



### General Description

Renesas SLG7NT4317 is a low power and small form device. The SoC is housed in a 2mm x 3mm TQFN package which is optimal for using with small devices.

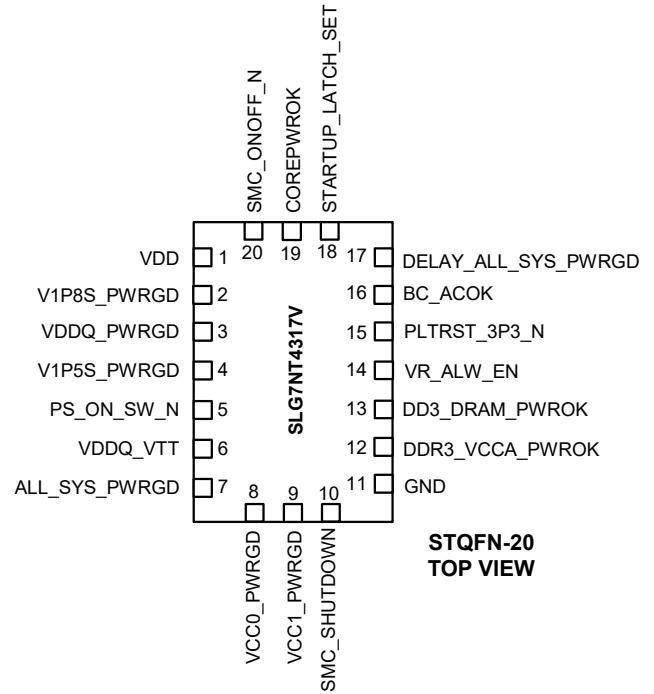
### Features

- Low Power Consumption
- 3.3V Supply
- Pb-Free / RoHS Compliant
- Halogen-Free
- STQFN-20 Package

