LQFP64  |
|              | GD32F150R8T6 | 72              | 64K            | 8K       | up to 55 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 2            | 2                | 2   | 1          | 1                | 1   | 1                     | 1               | 1       | 1     | 1(16) | 1      | LQFP64  |

| Series       | Part No.     | Max Speed (MHz) | Memory (Bytes) |          | I/O      | Timer        |              |                     |                  |                 |     |     | Connectivity |                  |     |          |                  |     |        | Analog Interface |                       | Package |                 |        |        |
|--------------|--------------|-----------------|----------------|----------|----------|--------------|--------------|---------------------|------------------|-----------------|-----|-----|--------------|------------------|-----|----------|------------------|-----|--------|------------------|-----------------------|---------|-----------------|--------|--------|
|              |              |                 | Flash          | SRAM     |          | GPTM (32bit) | GPTM (16bit) | Advanced TM (16bit) | Basic TM (16bit) | SysTick (24bit) | WDG | RTC | USART        | I <sup>2</sup> C | SPI | CAN 2.0B | I <sup>2</sup> S | LCD | OP-amp | Comp             | 12bit ADC Units (CHs) |         | 12bit DAC Units |        |        |
| GD32F170     | GD32F170T4U6 | 48              | 16K            | 4K       | up to 28 | 1            | 4            | 1                   |                  | 1               | 2   | 1   | 1            | 1                | 1   | 2        |                  |     |        |                  |                       |         | 1(10)           |        | QFN36  |
|              | GD32F170T6U6 | 48              | 32K            | 4K       | up to 28 | 1            | 4            | 1                   |                  | 1               | 2   | 1   | 2            | 1                | 2   |          |                  |     |        |                  |                       |         | 1(10)           |        | QFN36  |
|              | GD32F170T8U6 | 48              | 64K            | 8K       | up to 28 | 1            | 5            | 1                   |                  | 1               | 2   | 1   | 2            | 3                | 3   | 2        |                  |     |        |                  |                       |         | 1(10)           |        | QFN36  |
|              | GD32F170C4T6 | 48              | 16K            | 4K       | up to 39 | 1            | 4            | 1                   |                  | 1               | 2   | 1   | 1            | 1                | 1   | 2        |                  |     |        |                  |                       |         | 1(10)           |        | LQFP48 |
|              | GD32F170C6T6 | 48              | 32K            | 4K       | up to 39 | 1            | 4            | 1                   |                  | 1               | 2   | 1   | 2            | 1                | 1   | 2        |                  |     |        |                  |                       |         | 1(10)           |        | LQFP48 |
|              | GD32F170C8T6 | 48              | 64K            | 8K       | up to 39 | 1            | 5            | 1                   |                  | 1               | 2   | 1   | 2            | 3                | 3   | 2        |                  |     |        |                  |                       |         | 1(10)           |        | LQFP48 |
|              | GD32F170R8T6 | 48              | 64K            | 8K       | up to 55 | 1            | 5            | 1                   |                  | 1               | 2   | 1   | 2            | 3                | 3   | 2        |                  |     |        |                  |                       |         | 1(16)           |        | LQFP64 |
|              | GD32F190T4U6 | 72              | 16K            | 4K       | up to 28 | 1            | 5            | 1                   | 1                | 1               | 2   | 1   | 1            | 1                | 1   | 2        | 1                |     | 2      | 2                | 2                     | 2       | 1(10)           | 2      | QFN36  |
| GD32F190T6U6 | 72           | 32K             | 6K             | up to 28 | 1        | 5            | 1            | 1                   | 1                | 2               | 1   | 2   | 1            | 1                | 2   | 1        |                  | 2   | 2      | 2                | 2                     | 1(10)   | 2               | QFN36  |        |
| GD32F190T8U6 | 72           | 64K             | 8K             | up to 28 | 1        | 5            | 1            | 1                   | 1                | 2               | 1   | 2   | 3            | 3                | 2   | 2        |                  | 2   | 2      | 2                | 2                     | 1(10)   | 2               | QFN36  |        |
| GD32F190C4T6 | 72           | 16K             | 4K             | up to 39 | 1        | 5            | 1            | 1                   | 1                | 2               | 1   | 1   | 1            | 1                | 2   | 1        | 4x18             | 2   | 2      | 2                | 2                     | 1(10)   | 2               | LQFP48 |        |
| GD32F190C6T6 | 72           | 32K             | 6K             | up to 39 | 1        | 5            | 1            | 1                   | 1                | 2               | 1   | 2   | 1            | 1                | 2   | 1        | 4x18             | 2   | 2      | 2                | 2                     | 1(10)   | 2               | LQFP48 |        |
| GD32F190C8T6 | 72           | 64K             | 8K             | up to 39 | 1        | 5            | 1            | 1                   | 1                | 2               | 1   | 2   | 3            | 3                | 2   | 2        | 4x18             | 2   | 2      | 2                | 2                     | 1(10)   | 2               | LQFP48 |        |
| GD32F190R4T6 | 72           | 16K             | 4K             | up to 55 | 1        | 5            | 1            | 1                   | 1                | 2               | 1   | 1   | 1            | 1                | 2   | 1        | 8x32             | 3   | 2      | 2                | 2                     | 1(16)   | 2               | LQFP64 |        |
| GD32F190R6T6 | 72           | 32K             | 6K             | up to 55 | 1        | 5            | 1            | 1                   | 1                | 2               | 1   | 2   | 1            | 1                | 2   | 1        | 8x32             | 3   | 2      | 2                | 2                     | 1(16)   | 2               | LQFP64 |        |
| GD32F190R8T6 | 72           | 64K             | 8K             | up to 55 | 1        | 5            | 1            | 1                   | 1                | 2               | 1   | 2   | 3            | 3                | 2   | 2        | 8x32             | 3   | 2      | 2                | 2                     | 1(16)   | 2               | LQFP64 |        |

# GD32F1 series of 32-bit ARM® Cortex®-M3 MCUs Selection Guide



| Series       | Part No.     | Max Speed (MHz) | Memory (Bytes) |           | I/O       | Timer        |                     |                  |                 |     |     | Connectivity |                  |     |          |            |                  | EXMC | Analog Interface |           | Package |                       |                 |
|--------------|--------------|-----------------|----------------|-----------|-----------|--------------|---------------------|------------------|-----------------|-----|-----|--------------|------------------|-----|----------|------------|------------------|------|------------------|-----------|---------|-----------------------|-----------------|
|              |              |                 | Flash          | SRAM      |           | GPTM (16bit) | Advanced TM (16bit) | Basic TM (16bit) | SysTick (24bit) | WDG | RTC | USART (UART) | I <sup>2</sup> C | SPI | CAN 2.0B | USB 2.0 FS | I <sup>2</sup> S |      | SDIO             | Ether-net |         | 12bit ADC Units (CHs) | 12bit DAC Units |
| GD32F103     | GD32F103T4U6 | 108             | 16K            | 6K        | up to 26  | 2            | 1                   |                  | 1               | 2   | 1   | 2            | 1                | 1   | 1        | 1          |                  |      |                  |           | 2(10)   |                       | QFN36           |
|              | GD32F103T6U6 | 108             | 32K            | 10K       | up to 26  | 2            | 1                   |                  | 1               | 2   | 1   | 2            | 1                | 1   | 1        | 1          |                  |      |                  |           | 2(10)   |                       | QFN36           |
|              | GD32F103T8U6 | 108             | 64K            | 20K       | up to 26  | 3            | 1                   |                  | 1               | 2   | 1   | 2            | 1                | 1   | 1        | 1          |                  |      |                  |           | 2(10)   |                       | QFN36           |
|              | GD32F103TBU6 | 108             | 128K           | 20K       | up to 26  | 3            | 1                   |                  | 1               | 2   | 1   | 2            | 1                | 1   | 1        | 1          |                  |      |                  |           | 2(10)   |                       | QFN36           |
|              | GD32F103C4T6 | 108             | 16K            | 6K        | up to 37  | 2            | 1                   |                  | 1               | 2   | 1   | 2            | 1                | 1   | 1        | 1          |                  |      |                  |           | 2(10)   |                       | LQFP48          |
|              | GD32F103C6T6 | 108             | 32K            | 10K       | up to 37  | 2            | 1                   |                  | 1               | 2   | 1   | 2            | 1                | 1   | 1        | 1          |                  |      |                  |           | 2(10)   |                       | LQFP48          |
|              | GD32F103C8T6 | 108             | 64K            | 20K       | up to 37  | 3            | 1                   |                  | 1               | 2   | 1   | 3            | 2                | 2   | 1        | 1          |                  |      |                  |           | 2(10)   |                       | LQFP48          |
|              | GD32F103CBT6 | 108             | 128K           | 20K       | up to 37  | 3            | 1                   |                  | 1               | 2   | 1   | 3            | 2                | 2   | 1        | 1          |                  |      |                  |           | 2(10)   |                       | LQFP48          |
|              | GD32F103R4T6 | 108             | 16K            | 6K        | up to 51  | 2            | 1                   |                  | 1               | 2   | 1   | 2            | 1                | 1   | 1        | 1          |                  |      |                  |           | 2(16)   |                       | LQFP64          |
|              | GD32F103R6T6 | 108             | 32K            | 10K       | up to 51  | 2            | 1                   |                  | 1               | 2   | 1   | 2            | 1                | 1   | 1        | 1          |                  |      |                  |           | 2(16)   |                       | LQFP64          |
|              | GD32F103R8T6 | 108             | 64K            | 20K       | up to 51  | 3            | 1                   |                  | 1               | 2   | 1   | 3            | 2                | 2   | 1        | 1          |                  |      |                  |           | 2(16)   |                       | LQFP64          |
|              | GD32F103RBT6 | 108             | 128K           | 20K       | up to 51  | 3            | 1                   |                  | 1               | 2   | 1   | 3            | 2                | 2   | 1        | 1          |                  |      |                  |           | 2(16)   |                       | LQFP64          |
|              | GD32F103RCT6 | 108             | 256K           | 48K       | up to 51  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |                  |           | 3(16)   | 2                     | LQFP64          |
|              | GD32F103RDT6 | 108             | 384K           | 64K       | up to 51  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |                  |           | 3(16)   | 2                     | LQFP64          |
|              | GD32F103RET6 | 108             | 512K           | 64K       | up to 51  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |                  |           | 3(16)   | 2                     | LQFP64          |
|              | GD32F103RFT6 | 108             | 768K           | 96K       | up to 51  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |                  |           | 3(16)   | 2                     | LQFP64          |
|              | GD32F103RGT6 | 108             | 1024K          | 96K       | up to 51  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |                  |           | 3(16)   | 2                     | LQFP64          |
|              | GD32F103RIT6 | 108             | 2048K          | 96K       | up to 51  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |                  |           | 3(16)   | 2                     | LQFP64          |
|              | GD32F103RKT6 | 108             | 3072K          | 96K       | up to 51  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |                  |           | 3(16)   | 2                     | LQFP64          |
|              | GD32F103V8T6 | 108             | 64K            | 20K       | up to 80  | 3            | 1                   |                  | 1               | 2   | 1   | 3            | 2                | 2   | 1        | 1          |                  |      |                  | •         | 2(16)   |                       | LQFP100         |
|              | GD32F103VBT6 | 108             | 128K           | 20K       | up to 80  | 3            | 1                   |                  | 1               | 2   | 1   | 3            | 2                | 2   | 1        | 1          |                  |      |                  | •         | 2(16)   |                       | LQFP100         |
|              | GD32F103VCT6 | 108             | 256K           | 48K       | up to 80  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |                  | •         | 3(16)   | 2                     | LQFP100         |
|              | GD32F103VDT6 | 108             | 384K           | 64K       | up to 80  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |                  | •         | 3(16)   | 2                     | LQFP100         |
|              | GD32F103VET6 | 108             | 512K           | 64K       | up to 80  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |                  | •         | 3(16)   | 2                     | LQFP100         |
|              | GD32F103VFT6 | 108             | 768K           | 96K       | up to 80  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |                  | •         | 3(16)   | 2                     | LQFP100         |
|              | GD32F103VGT6 | 108             | 1024K          | 96K       | up to 80  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |                  | •         | 3(16)   | 2                     | LQFP100         |
|              | GD32F103VIT6 | 108             | 2048K          | 96K       | up to 80  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |                  | •         | 3(16)   | 2                     | LQFP100         |
|              | GD32F103VKT6 | 108             | 3072K          | 96K       | up to 80  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |                  | •         | 3(16)   | 2                     | LQFP100         |
|              | GD32F103ZCT6 | 108             | 256K           | 48K       | up to 112 | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |                  | •         | 3(21)   | 2                     | LQFP144         |
|              | GD32F103ZDT6 | 108             | 384K           | 64K       | up to 112 | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |                  | •         | 3(21)   | 2                     | LQFP144         |
|              | GD32F103ZET6 | 108             | 512K           | 64K       | up to 112 | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |                  | •         | 3(21)   | 2                     | LQFP144         |
|              | GD32F103ZFT6 | 108             | 768K           | 96K       | up to 112 | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 1        | 1          | 2                | 1    |                  | •         | 3(21)   | 2                     | LQFP144         |
| GD32F103ZGT6 | 108          | 1024K           | 96K            | up to 112 | 10        | 2            | 2                   | 1                | 2               | 1   | 5   | 2            | 3                | 1   | 1        | 2          | 1                |      | •                | 3(21)     | 2       | LQFP144               |                 |
| GD32F103ZIT6 | 108          | 2048K           | 96K            | up to 112 | 10        | 2            | 2                   | 1                | 2               | 1   | 5   | 2            | 3                | 1   | 1        | 2          | 1                |      | •                | 3(21)     | 2       | LQFP144               |                 |
| GD32F103ZKT6 | 108          | 3072K           | 96K            | up to 112 | 10        | 2            | 2                   | 1                | 2               | 1   | 5   | 2            | 3                | 1   | 1        | 2          | 1                |      | •                | 3(21)     | 2       | LQFP144               |                 |

# GD32F1 series of 32-bit ARM® Cortex®-M3 MCUs Selection Guide



| Series       | Part No.     | Max Speed (MHz) | Memory (Bytes) |           | I/O       | Timer        |                     |                  |                 |     |     | Connectivity |                  |     |          |            |                  | EXMC | Analog Interface |           | Package |                       |                 |
|--------------|--------------|-----------------|----------------|-----------|-----------|--------------|---------------------|------------------|-----------------|-----|-----|--------------|------------------|-----|----------|------------|------------------|------|------------------|-----------|---------|-----------------------|-----------------|
|              |              |                 | Flash          | SRAM      |           | GPTM (16bit) | Advanced TM (16bit) | Basic TM (16bit) | SysTick (24bit) | WDG | RTC | USART (UART) | I <sup>2</sup> C | SPI | CAN 2.0B | USB 2.0 FS | I <sup>2</sup> S |      | SDIO             | Ether-net |         | 12bit ADC Units (CHs) | 12bit DAC Units |
| GD32F105     | GD32F105R8T6 | 108             | 64K            | 64K       | up to 51  | 4            | 1                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  |           | 2(16)   | 2                     | LQFP64          |
|              | GD32F105RBT6 | 108             | 128K           | 64K       | up to 51  | 4            | 1                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  |           | 2(16)   | 2                     | LQFP64          |
|              | GD32F105RCT6 | 108             | 256K           | 96K       | up to 51  | 4            | 1                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  |           | 2(16)   | 2                     | LQFP64          |
|              | GD32F105RDT6 | 108             | 384K           | 96K       | up to 51  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  |           | 2(16)   | 2                     | LQFP64          |
|              | GD32F105RET6 | 108             | 512K           | 96K       | up to 51  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  |           | 2(16)   | 2                     | LQFP64          |
|              | GD32F105RFT6 | 108             | 768K           | 96K       | up to 51  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  |           | 2(16)   | 2                     | LQFP64          |
|              | GD32F105RGT6 | 108             | 1024K          | 96K       | up to 51  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  |           | 2(16)   | 2                     | LQFP64          |
|              | GD32F105V8T6 | 108             | 64K            | 64K       | up to 80  | 4            | 1                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP100         |
|              | GD32F105VBT6 | 108             | 128K           | 64K       | up to 80  | 4            | 1                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP100         |
|              | GD32F105VCT6 | 108             | 256K           | 96K       | up to 80  | 4            | 1                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP100         |
|              | GD32F105VDT6 | 108             | 384K           | 96K       | up to 80  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP100         |
|              | GD32F105VET6 | 108             | 512K           | 96K       | up to 80  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP100         |
|              | GD32F105VFT6 | 108             | 768K           | 96K       | up to 80  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP100         |
|              | GD32F105VGT6 | 108             | 1024K          | 96K       | up to 80  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP100         |
|              | GD32F105ZCT6 | 108             | 256K           | 96K       | up to 112 | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP144         |
|              | GD32F105ZDT6 | 108             | 384K           | 96K       | up to 112 | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP144         |
| GD32F105ZET6 | 108          | 512K            | 96K            | up to 112 | 4         | 2            | 2                   | 1                | 2               | 1   | 5   | 2            | 3                | 2   | OTG      | 2          |                  |      | •                | 2(16)     | 2       | LQFP144               |                 |
| GD32F105ZFT6 | 108          | 768K            | 96K            | up to 112 | 10        | 2            | 2                   | 1                | 2               | 1   | 5   | 2            | 3                | 2   | OTG      | 2          |                  |      | •                | 2(16)     | 2       | LQFP144               |                 |
| GD32F105ZGT6 | 108          | 1024K           | 96K            | up to 112 | 10        | 2            | 2                   | 1                | 2               | 1   | 5   | 2            | 3                | 2   | OTG      | 2          |                  |      | •                | 2(16)     | 2       | LQFP144               |                 |
| GD32F107     | GD32F107RBT6 | 108             | 128K           | 96K       | up to 51  | 4            | 1                   | 2                | 1               | 2   | 1   | 5            | 1                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP64          |
|              | GD32F107RCT6 | 108             | 256K           | 96K       | up to 51  | 4            | 1                   | 2                | 1               | 2   | 1   | 5            | 1                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP64          |
|              | GD32F107RDT6 | 108             | 384K           | 96K       | up to 51  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP64          |
|              | GD32F107RET6 | 108             | 512K           | 96K       | up to 51  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP64          |
|              | GD32F107RFT6 | 108             | 768K           | 96K       | up to 51  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP64          |
|              | GD32F107RGT6 | 108             | 1024K          | 96K       | up to 51  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP64          |
|              | GD32F107VBT6 | 108             | 128K           | 96K       | up to 80  | 4            | 1                   | 2                | 1               | 2   | 1   | 5            | 1                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP100         |
|              | GD32F107VCT6 | 108             | 256K           | 96K       | up to 80  | 4            | 1                   | 2                | 1               | 2   | 1   | 5            | 1                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP100         |
|              | GD32F107VDT6 | 108             | 384K           | 96K       | up to 80  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP100         |
|              | GD32F107VET6 | 108             | 512K           | 96K       | up to 80  | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP100         |
|              | GD32F107VFT6 | 108             | 768K           | 96K       | up to 80  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP100         |
|              | GD32F107VGT6 | 108             | 1024K          | 96K       | up to 80  | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP100         |
|              | GD32F107ZCT6 | 108             | 256K           | 96K       | up to 112 | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP144         |
|              | GD32F107ZDT6 | 108             | 384K           | 96K       | up to 112 | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP144         |
|              | GD32F107ZET6 | 108             | 512K           | 96K       | up to 112 | 4            | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP144         |
|              | GD32F107ZFT6 | 108             | 768K           | 96K       | up to 112 | 10           | 2                   | 2                | 1               | 2   | 1   | 5            | 2                | 3   | 2        | OTG        | 2                |      |                  | •         | 2(16)   | 2                     | LQFP144         |
| GD32F107ZGT6 | 108          | 1024K           | 96K            | up to 112 | 10        | 2            | 2                   | 1                | 2               | 1   | 5   | 2            | 3                | 2   | OTG      | 2          |                  |      | •                | 2(16)     | 2       | LQFP144               |                 |