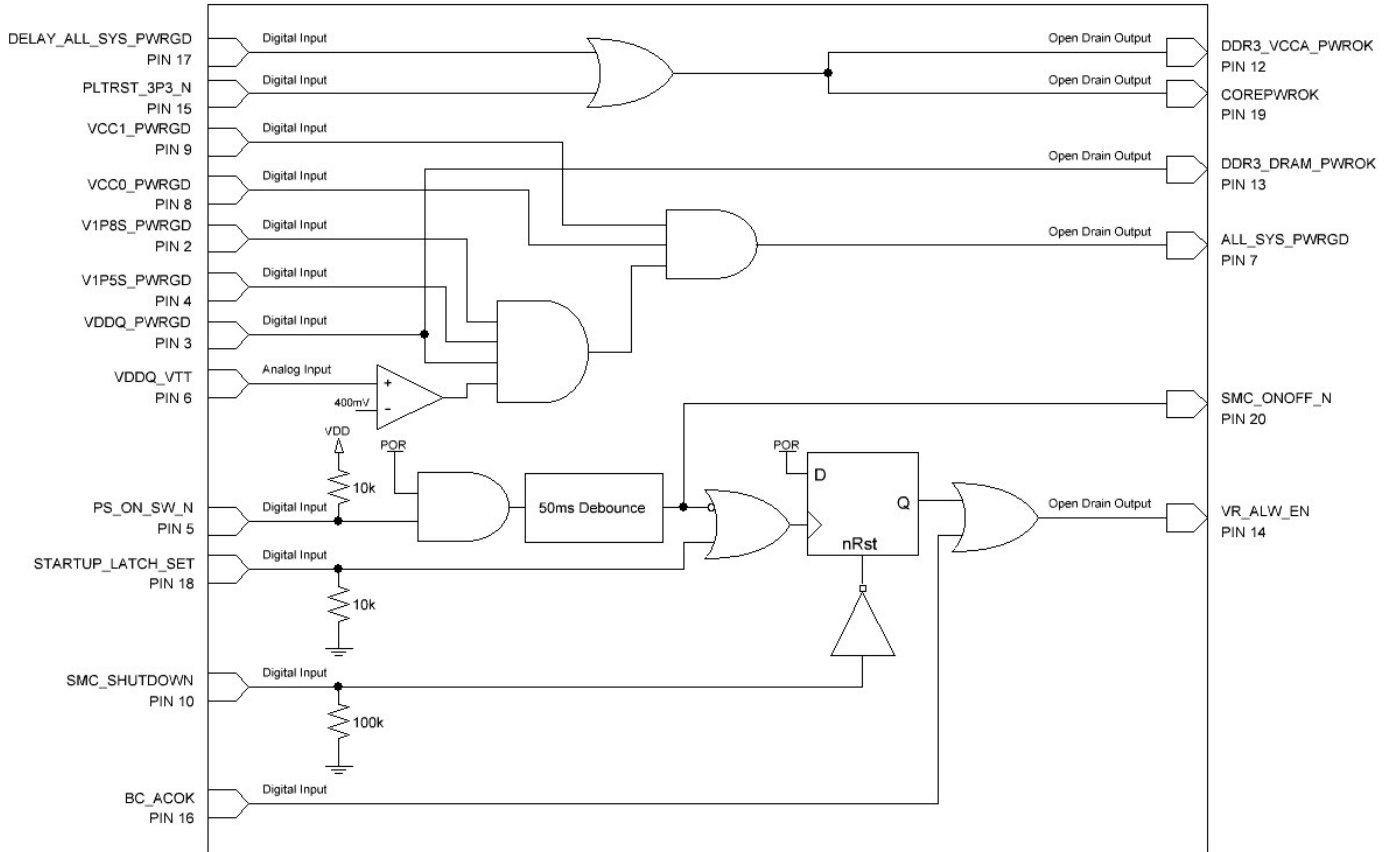
### Output Summary

- 6 Outputs – NMOS Open Drain 1X

### Pin Configuration



### Block Diagram



### Pin Configuration

Pin #	Pin Name	Type	Pin Description
1	VDD	PWR	Supply Voltage
2	V1P8S_PWRGD	Input	Digital Input
3	VDDQ_PWRGD	Input	Digital Input with Schmitt Trigger
4	V1P5S_PWRGD	Input	Digital Input
5	PS_ON_SW_N	Input	Digital Input with Schmitt Trigger
6	VDDQ_VTT	Input	Analog Input
7	ALL_SYS_PWRGD	Output	NMOS Open Drain 1X
8	VCC0_PWRGD	Input	Digital Input
9	VCC1_PWRGD	Input	Digital Input
10	SMC_SHUTDOWN	Input	Digital Input
11	GND	--	Ground
12	DDR3_VCCA_PWROK	Output	NMOS Open Drain 1X
13	DDR3_DRAM_PWROK	Output	NMOS Open Drain 1X
14	VR_ALW_EN	Output	NMOS Open Drain 1X
15	PLTRST_3P3_N	Input	Digital Input
16	BC_ACOK	Input	Digital Input
17	DELAY_ALL_SYS_PWRGD	Input	Digital Input
18	STARTUP_LATCH_SET	Input	Digital Input
19	COREPWROK	Output	NMOS Open Drain 1X
20	SMC_ONOFF_N	Output	NMOS Open Drain 1X

### Ordering Information

Part Number	Package Type
SLG7NT4317V	V=STQFN-20
SLG7NT4317VTR	STQFN-20 – Tape and Reel (3k units)

### Absolute Maximum Conditions

Parameter	Min.	Max.	Unit
V <sub>HIGH</sub> to GND	-0.3	7	V
Voltage at input pins	-0.3	7	V
Current at input pin	-1.0	1.0	mA
Storage temperature range	-65	150	°C
Junction temperature	--	150	°C