# GD32F1 series of 32-bit ARM® Cortex®-M3 MCUs Selection Guide



| Series       | Part No.     | Max Speed (MHz) | Memory (Bytes) |           | I/O       | Timer        |                     |                  |                 |     |     | Connectivity |                  |     |          |            |                  | EXMC | Analog Interface |           | Package |                       |                 |  |   |       |       |         |         |
|--------------|--------------|-----------------|----------------|-----------|-----------|--------------|---------------------|------------------|-----------------|-----|-----|--------------|------------------|-----|----------|------------|------------------|------|------------------|-----------|---------|-----------------------|-----------------|--|---|-------|-------|---------|---------|
|              |              |                 | Flash          | SRAM      |           | GPTM (16bit) | Advanced TM (16bit) | Basic TM (16bit) | SysTick (24bit) | WDG | RTC | USART (UART) | I <sup>2</sup> C | SPI | CAN 2.0B | USB 2.0 FS | I <sup>2</sup> S |      | SDIO             | Ether-net |         | 12bit ADC Units (CHs) | 12bit DAC Units |  |   |       |       |         |         |
| GD32F101     | GD32F101T4U6 | 56              | 16K            | 4K        | up to 26  | 2            |                     |                  | 1               | 2   | 1   | 2            | 1                | 1   |          |            |                  |      |                  |           |         |                       |                 |  |   | 1(10) |       | QFN36   |         |
|              | GD32F101T6U6 | 56              | 32K            | 6K        | up to 26  | 2            |                     |                  | 1               | 2   | 1   | 2            | 1                | 1   |          |            |                  |      |                  |           |         |                       |                 |  |   |       | 1(10) |         | QFN36   |
|              | GD32F101T8U6 | 56              | 64K            | 10K       | up to 26  | 3            |                     |                  | 1               | 2   | 1   | 2            | 1                | 1   |          |            |                  |      |                  |           |         |                       |                 |  |   |       | 1(10) |         | QFN36   |
|              | GD32F101TBU6 | 56              | 128K           | 16K       | up to 26  | 3            |                     |                  | 1               | 2   | 1   | 2            | 1                | 1   |          |            |                  |      |                  |           |         |                       |                 |  |   |       | 1(10) |         | QFN36   |
|              | GD32F101C4T6 | 56              | 16K            | 4K        | up to 37  | 2            |                     |                  | 1               | 2   | 1   | 2            | 1                | 1   |          |            |                  |      |                  |           |         |                       |                 |  |   |       | 1(10) |         | LQFP48  |
|              | GD32F101C6T6 | 56              | 32K            | 6K        | up to 37  | 2            |                     |                  | 1               | 2   | 1   | 2            | 1                | 1   |          |            |                  |      |                  |           |         |                       |                 |  |   |       | 1(10) |         | LQFP48  |
|              | GD32F101C8T6 | 56              | 64K            | 10K       | up to 37  | 3            |                     |                  | 1               | 2   | 1   | 3            | 2                | 2   |          |            |                  |      |                  |           |         |                       |                 |  |   |       | 1(10) |         | LQFP48  |
|              | GD32F101CBT6 | 56              | 128K           | 16K       | up to 37  | 3            |                     |                  | 1               | 2   | 1   | 3            | 2                | 2   |          |            |                  |      |                  |           |         |                       |                 |  |   |       | 1(10) |         | LQFP48  |
|              | GD32F101R4T6 | 56              | 16K            | 4K        | up to 51  | 2            |                     |                  | 1               | 2   | 1   | 2            | 1                | 1   |          |            |                  |      |                  |           |         |                       |                 |  |   |       | 1(16) |         | LQFP64  |
|              | GD32F101R6T6 | 56              | 32K            | 6K        | up to 51  | 2            |                     |                  | 1               | 2   | 1   | 2            | 1                | 1   |          |            |                  |      |                  |           |         |                       |                 |  |   |       | 1(16) |         | LQFP64  |
|              | GD32F101R8T6 | 56              | 64K            | 10K       | up to 51  | 3            |                     |                  | 1               | 2   | 1   | 3            | 2                | 2   |          |            |                  |      |                  |           |         |                       |                 |  |   |       | 1(16) |         | LQFP64  |
|              | GD32F101RBT6 | 56              | 128K           | 16K       | up to 51  | 3            |                     |                  | 1               | 2   | 1   | 3            | 2                | 2   |          |            |                  |      |                  |           |         |                       |                 |  |   |       | 1(16) |         | LQFP64  |
|              | GD32F101RCT6 | 56              | 256K           | 32K       | up to 51  | 4            |                     | 2                | 1               | 2   | 1   | 5            | 2                | 3   |          |            |                  |      |                  |           |         |                       |                 |  |   |       | 1(16) | 2       | LQFP64  |
|              | GD32F101RDT6 | 56              | 384K           | 48K       | up to 51  | 4            |                     | 2                | 1               | 2   | 1   | 5            | 2                | 3   |          |            |                  |      |                  |           |         |                       |                 |  |   |       | 1(16) | 2       | LQFP64  |
|              | GD32F101RET6 | 56              | 512K           | 48K       | up to 51  | 4            |                     | 2                | 1               | 2   | 1   | 5            | 2                | 3   |          |            |                  |      |                  |           |         |                       |                 |  |   |       | 1(16) | 2       | LQFP64  |
|              | GD32F101RFT6 | 56              | 768K           | 80K       | up to 51  | 10           |                     | 2                | 1               | 2   | 1   | 5            | 2                | 3   |          |            |                  |      |                  |           |         |                       |                 |  |   |       | 2(16) | 2       | LQFP64  |
|              | GD32F101RGT6 | 56              | 1024K          | 80K       | up to 51  | 10           |                     | 2                | 1               | 2   | 1   | 5            | 2                | 3   |          |            |                  |      |                  |           |         |                       |                 |  |   |       | 2(16) | 2       | LQFP64  |
|              | GD32F101RIT6 | 56              | 2048K          | 80K       | up to 51  | 10           |                     | 2                | 1               | 2   | 1   | 5            | 2                | 3   |          |            |                  |      |                  |           |         |                       |                 |  |   |       | 2(16) | 2       | LQFP64  |
|              | GD32F101RKT6 | 56              | 3072K          | 80K       | up to 51  | 10           |                     | 2                | 1               | 2   | 1   | 5            | 2                | 3   |          |            |                  |      |                  |           |         |                       |                 |  |   |       | 2(16) | 2       | LQFP64  |
|              | GD32F101V8T6 | 56              | 64K            | 10K       | up to 80  | 3            |                     |                  | 1               | 2   | 1   | 3            | 2                | 2   |          |            |                  |      |                  |           |         |                       |                 |  |   | •     | 1(16) |         | LQFP100 |
|              | GD32F101VBT6 | 56              | 128K           | 16K       | up to 80  | 3            |                     |                  | 1               | 2   | 1   | 3            | 2                | 2   |          |            |                  |      |                  |           |         |                       |                 |  |   | •     | 1(16) |         | LQFP100 |
|              | GD32F101VCT6 | 56              | 256K           | 32K       | up to 80  | 4            |                     | 2                | 1               | 2   | 1   | 5            | 2                | 3   |          |            |                  |      |                  |           |         |                       |                 |  |   | •     | 1(16) | 2       | LQFP100 |
|              | GD32F101VDT6 | 56              | 384K           | 48K       | up to 80  | 4            |                     | 2                | 1               | 2   | 1   | 5            | 2                | 3   |          |            |                  |      |                  |           |         |                       |                 |  |   | •     | 1(16) | 2       | LQFP100 |
|              | GD32F101VET6 | 56              | 512K           | 48K       | up to 80  | 4            |                     | 2                | 1               | 2   | 1   | 5            | 2                | 3   |          |            |                  |      |                  |           |         |                       |                 |  |   | •     | 1(16) | 2       | LQFP100 |
|              | GD32F101VFT6 | 56              | 768K           | 80K       | up to 80  | 10           |                     | 2                | 1               | 2   | 1   | 5            | 2                | 3   |          |            |                  |      |                  |           |         |                       |                 |  |   | •     | 2(16) | 2       | LQFP100 |
|              | GD32F101VGT6 | 56              | 1024K          | 80K       | up to 80  | 10           |                     | 2                | 1               | 2   | 1   | 5            | 2                | 3   |          |            |                  |      |                  |           |         |                       |                 |  |   | •     | 2(16) | 2       | LQFP100 |
|              | GD32F101VIT6 | 56              | 2048K          | 80K       | up to 80  | 10           |                     | 2                | 1               | 2   | 1   | 5            | 2                | 3   |          |            |                  |      |                  |           |         |                       |                 |  |   | •     | 2(16) | 2       | LQFP100 |
|              | GD32F101VKT6 | 56              | 3072K          | 80K       | up to 80  | 10           |                     | 2                | 1               | 2   | 1   | 5            | 2                | 3   |          |            |                  |      |                  |           |         |                       |                 |  |   | •     | 2(16) | 2       | LQFP100 |
|              | GD32F101ZCT6 | 56              | 256K           | 32K       | up to 112 | 4            |                     | 2                | 1               | 2   | 1   | 5            | 2                | 3   |          |            |                  |      |                  |           |         |                       |                 |  |   | •     | 1(16) | 2       | LQFP144 |
|              | GD32F101ZDT6 | 56              | 384K           | 48K       | up to 112 | 4            |                     | 2                | 1               | 2   | 1   | 5            | 2                | 3   |          |            |                  |      |                  |           |         |                       |                 |  |   | •     | 1(16) | 2       | LQFP144 |
|              | GD32F101ZET6 | 56              | 512K           | 48K       | up to 112 | 4            |                     | 2                | 1               | 2   | 1   | 5            | 2                | 3   |          |            |                  |      |                  |           |         |                       |                 |  |   | •     | 1(16) | 2       | LQFP144 |
|              | GD32F101ZFT6 | 56              | 768K           | 80K       | up to 112 | 10           |                     | 2                | 1               | 2   | 1   | 5            | 2                | 3   |          |            |                  |      |                  |           |         |                       |                 |  |   | •     | 2(16) | 2       | LQFP144 |
|              | GD32F101ZGT6 | 56              | 1024K          | 80K       | up to 112 | 10           |                     | 2                | 1               | 2   | 1   | 5            | 2                | 3   |          |            |                  |      |                  |           |         |                       |                 |  |   | •     | 2(16) | 2       | LQFP144 |
| GD32F101ZIT6 | 56           | 2048K           | 80K            | up to 112 | 10        |              | 2                   | 1                | 2               | 1   | 5   | 2            | 3                |     |          |            |                  |      |                  |           |         |                       |                 |  | • | 2(16) | 2     | LQFP144 |         |
| GD32F101ZKT6 | 56           | 3072K           | 80K            | up to 112 | 10        |              | 2                   | 1                | 2               | 1   | 5   | 2            | 3                |     |          |            |                  |      |                  |           |         |                       |                 |  | • | 2(16) | 2     | LQFP144 |         |

# SPI NOR Flash

## GD SPI NOR Flash Features



- ◆ **Single Power Supply Voltage**  
- Voltage range: 2.7V~3.6V
- ◆ **High Speed Clock Frequency**  
- Maximum 166MHz for fast read with 30pF load\*  
- Dual I/O Data transfer up to 332Mbits/s  
- Quad I/O Data transfer up to 664Mbits/s  
- Continuous Read With 8/16/32/64-Byte Wrap
- ◆ **Flexible Memory Architecture**  
- Sector Size: 4K Bytes  
- Block Size: 32/64K Bytes

- ◆ **Single Power Supply Voltage**  
- Voltage range: 2.3V~3.6V
- ◆ **High Speed Clock Frequency**  
- Maximum 104MHz for fast read with 30pF load\*  
- Dual I/O Data transfer up to 208Mbits/s  
- Quad I/O Data transfer up to 416Mbits/s  
- Continuous Read With 8/16/32/64-Byte Wrap
- ◆ **Flexible Memory Architecture**  
- Sector Size: 4K Bytes  
- Block Size: 32/64K Bytes

- ◆ **Single Power Supply Voltage**  
- Voltage range: 1.65V~2.0V
- ◆ **High Speed Clock Frequency**  
- Maximum 166MHz for fast read with 30pF load\*  
- Dual I/O Data transfer up to 332Mbits/s  
- Quad I/O Data transfer up to 664Mbits/s  
- QPI Data transfer up to 664Mbits/s  
- Continuous Read With 8/16/32/64-Byte Wrap
- ◆ **Flexible Memory Architecture**  
- Sector Size: 4K Bytes  
- Block Size: 32/64K Bytes

- ◆ **Single Power Supply Voltage**  
- Voltage range: 1.65V~3.6V
- ◆ **High Speed Clock Frequency**  
- Maximum 104MHz for fast read with 30pF load\*  
- Dual I/O Data transfer up to 208Mbits/s  
- Quad I/O Data transfer up to 416Mbits/s  
- Continuous Read With 8/16/32/64-Byte Wrap
- ◆ **Flexible Memory Architecture**  
- Sector Size: 4K Bytes  
- Block Size: 32/64K Bytes

\* This feature is available on most of devices. Please refer to page 16-19.



## GD SPI NOR Flash Part Number Definition



## GD SPI NOR Flash Feature List

| Flash Type                                  | 3.0V       |        |                   |                   |                   |        | 2.5V   |         | 1.8V    |         |         |                   |         |                   |                   |                   | 1.65V-3.6V        |         |         |         |   |
|---|------------|--------|-------------------|-------------------|-------------------|--------|--------|---------|---------|---------|---------|-------------------|---------|-------------------|-------------------|-------------------|-------------------|---------|---------|---------|---|
|   | GD25 F     | GD25 X | GD25 Q            | GD25 B            | GD25 R            | GD25 S | GD25 D | GD25 VQ | GD25 VE | GD25 LX | GD25 LT | GD25 LR           | GD25 LF | GD25 LQ           | GD25 LB           | GD25 LH           | GD25 LE           | GD25 LD | GD25 WQ | GD25 WD |   |
| Part No.                                    | xxE<br>xxF | xxE    | xxC<br>xxD<br>xxE | xxC<br>xxD<br>xxE | xxC<br>xxD<br>xxE | xxD    | xxD    | xxC     | xxC     | xxE     | xxE     | xxC<br>xxD<br>xxE | xxE     | xxC<br>xxD<br>xxE | xxC<br>xxD<br>xxE | xxC<br>xxD<br>xxE | xxC<br>xxD<br>xxE | xxC     | xxE     | xxC     |   |
| Single I/O (1-1-1)                          | .          | .      | .                 | .                 | .                 | .      | .      | .       | .       | .       | .       | .                 | .       | .                 | .                 | .                 | .                 | .       | .       | .       | . |
| Dual Output (1-1-2)                         | .          | .      | .                 | .                 | .                 | .      | .      | .       | .       | .       | .       | .                 | .       | .                 | .                 | .                 | .                 | .       | .       | .       | . |
| Dual I/O (1-2-2)                            | .          | .      | .                 | .                 | .                 | .      | .      | .       | .       | .       | .       | .                 | .       | .                 | .                 | .                 | .                 | .       | .       | .       | . |
| Quad Output (1-1-4)                         | .          | .      | .                 | .                 | .                 | .      | .      | .       | .       | .       | .       | .                 | .       | .                 | .                 | .                 | .                 | .       | .       | .       | . |
| Quad I/O (1-4-4)                            | .          | .      | .                 | .                 | .                 | .      | .      | .       | .       | .       | .       | .                 | .       | .                 | .                 | .                 | .                 | .       | .       | .       | . |
| Octal Output (1-1-8)                        | .          | .      | .                 | .                 | .                 | .      | .      | .       | .       | .       | .       | .                 | .       | .                 | .                 | .                 | .                 | .       | .       | .       | . |
| Octal I/O (1-8-8)                           | .          | .      | .                 | .                 | .                 | .      | .      | .       | .       | .       | .       | .                 | .       | .                 | .                 | .                 | .                 | .       | .       | .       | . |
| QPI (4-4-4)                                 | .          | .      | .                 | .                 | .                 | .      | .      | .       | .       | .       | .       | .                 | .       | .                 | .                 | .                 | .                 | .       | .       | .       | . |
| OPI (8-8-8)                                 | .          | .      | .                 | .                 | .                 | .      | .      | .       | .       | .       | .       | .                 | .       | .                 | .                 | .                 | .                 | .       | .       | .       | . |
| HOLD# Pin                                   | .          | .      | .                 | .                 | .                 | .      | .      | .       | .       | .       | .       | .                 | .       | .                 | .                 | .                 | .                 | .       | .       | .       | . |
| H/W Reset (RESET# Pin)                      | .          | .      | .                 | .                 | .                 | .      | .      | .       | .       | .       | .       | .                 | .       | .                 | .                 | .                 | .                 | .       | .       | .       | . |
| S/W Reset                                   | .          | .      | .                 | .                 | .                 | .      | .      | .       | .       | .       | .       | .                 | .       | .                 | .                 | .                 | .                 | .       | .       | .       | . |
| H/W Write Protection (WP# Pin)              | .          | .      | .                 | .                 | .                 | .      | .      | .       | .       | .       | .       | .                 | .       | .                 | .                 | .                 | .                 | .       | .       | .       | . |
| S/W Write Protection                        | .          | .      | .                 | .                 | .                 | .      | .      | .       | .       | .       | .       | .                 | .       | .                 | .                 | .                 | .                 | .       | .       | .       | . |
| Enhanced Block Protection                   | .          | .      | .                 | .                 | .                 | .      | .      | .       | .       | .       | .       | .                 | .       | .                 | .                 | .                 | .                 | .       | .       | .       | . |
| Volatile & Non-volatile Status Register Bit | .          | .      | .                 | .                 | .                 | .      | .      | .       | .       | .       | .       | .                 | .       | .                 | .                 | .                 | .                 | .       | .       | .       | . |
| Output Driver Strength                      | *          | .      | *                 | *                 | *                 | *      | .      | *       | *       | .       | .       | *                 | .       | .                 | .                 | .                 | .                 | .       | .       | .       | . |
| Security Registers with OTP Locks           | .          | .      | .                 | .                 | .                 | .      | .      | .       | .       | .       | .       | .                 | .       | .                 | .                 | .                 | .                 | .       | .       | .       | . |
| SFDP Register                               | .          | .      | .                 | .                 | .                 | .      | .      | .       | .       | .       | .       | .                 | .       | .                 | .                 | .                 | .                 | .       | .       | .       | . |
| DTR   | .          | .      | .                 | .                 | .                 | .      | .      | .       | .       | .       | .       | .                 | .       | .                 | .                 | .                 | .                 | .       | .       | .       | . |

\* This feature is supported by part of family







| Part No.   | Density | Voltage    | Organization      | I/O Bus              | Frequency (MHz)                | Packages   |
|------------|---------|------------|-------------------|----------------------|--------------------------------|--|
| GD25LE16E  | 16Mb    | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 133MHz(x1, x2, x4) 66MHz(DTR)  | SOP8 208mil USON8 3x2mm (0.45mm) WLCSP (3-2-3 ball array)  |
| GD25LQ16E  | 16Mb    | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 133MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil USON8 3x2mm (0.45mm) USON8 3x4mm WSON8 6x5mm WLCSP (3-2-3 ball array)  |
| GD25LH16E  | 16Mb    | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 133MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil USON8 3x2mm (0.45mm) USON8 3x4mm WSON8 6x5mm   |
| GD25LB16E  | 16Mb    | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 133MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil USON8 3x2mm (0.45mm) USON8 3x4mm WSON8 6x5mm   |
| GD25LB16C  | 16Mb    | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil VSOP8 150mil VSOP8 208mil USON8 3x3mm USON8 3x4mm USON8 4x4mm (0.45mm) LGA8 3x2mm WSON8 6x5mm  |
| GD25LE16C  | 16Mb    | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil VSOP8 150mil VSOP8 208mil USON8 3x3mm USON8 3x4mm USON8 4x4mm (0.45mm) LGA8 3x2mm WSON8 6x5mm WLCSP (4-4 or 3-3 ball array)                    |
| GD25LH16C  | 16Mb    | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil VSOP8 150mil VSOP8 208mil USON8 3x3mm USON8 3x4mm USON8 4x4mm (0.45mm) LGA8 3x2mm WSON8 6x5mm  |
| GD25LQ16C  | 16Mb    | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil VSOP8 150mil VSOP8 208mil USON8 3x3mm USON8 3x4mm USON8 4x4mm (0.45mm) LGA8 3x2mm WSON8 6x5mm WLCSP (4-4 or 3-3 ball array)                    |
| GD25LF80E  | 8Mb     | 1.65V-2.0V | 4KB / 32KB / 64KB | Single / Dual / Quad | 166MHz(x1, x2, x4) 104MHz(DTR) | SOP8 208mil USON8 3x2mm (0.45mm) USON8 3x4mm   |
| GD25LE80E  | 8Mb     | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 133MHz(x1, x2, x4) 66MHz(DTR)  | SOP8 208mil USON8 3x2mm (0.45mm) WLCSP (4-4 or 3-3 ball array)   |
| GD25LQ80E  | 8Mb     | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 133MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil USON8 3x2mm (0.45mm)   |
| GD25LH80E  | 8Mb     | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 133MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil VSOP8 150mil USON8 3x2mm (0.45mm)  |
| GD25LD80C  | 8Mb     | 1.65V-2.0V | 4KB / 32KB / 64KB | Single / Dual Output | 50MHz(x1) 40MHz(x2)            | SOP8 150mil SOP8 208mil TSSOP8 173mil DIP8 300mil USON8 1.5x1.5mm USON8 3x2mm (0.45mm)   |
| GD25LE80C  | 8Mb     | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil VSOP8 150mil VSOP8 208mil USON8 3x2mm (0.45mm) USON8 3x4mm USON8 4x4mm (0.45mm) WSON8 6x5mm WLCSP (4-4 or 3-3 ball array)                      |
| GD25LH80C  | 8Mb     | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil VSOP8 150mil VSOP8 208mil USON8 3x2mm (0.45mm) USON8 3x2mm (0.55mm) USON8 3x4mm USON8 4x4mm (0.45mm) WSON8 6x5mm WLCSP (4-4 or 3-3 ball array) |
| GD25LQ80C  | 8Mb     | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil VSOP8 150mil VSOP8 208mil USON8 3x2mm (0.45mm) USON8 3x2mm (0.55mm) USON8 3x4mm USON8 4x4mm (0.45mm) WSON8 6x5mm WLCSP (4-4 or 3-3 ball array) |
| GD25LQ40E  | 4Mb     | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 133MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil USON8 1.5x1.5mm USON8 3x2mm (0.45mm) USON8 3x4mm   |
| GD25LD40C  | 4Mb     | 1.65V-2.0V | 4KB / 32KB / 64KB | Single / Dual Output | 50MHz(x1) 40MHz(x2)            | SOP8 150mil SOP8 208mil TSSOP8 173mil DIP8 300mil USON8 1.5x1.5mm USON8 3x2mm (0.45mm) USON8 4x4mm (0.45mm) WSON8 6x5mm  |
| GD25LE40C  | 4Mb     | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil VSOP8 150mil VSOP8 208mil USON8 3x2mm (0.45mm) USON8 3x3mm USON8 3x4mm USON8 4x4mm (0.45mm) WSON8 6x5mm  |
| GD25LH40C  | 4Mb     | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil VSOP8 150mil VSOP8 208mil USON8 3x2mm (0.45mm) USON8 3x2mm (0.55mm) USON8 3x3mm USON8 3x4mm USON8 4x4mm (0.45mm) WSON8 6x5mm                   |
| GD25LQ40C  | 4Mb     | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil VSOP8 150mil VSOP8 208mil TSSOP8 173mil USON8 3x2mm (0.45mm) USON8 3x3mm USON8 3x4mm USON8 4x4mm (0.45mm) WSON8 6x5mm                          |
| GD25LQ20E  | 2Mb     | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 133MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil USON8 1.5x1.5mm USON8 3x2mm (0.45mm) USON8 3x4mm   |
| GD25LD20C  | 2Mb     | 1.65V-2.0V | 4KB / 32KB / 64KB | Single / Dual Output | 50MHz(x1) 40MHz(x2)            | SOP8 150mil SOP8 208mil TSSOP8 173mil DIP8 300mil USON8 1.5x1.5mm USON8 3x2mm (0.45mm) USON8 4x4mm (0.45mm) WSON8 6x5mm  |
| GD25LE20C  | 2Mb     | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil VSOP8 150mil VSOP8 208mil USON8 3x2mm (0.45mm) USON8 3x3mm USON8 3x4mm USON8 4x4mm (0.45mm) WSON8 6x5mm  |
| GD25LH20C  | 2Mb     | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil VSOP8 150mil VSOP8 208mil USON8 3x2mm (0.45mm) USON8 3x2mm (0.55mm) USON8 3x3mm USON8 3x4mm USON8 4x4mm (0.45mm) WSON8 6x5mm                   |
| GD25LQ20C  | 2Mb     | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil VSOP8 150mil VSOP8 208mil TSSOP8 173mil USON8 3x2mm (0.45mm) USON8 3x3mm USON8 3x4mm USON8 4x4mm (0.45mm) WSON8 6x5mm                          |
| GD25LD10C  | 1Mb     | 1.65V-2.0V | 4KB / 32KB / 64KB | Single / Dual Output | 50MHz(x1) 40MHz(x2)            | SOP8 150mil SOP8 208mil TSSOP8 173mil DIP8 300mil USON8 1.5x1.5mm USON8 3x2mm (0.45mm)   |
| GD25LE10C  | 1Mb     | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil VSOP8 150mil VSOP8 208mil USON8 3x2mm (0.45mm) USON8 3x3mm USON8 3x4mm USON8 4x4mm (0.45mm) WSON8 6x5mm  |
| GD25LH10C  | 1Mb     | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil VSOP8 150mil VSOP8 208mil USON8 3x2mm (0.45mm) USON8 3x2mm (0.55mm) USON8 3x3mm USON8 3x4mm USON8 4x4mm (0.45mm) WSON8 6x5mm                   |
| GD25LQ10C  | 1Mb     | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil VSOP8 150mil VSOP8 208mil TSSOP8 173mil USON8 3x2mm (0.45mm) USON8 3x3mm USON8 3x4mm USON8 4x4mm (0.45mm) WSON8 6x5mm                          |
| GD25LD05C  | 512Kb   | 1.65V-2.0V | 4KB / 32KB / 64KB | Single / Dual Output | 50MHz(x1) 40MHz(x2)            | SOP8 150mil SOP8 208mil TSSOP8 173mil DIP8 300mil USON8 1.5x1.5mm USON8 3x2mm (0.45mm)   |
| GD25LE05C  | 512Kb   | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil VSOP8 150mil VSOP8 208mil USON8 3x2mm (0.45mm) USON8 3x3mm USON8 3x4mm USON8 4x4mm (0.45mm) WSON8 6x5mm  |
| GD25LH05C  | 512Kb   | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil VSOP8 150mil VSOP8 208mil USON8 3x2mm (0.45mm) USON8 3x2mm (0.55mm) USON8 3x3mm USON8 3x4mm USON8 4x4mm (0.45mm) WSON8 6x5mm                   |
| GD25LQ05C  | 512Kb   | 1.65V-2.1V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil VSOP8 150mil VSOP8 208mil TSSOP8 173mil USON8 3x2mm (0.45mm) USON8 3x3mm USON8 3x4mm USON8 4x4mm (0.45mm) WSON8 6x5mm                          |
| GD25WQ256E | 256Mb   | 1.65V-3.6V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP16 300mil WSON8 6x5mm WSON8 8x6mm TFBGA24 8x6mm (5x5 ball array)  |
| GD25WQ128E | 128Mb   | 1.65V-3.6V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 208mil SOP16 300mil USON8 4x4mm (0.45mm) WSON8 6x5mm WSON8 8x6mm TFBGA24 8x6mm (5x5 ball array)   |
| GD25WQ64E  | 64Mb    | 1.65V-3.6V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 208mil USON8 3x4mm USON8 4x4mm (0.45mm) WSON8 6x5mm TFBGA24 8x6mm (5x5 ball array) WLCSP (3-2-3 ball array)   |
| GD25WQ32E  | 32Mb    | 1.65V-3.6V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil USON8 3x2mm (0.45mm) USON8 3x4mm   |
| GD25WQ16E  | 16Mb    | 1.65V-3.6V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil USON8 3x2mm (0.45mm)   |
| GD25WQ80E  | 8Mb     | 1.65V-3.6V | 4KB / 32KB / 64KB | Single / Dual / Quad | 104MHz(x1, x2, x4)             | SOP8 150mil SOP8 208mil USON8 3x2mm (0.45mm)   |
| GD25WD80C  | 8Mb     | 1.65V-3.6V | 4KB / 32KB / 64KB | Single / Dual Output | 100MHz(x1) 80MHz(x2)           | SOP8 150mil SOP8 208mil TSSOP8 173mil DIP8 300mil USON8 1.5x1.5mm USON8 3x2mm (0.45mm)   |
| GD25WD40C  | 4Mb     | 1.65V-3.6V | 4KB / 32KB / 64KB | Single / Dual Output | 100MHz(x1) 80MHz(x2)           | SOP8 150mil SOP8 208mil TSSOP8 173mil DIP8 300mil USON8 1.5x1.5mm USON8 3x2mm (0.45mm)   |
| GD25WD20C  | 2Mb     | 1.65V-3.6V | 4KB / 32KB / 64KB | Single / Dual Output | 100MHz(x1) 80MHz(x2)           | SOP8 150mil SOP8 208mil TSSOP8 173mil DIP8 300mil USON8 1.5x1.5mm USON8 3x2mm (0.45mm)   |
| GD25WD10C  | 1Mb     | 1.65V-3.6V | 4KB / 32KB / 64KB | Single / Dual Output | 100MHz(x1) 80MHz(x2)           | SOP8 150mil SOP8 208mil TSSOP8 173mil DIP8 300mil USON8 1.5x1.5mm USON8 3x2mm (0.45mm)   |
| GD25WD05C  | 512Kb   | 1.65V-3.6V | 4KB / 32KB / 64KB | Single / Dual Output | 100MHz(x1) 80MHz(x2)           | SOP8 150mil SOP8 208mil TSSOP8 173mil DIP8 300mil USON8 1.5x1.5mm USON8 3x2mm (0.45mm)   |

Product Series

3V

Q: Quad I/O, General  
 B: Quad I/O, QE=1  
 F: Quad I/O, DTR, QE=1  
 X: Octal I/O  
 D: Dual Output  
 R: Quad I/O, QE=1, Stack RPMC  
 S: Quad I/O, Stack Die, QE=1  
 T: Quad I/O, High Performance

2.5V

VQ: Quad I/O, General  
 VE: Quad I/O, Low Power

1.8V

LT: Quad I/O, High Performance  
 LR: Quad I/O, QE=1, Stack RPMC  
 LX: Octal I/O  
 LQ: Quad I/O, General  
 LB: Quad I/O, QE=1  
 LF: Quad I/O, DTR, QE=1

LH: Quad I/O, Faster tpp  
 LD: Dual Output  
 LE: Quad I/O, Low Power

1.65V~3.6V

WQ: Quad I/O  
 WD: Dual Output



# SPI NAND Flash



## GD SPI NAND Flash Features

### 3.3V

- ◆ Power Supply Voltage: 2.7V~3.6V
- ◆ High Speed Clock Frequency:
  - Up to 120MHz for fast read with 30pF load
  - Quad I/O Data transfer up to 480Mbit/s
- ◆ Flexible Memory Architecture:
  - 2048Byte page for read and program
  - 128KByte per block for erase
- ◆ Enhanced Access Performance:
  - 2KByte cache for fast random read
  - Cache Read and Cache Program
- ◆ Advanced Feature for SPI NAND:
  - Internal ECC algorithm
  - Internal data move by page with ECC
  - Promised good block-0 with ECC

### 1.8V

- ◆ Power Supply Voltage: 1.7V~2.0V
- ◆ High Speed Clock Frequency:
  - Up to 120MHz for fast read with 30pF load
  - Quad I/O Data transfer up to 480Mbit/s
- ◆ Flexible Memory Architecture:
  - 2048Byte page for read and program
  - 128KByte per block for erase
- ◆ Enhanced Access Performance:
  - 2KByte cache for fast random read
  - Cache Read and Cache Program
- ◆ Advanced Feature for SPI NAND:
  - Internal ECC algorithm
  - Internal data move by page with ECC
  - Promised good block-0 with ECC

## GD SPI NAND Flash Product List

### 3.3V

| Part No.      | Density | Frequency | I/O Bus  | Page Size | Package                 |
|---------------|---------|-----------|----------|-----------|-------------------------|
| GD5F1GQ4UxxxG | 1Gb     | 120MHZ    | x1/x2/x4 | 2KB+128B  | WS0N8 8*6mm/WS0N8 6*5mm |
| GD5F1GQ4UxxxH | 1Gb     | 120MHZ    | x1/x2/x4 | 2KB+64B   | WS0N8 8*6mm/WS0N8 6*5mm |
| GD5F1GQ5UxxxG | 1Gb     | 133MHZ    | x1/x2/x4 | 2KB+128B  | WS0N8 8*6mm             |
| GD5F1GQ5UxxxH | 1Gb     | 133MHZ    | x1/x2/x4 | 2KB+64B   | WS0N8 8*6mm             |
| GD5F2GQ5UxxxG | 2Gb     | 104MHZ    | x1/x2/x4 | 2KB+128B  | WS0N8 8*6mm             |
| GD5F2GQ5UxxxH | 2Gb     | 104MHZ    | x1/x2/x4 | 2KB+64B   | WS0N8 8*6mm             |
| GD5F4GQ6UxxxG | 4Gb     | 104MHZ    | x1/x2/x4 | 2KB+128B  | WS0N8 8*6mm             |
| GD5F4GQ6UxxxH | 4Gb     | 104MHZ    | x1/x2/x4 | 2KB+64B   | WS0N8 8*6mm             |

Note: For other Part Number options, please contact GigaDevice sales.

### 1.8V

| Part No.      | Density | Frequency | I/O Bus  | Page Size | Package                 |
|---------------|---------|-----------|----------|-----------|-------------------------|
| GD5F1GQ4RxxxG | 1Gb     | 120MHZ    | x1/x2/x4 | 2KB+128B  | WS0N8 8*6mm/WS0N8 6*5mm |
| GD5F1GQ4RxxxH | 1Gb     | 120MHZ    | x1/x2/x4 | 2KB+64B   | WS0N8 8*6mm/WS0N8 6*5mm |
| GD5F1GQ5RxxxG | 1Gb     | 104MHZ    | x1/x2/x4 | 2KB+128B  | WS0N8 8*6mm             |
| GD5F1GQ5RxxxH | 1Gb     | 104MHZ    | x1/x2/x4 | 2KB+64B   | WS0N8 8*6mm             |
| GD5F2GQ5RxxxG | 2Gb     | 80MHZ     | x1/x2/x4 | 2KB+128B  | WS0N8 8*6mm             |
| GD5F2GQ5RxxxH | 2Gb     | 80MHZ     | x1/x2/x4 | 2KB+64B   | WS0N8 8*6mm             |
| GD5F4GQ6RxxxG | 4Gb     | 80MHZ     | x1/x2/x4 | 2KB+128B  | WS0N8 8*6mm             |
| GD5F4GQ6RxxxH | 4Gb     | 80MHZ     | x1/x2/x4 | 2KB+64B   | WS0N8 8*6mm             |

Note: For other Part Number options, please contact GigaDevice sales.

## GD SPI NAND Flash Part Number Definition



# Parallel NAND Flash

## GD Parallel NAND Flash Features



- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>◆ Power Supply: 2.7V ~ 3.6V</li> <li>◆ Density: 1Gb / 2Gb / 4G / 8G / 16G</li> <li>◆ Page Size: 2048Byte + 128Byte / 2048Byte + 64Byte</li> <li>◆ Flash Array to Register Time: 25us</li> <li>◆ IO Read Performance: 20ns / 25ns</li> <li>◆ Bus Width: x8 or x16 options</li> <li>◆ Temperature Range: -40° C to 85° C / -40° C to 105° C</li> <li>◆ ONFI 1.0 Compatible</li> </ul> | <ul style="list-style-type: none"> <li>◆ Power Supply: 1.7V ~ 1.95V</li> <li>◆ Density: 1Gb / 2Gb / 4G / 8G / 16G</li> <li>◆ Page Size: 2048Byte + 128Byte / 2048Byte + 64Byte</li> <li>◆ Flash Array to Register Time: 25us</li> <li>◆ IO Read Performance: 25ns / 45ns</li> <li>◆ Bus Width: x8 or x16 options</li> <li>◆ Temperature Range: -40° C to 85° C / -40° C to 105° C</li> <li>◆ ONFI 1.0 Compatible</li> </ul> |
|--|---|

## GD Parallel NAND Flash Product List

### 3.3V

| Part No.     | Density | Sequential Access Time | I/O Bus | Page Size | ECC Requirement    | Package                         |
|--------------|---------|------------------------|---------|-----------|--------------------|---------------------------------|
| GD9FU1GxF2A  | 1Gb     | 25ns                   | x8/x16  | 2KB+128B  | 4bit/512B          | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9FU1GxF3A  | 1Gb     | 25ns                   | x8/x16  | 2KB+64B   | 4bit/512B          | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9FU2GxF2A  | 2Gb     | 20ns                   | x8/x16  | 2KB+128B  | 4bit/512B          | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9FU2GxF3A  | 2Gb     | 20ns                   | x8/x16  | 2KB+64B   | 4bit/512B          | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9FU4GxF2A  | 4Gb     | 20ns                   | x8/x16  | 2KB+128B  | 4bit/512B          | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9FU4GxF3A  | 4Gb     | 20ns                   | x8/x16  | 2KB+64B   | 4bit/512B          | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9FU8GxE2A  | 8Gb     | 20ns                   | x8/x16  | 2KB+128B  | 4bit/512B          | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9FU8GxE3A  | 8Gb     | 20ns                   | x8/x16  | 2KB+64B   | 4bit/512B          | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9FUAGxD2A  | 16Gb    | 20ns                   | x8/x16  | 2KB+128B  | 4bit/512B          | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9FUAGxD3A  | 16Gb    | 20ns                   | x8/x16  | 2KB+64B   | 4bit/512B          | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9AU2GxF3A* | 2Gb     | 20ns                   | x8/x16  | 2KB+64B   | Internal 4bit/512B | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9AU4GxF3A* | 4Gb     | 20ns                   | x8/x16  | 2KB+64B   | Internal 4bit/512B | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9AU8GxE3A* | 8Gb     | 20ns                   | x8/x16  | 2KB+64B   | Internal 4bit/512B | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9AUAGxD3A* | 16Gb    | 20ns                   | x8/x16  | 2KB+64B   | Internal 4bit/512B | TSOP48 20*12mm/<br>BGA63 9*11mm |

Note: The device has internal 4bit/512B ECC, doesn't need host ECC\*.

### 1.8V

| Part No.     | Density | Sequential Access Time | I/O Bus | Page Size | ECC Requirement    | Package                         |
|--------------|---------|------------------------|---------|-----------|--------------------|---------------------------------|
| GD9FS1GxF2A  | 1Gb     | 45ns                   | x8/x16  | 2KB+128B  | 4bit/512B          | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9FS1GxF3A  | 1Gb     | 45ns                   | x8/x16  | 2KB+64B   | 4bit/512B          | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9FS2GxF2A  | 2Gb     | 25ns                   | x8/x16  | 2KB+128B  | 4bit/512B          | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9FS2GxF3A  | 2Gb     | 25ns                   | x8/x16  | 2KB+64B   | 4bit/512B          | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9FS4GxF2A  | 4Gb     | 25ns                   | x8/x16  | 2KB+128B  | 4bit/512B          | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9FS4GxF3A  | 4Gb     | 25ns                   | x8/x16  | 2KB+64B   | 4bit/512B          | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9FS8GxE2A  | 8Gb     | 25ns                   | x8/x16  | 2KB+128B  | 4bit/512B          | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9FS8GxE3A  | 8Gb     | 25ns                   | x8/x16  | 2KB+64B   | 4bit/512B          | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9FSAGxD2A  | 16Gb    | 25ns                   | x8/x16  | 2KB+128B  | 4bit/512B          | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9FSAGxD3A  | 16Gb    | 25ns                   | x8/x16  | 2KB+64B   | 4bit/512B          | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9AS2GxF3A* | 2Gb     | 25ns                   | x8/x16  | 2KB+64B   | Internal 4bit/512B | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9AS4GxF3A* | 4Gb     | 25ns                   | x8/x16  | 2KB+64B   | Internal 4bit/512B | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9AS8GxE3A* | 8Gb     | 25ns                   | x8/x16  | 2KB+64B   | Internal 4bit/512B | TSOP48 20*12mm/<br>BGA63 9*11mm |
| GD9ASAGxD3A* | 16Gb    | 25ns                   | x8/x16  | 2KB+64B   | Internal 4bit/512B | TSOP48 20*12mm/<br>BGA63 9*11mm |

Note: The device has internal 4bit/512B ECC, doesn't need host ECC\*.

## GD Parallel NAND Flash Part Number Definition





# Flash Package Options


Note:


1. The values provided are the normal values for length, width and pitch, as well as the max values for thickness.
2. The pictures are for reference only. Please always verify your selection with the product data sheet.

|   |   |  |
|---|---|--|
| T |  | <b>SOP8 150mil</b><br>Length(Normal) 4.90<br>Width(Normal) 6.00<br>Thickness(Max) 1.75<br>Pitch(Normal) 1.27<br>mm |
|---|---|--|

|   |  |  |
|---|--|--|
| P |  | <b>DIP8 300mil</b><br>Length(Normal) 9.32<br>Width(Normal) 7.94<br>Thickness(Max) 3.50<br>Pitch(Normal) 2.54<br>mm |
|---|--|--|


|   |   |   |
|---|---|---|
| U |  | <b>USON8 3*2mm (0.55mm)</b><br>Length(Normal) 3.00<br>Width(Normal) 2.00<br>Thickness(Max) 0.60<br>Pitch(Normal) 0.50<br>mm |
|---|---|---|

|   |   |   |
|---|---|---|
| Q |  | <b>USON8 4*4mm (0.45mm)</b><br>Length(Normal) 4.00<br>Width(Normal) 4.00<br>Thickness(Max) 0.50<br>Pitch(Normal) 0.80<br>mm |
|---|---|---|

|   |   |  |
|---|---|--|
| S |  | <b>SOP8 208mil</b><br>Length(Normal) 5.23<br>Width(Normal) 7.90<br>Thickness(Max) 2.16<br>Pitch(Normal) 1.27<br>mm |
|---|---|--|


|   |  |   |
|---|--|---|
| Z |  | <b>TFBGA-24ball 6*8mm (4*6ball array)</b><br>Length(Normal) 6.00<br>Width(Normal) 8.00<br>Thickness(Max) 1.20<br>Pitch(Normal) 1.00<br>mm |
|---|--|---|


|   |   |   |
|---|---|---|
| E |  | <b>USON8 3*2mm (0.45mm)</b><br>Length(Normal) 3.00<br>Width(Normal) 2.00<br>Thickness(Max) 0.50<br>Pitch(Normal) 0.50<br>mm |
|---|---|---|


|   |   |  |
|---|---|--|
| W |  | <b>WSON8 6*5mm</b><br>Length(Normal) 6.00<br>Width(Normal) 5.00<br>Thickness(Max) 0.80<br>Pitch(Normal) 1.27<br>mm |
|---|---|--|


|   |   |   |
|---|---|---|
| M |  | <b>VSOP8 150mil</b><br>Length(Normal) 4.90<br>Width(Normal) 6.00<br>Thickness(Max) 0.90<br>Pitch(Normal) 1.27<br>mm |
|---|---|---|


|   |  |   |
|---|--|---|
| B |  | <b>TFBGA-24ball 6*8mm (5*5ball array)</b><br>Length(Normal) 6.00<br>Width(Normal) 8.00<br>Thickness(Max) 1.20<br>Pitch(Normal) 1.00<br>mm |
|---|--|---|


|   |   |  |
|---|---|--|
| H |  | <b>USON8 3*3mm</b><br>Length(Normal) 3.00<br>Width(Normal) 3.00<br>Thickness(Max) 0.60<br>Pitch(Normal) 0.50<br>mm |
|---|---|--|

|   |   |  |
|---|---|--|
| Y |  | <b>WSON8 8*6mm</b><br>Length(Normal) 8.00<br>Width(Normal) 6.00<br>Thickness(Max) 0.80<br>Pitch(Normal) 1.27<br>mm |
|---|---|--|


|   |   |   |
|---|---|---|
| M |  | <b>TSOP48</b><br>Length(Normal) 12.0<br>Width(Normal) 20.0<br>Thickness(Max) 1.20<br>Pitch(Normal) 0.50<br>mm |
|---|---|---|


|   |  |   |
|---|--|---|
| 8 |  | <b>LGA8 3*2mm</b><br>Length(Normal) 3.00<br>Width(Normal) 2.00<br>Thickness(Max) 0.50<br>Pitch(Normal) 0.50<br>mm |
|---|--|---|


|   |   |  |
|---|---|--|
| N |  | <b>USON8 3*4mm</b><br>Length(Normal) 3.00<br>Width(Normal) 4.00<br>Thickness(Max) 0.60<br>Pitch(Normal) 0.80<br>mm |
|---|---|--|


|   |   |   |
|---|---|---|
| L |  | <b>WLCSP</b><br>Depends on specific product |
|---|---|---|


|   |   |   |
|---|---|---|
| V |  | <b>VSOP8 208mil</b><br>Length(Normal) 5.28<br>Width(Normal) 7.90<br>Thickness(Max) 1.00<br>Pitch(Normal) 1.27<br>mm |
|---|---|---|

|   |  |   |
|---|--|---|
| 9 |  | <b>LGA8 8*6mm</b><br>Length(Normal) 8.00<br>Width(Normal) 6.00<br>Thickness(Max) 0.80<br>Pitch(Normal) 1.27<br>mm |
|---|--|---|

|   |   |   |
|---|---|---|
| J |  | <b>USON8 4*4mm (0.55mm)</b><br>Length(Normal) 4.00<br>Width(Normal) 4.00<br>Thickness(Max) 0.60<br>Pitch(Normal) 0.80<br>mm |
|---|---|---|

|   |   |   |
|---|---|---|
| L |  | <b>FBGA63</b><br>Length(Normal) 9.00<br>Width(Normal) 11.0<br>Thickness(Max) 1.00<br>Pitch(Normal) 0.80<br>mm |
|---|---|---|

|   |   |   |
|---|---|---|
| F |  | <b>SOP16 300mil</b><br>Length(Normal) 10.30<br>Width(Normal) 10.35<br>Thickness(Max) 2.75<br>Pitch(Normal) 1.27<br>mm |
|---|---|---|

|   |  |  |
|---|--|--|
| K |  | <b>USON8 1.5*1.5mm</b><br>Length(Normal) 1.50<br>Width(Normal) 1.50<br>Thickness(Max) 0.50<br>Pitch(Normal) 0.40<br>mm |
|---|--|--|

# Capacitive Fingerprint Sensor



## Overview

- ◆ Diverse shapes: round, square, rectangular etc
- ◆ All kinds of typical sizes: different diameters, different side lengths, especially ultra-narrow
- ◆ Front/Back/Edge-Mounted package sensor type supported
- ◆ Supports different surface materials: matte / glossy coating, ceramic / glass cover
- ◆ High Sensitivity, High SNR, High quality image.
- ◆ 256 true gray scale values, 8 bits per pixel.
- ◆ Support Standard SPI Bus Interface.
- ◆ Resolution:508 DPI

## Fingerprint Identification

- ◆ Adaptive Calibration: automatically adjusts the sensor configuration according to the different types of fingerprint
- ◆ Adaptive for many kinds of algorithm includes finger pattern and feature points
- ◆ Getting the high definition fingerprint image without a metal ring module.
- ◆ Smart wake-up feature

## Electrical Properties

- ◆ Supply Voltage: 2.6V~3.6V
- ◆ VDDIO Voltage: 1.8V~AVDD;
- ◆ Power Consumption:
  - Image scan Mode (Frame Rate>20F/s or custom):8.5mA (configurable)
  - Sleep Mode (Before awaken):100µA (Typically)
  - Deep sleep Mode: 30~100µA

## Reliability

- ◆ Sensor ESD Performance
  - Air discharge : ±25.0 kV
  - Direct discharge : ±8.0 kV
- ◆ Sensor Latch-up Performance: ±400.00mA

## Capacitive Fingerprint

| Part No. | Type    | Position            | LGA Square Size |              | LGA Round size |          | Sensing Area | Pixel Array |
|----------|---------|---------------------|-----------------|--------------|----------------|----------|--------------|-------------|
| GSL6157N | Coating | Side (super narrow) | 14.3*2.4        |              |                |          | 8 x 1.8mm    | 160 x 36    |
| GSL6150N | Coating | Postposition        | Max:12x12       | Min:7.5x7.5  | Max:φ12        | Min:φ8.5 | 4.0 x 3.2 mm | 80 x 64     |
| GSL6156E | Coating | Side                | Max:16.4x6.9    | Min:12x2.9   | ————           | ————     | 6.8 x 2.4mm  | 192 x 68    |
| GSL6182E | Coating | Smart door lock /PC | Max:16x16       | Min:13x13    | Max:φ16        | Min:φ13  | 8 x 8mm      | 160 x 160   |
| GSL6185E | Coating | Smart door lock /PC | Max:16x16       | Min:13x13    | Max:φ16        | Min:φ13  | 5.7 x 6.6mm  | 114 x 132   |
| GSL6275E | Cover   | Preposition         | Max:16.4x6.9    | Min:12.5x4.0 | ————           | ————     | 8.8 x 3.2 mm | 176 x 64    |
| GSL6250N | Cover   | Postposition        | Max:12x12       | Min:7.5x7.5  | Max:φ12        | Min:φ8.5 | 4.0 x 3.2 mm | 80 x 64     |
| GSL6257N | Cover   | Side (super narrow) | 14.3*2.4        |              |                |          | 8 x 1.8mm    | 160 x 36    |



# Optical Fingerprint Sensor



## Overview

- ◆ Different types of optical sensors under the display: CCM (CSM), ultra-thin, TFT large area
- ◆ All kinds of OLED type supported(both rigid and flexible OLED)
- ◆ FRR ≤ 1.5%@FAR ≤ 1/50,000
- ◆ Enroll times ≤ 12 times
- ◆ All 360 degrees can be identified

## CCM Sensor

- ◆ Large size pixel design for low-light under display fingerprint application
- ◆ Advanced Single-chip architecture
- ◆ Optimized lens design matching pixel array
- ◆ No flash supported
- ◆ Firstly introduce Chip-Scale Package in under-display fingerprint application

## Ultrathin Sensor

- ◆ Ultrathin module thickness
- ◆ Optimized collimator design
- ◆ No lamination with OLED for high-yield manufacture
- ◆ High sensitivity and resolution for better fingerprint recognition

## TFT Large Area Sensor

- ◆ System Optimized Design ( ROIC/GateIC self-designed matching TFT sensor)
- ◆ Low TFT sensor leakage <math>10^{-14}</math> ( Ion/Ioff 1E8, better than normal 1E6)
- ◆ High-speed Scanning Supported(small size sensing with fast-read-out data)
- ◆ Both glass and PI substrate type supported
- ◆ High QE with optimized TFT sensor design

## Optical Fingerprint Under OLED

| Part No. | Position       | Finger Sensing Area | Chip Sensing Area | Pixel Array | Supported Under Screen Height |
|----------|----------------|---------------------|-------------------|-------------|-------------------------------|
| GSL7000A | CCM            | 6.0 x 6.0 mm        | 2.0 x 2.0 mm      | 320 x 320   | 3.5~3.9mm                     |
| GSL7001A | CCM            | 6.0 x 6.0 mm        | 2.0 x 2.0 mm      | 320 x 320   | 3.5~3.9mm                     |
| GSL7301A | Ultrathin      | 6.0 x 6.0 mm        | 6.0 x 6.0 mm      | 88 x 86     | 0.5~1.0mm                     |
| GSL7303A | Ultrathin      | 6.0 x 9.0 mm        | 6.0 x 9.0 mm      | 180 x 280   | 0.3~0.8mm                     |
| GSL7305A | Ultrathin      | 6.0 x 6.0 mm        | 6.0 x 6.0 mm      | 180 x 180   | 0.3~0.8mm                     |
| GSL7253  | TFT large area | 30 x 20 mm          | 30 x 20 mm        | 300 x 200   | 0.3~0.6mm                     |
| GSL7001F | CSM            | 6.0 x 6.0 mm        | 2.0 x 2.0 mm      | 320 x 320   | 3.5~3.9mm                     |

# MEMS Ultrasonic Sensor



## Fingerprint Identification

- ◆ High resolution 3D fingerprint image with epidermal and dermal skin
- ◆ Advanced ultrasonic sensor design in fingerprint application
- ◆ Creative CMOS and MEMS monolithic chip design
- ◆ Pulse echo and Beam-forming supported for higher sensitivity
- ◆ Better identification with water, cream, lotion fingerprint
- ◆ Capacitive smart wake-up supported
- ◆ Ultrathin thickness design (0.3mm supported)
- ◆ Under Flexible OLED supported
- ◆ Under different materials like cover-glass/metal/plastic etc

## Ultrasonic FP Under OLED

| Part No. | Position             | Finger Sensing Area | Chip Sensing Area | Pixel Array | Supported Under Screen Height | Transmission Thickness   |
|----------|----------------------|---------------------|-------------------|-------------|-------------------------------|--------------------------|
| GSL8165A | Ultrathin            | 4.8 x 4.8 mm        | 4.8 x 4.8 mm      | 80 x 80     | 0.3~1mm                       | 1mm glass/metal/OLED/etc |
| GSL8252  | Ultrathin large area |                     | 30 x 20 mm        | 428 x 285   | 0.3~0.6mm                     | 1mm glass/metal/OLED/etc |

## Ultrasonic-TOF

| Part No. | Dimensions         | Operating Range | Accuracy    | Interface | Power @1 sample/sec @ max range | Power @30 sample/sec@ max range | Samlpe Rate                   | FOV              | Application   |
|----------|--------------------|-----------------|-------------|-----------|---------------------------------|---------------------------------|-------------------------------|------------------|---|
| GSL8300  | 3.5 x 3.5 x 1.25mm | Up to 60cm      | <1.3 mm RMS | I2C       | 20 u A                          | 230 u A                         | Up to 100 samples /sec @ 60cm | Up to 180 degree | Touchless gesture UI; VR/AR, Range & presense detection |

## Ultrasonic- Blood Pressure Monitoring

| Part No. | Position | Dimensions        | Operating Range | Accuracy | Samlpe Rate            |
|----------|----------|-------------------|-----------------|----------|------------------------|
| GSL8011  | wrist    | 6.4 x 6.4 x 0.5mm | Up to 1cm       | <5 mmHg  | Up to 1000 samples/sec |

# Capacitive Touchscreen Controller



## Overview:

- ◆ Outstanding anti RF, LCD and power supply interference
- ◆ Detect up to 10 fingers
- ◆ Panel Thickness: glass up to 2.5mm, plastic up to 1.2mm
- ◆ I2C compatible slave mode 400KHz.
- ◆ I/O Interface: 1.8V /3.3V compatible

## Recommended Capacitive Touch IC for Mobile Phone

| Part No. | TP Type Supported  | Channel Number | Recommended Dimensions |
|----------|--|----------------|------------------------|
| GSL1688F | Single layer multi-point (including double end pin, silver paste jumper), traditional DITO, silver paste free DITO, single-layer bridge building process           | 16 x 10        | <4 inch                |
| GSL1691F | Single layer multi-point (including double end pin, silver paste jumper), traditional DITO, silver paste free DITO, full ITO, sito                                 | 18 x 12        | 5 ~ 6 inch             |
| GSL2682C | Single layer multi-point (including double end pin, silver paste jumper), traditional DITO, silver paste free DITO, single-layer bridge building process           | 23 x 12        | <5 inch                |
| GSL915   | Single layer multi-point (including double end pin, silver paste jumper), traditional DITO, silver paste free DITO, single-layer bridge building process           | 26 x 14        | <5 inch                |
| GSL968   | Single layer multi-point (including double end pin, silver paste jumper), traditional DITO, silver paste free DITO, single-layer bridge building process           | 17 x 10        | 4 inch                 |
| GSL2688  | Single layer multi-point (including double end pin, silver paste jumper), traditional DITO, silver paste free DITO, single-layer bridge building process           | 26 x 16        | 5 ~ 6 inch             |
| GSL2691  | S+D37:D46 single layer multi-point (including double end pin, silver paste jumper), traditional DITO, silver paste free DITO, single-layer bridge building process | 29 x 14        | 5 ~ 6 inch             |
| GSL2038  | Two points of single-layer partition (with silver paste, all ITO)  | 25             | <3 inch                |
| GSL2232  | Two points of single-layer partition (with silver paste, all ITO)  | 32             | 3.5 ~ 4.5 inch         |
| GSL2336  | Two points of single-layer partition (with silver paste, all ITO)  | 36             | 4 ~ 5 inch             |
| GSL2338  | Two points of single-layer partition (with silver paste, all ITO)  | 40             | 4 ~ 6 inch             |

## Recommended Capacitive Touch IC for Flat Panel

| Part No. | TP Type Supported   | Channel Number | Recommended Dimensions |
|----------|---|----------------|------------------------|
| GSL1680F | Traditional DITO (including dual-mode GFF), silver-free DITO, single-layer bridge   | 16 x 10        | 7 inch                 |
| GSL1686F | Single-layer multi-point (all ITO), single-layer multi-point double-terminal PIN, sliver jumper, traditional DITO, sliver free DITO, SITO | 16 x 10        | 7 inch                 |
| GSL1681F | Single-layer multi-point (all ITO), single-layer multi-point double-terminal PIN, sliver jumper, traditional DITO, sliver free DITO, SITO | 18 x 12        | 7 inch                 |
| GSL2681C | Traditional DITO (including dual-mode GFF), silver-free DITO, single-layer bridge   | 23 x 12        | 7 ~ 7.85 inch          |
| GSL3670D | Single-layer multi-point (all ITO), single-layer multi-point double-terminal PIN, sliver jumper, traditional DITO, sliver free DITO, SITO | 26 x 14        | 7.85 ~ 9 inch          |
| GSL3676  | Single-layer multi-point (all ITO), single-layer multi-point double-terminal PIN, sliver jumper, traditional DITO, sliver free DITO, SITO | 28 x 18        | 9 ~ 10.1 inch          |
| GSL3680  | Single-layer multi-point (all ITO), single-layer multi-point double-terminal PIN, sliver jumper, traditional DITO, sliver free DITO, SITO | 31 x 20        | 9 ~ 10.1 inch          |
| GSL3692  | Single-layer multi-point (all ITO), single-layer multi-point double-terminal PIN, sliver jumper, traditional DITO, sliver free DITO, SITO | 32 x 24        | 9.7 ~ 12 inch          |
| GSL5680  | Single-layer multi-point (all ITO), single-layer multi-point double-terminal PIN, sliver jumper, traditional DITO, sliver free DITO, SITO | 42 x 30        | 9.7 ~ 15 inch          |
| GSL5690  | Single-layer multi-point (all ITO), single-layer multi-point double-terminal PIN, sliver jumper, traditional DITO, sliver free DITO, SITO | 72 x 40        | <21.6 inch             |