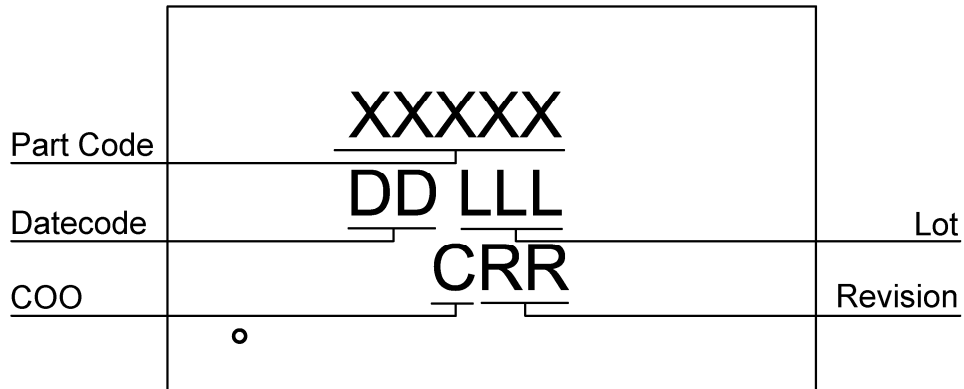
### Electrical Characteristics

(@ 25°C, unless otherwise stated)

Symbol	Parameter	Condition/Note	Min.	Typ.	Max.	Unit
V <sub>DD</sub>	Supply Voltage		3	--	4.5	V
T <sub>A</sub>	Operating Temperature		-40	25	85	°C
I <sub>Q</sub>	Quiescent Current	Static inputs and outputs at VDD=4.5V	--	70	--	µA
I <sub>L</sub>	Input Leakage Current	Leakage Current for Digital Inputs or outputs in High impedance state	-1	--	1	µA
V <sub>IH</sub>	HIGH-Level Input Voltage	Logic Input at VDD=3.3V	1.78	--	--	V
		Logic Input at VDD=5V	2.64	--	--	
		Logic Input with Schmitt trigger at VDD=3.3V	2.13	--	--	
		Logic Input with Schmitt trigger at VDD=5V	3.16	--	--	
V <sub>IL</sub>	LOW-Level Input Voltage	Logic Input at VDD=3.3V	--	--	1.21	V
		Logic Input at VDD=5V	--	--	1.84	
		Logic Input with Schmitt trigger at VDD=3.3V	--	--	0.95	
		Logic Input with Schmitt trigger at VDD=5V	--	--	0.78	
I <sub>IH</sub>	HIGH-Level Input Current	Logic Input Pins; V <sub>IN</sub> = 3.3 V	-1.0	--	1.0	µA
I <sub>IL</sub>	LOW-Level Input Current	Logic Input Pins; V <sub>IN</sub> = 0 V	-1.0	--	1.0	µA
V <sub>OL</sub>	LOW-Level Output Voltage	Open Drain, at VDD=3.3V, I <sub>OL</sub> = 3 mA, 1X Driver	--	0.08	0.147	V
		Open Drain, at VDD=5V, I <sub>OL</sub> = 3 mA, 1X Driver	--	0.102	0.180	
I <sub>OL</sub>	LOW-Level Output Current	Open Drain, at VDD=3.3V, V <sub>OL</sub> = 0.4 V 1X Driver	7.313	12.37	--	mA
		Open Drain, at VDD=5V, V <sub>OL</sub> = 0.4 V, 1X Driver	10.82	17.38	--	
V <sub>ACMP</sub>	Analog Comparator Threshold Voltage	ACMP0 threshold including input offset, V <sub>ref</sub> variation and hysteresis at 25°C temperature	368	--	432	mV
V <sub>HYST</sub>	Analog Comparator Hysteresis	ACMP0, at 25°C	--	25	--	mV

$V_O$	Maximal Voltage Applied to any PIN in High-Impedance State		--	--	VDD	V
$I_O$	Maximal Average or DC Current	Per Each Side (PIN2-PIN10, PIN12-PIN20)	--	--	80	mA
$T_{DLY0}$	Delay0 Time	At 25°C temperature	48	--	52	ms
		At 0-70°C temperature range	44	--	56	
$R_{PU}$	Internal Pull Up Resistance	On PIN5	7	10	13	kΩ
$R_{PD}$	Internal Pull Down Resistance	On PIN18	7	10	13	kΩ
		On PIN10	70	100	130	
$T_{SU}$	Start up Time	After VDD reaches 1.6V level	--	1	--	ms

**Package Top Marking**



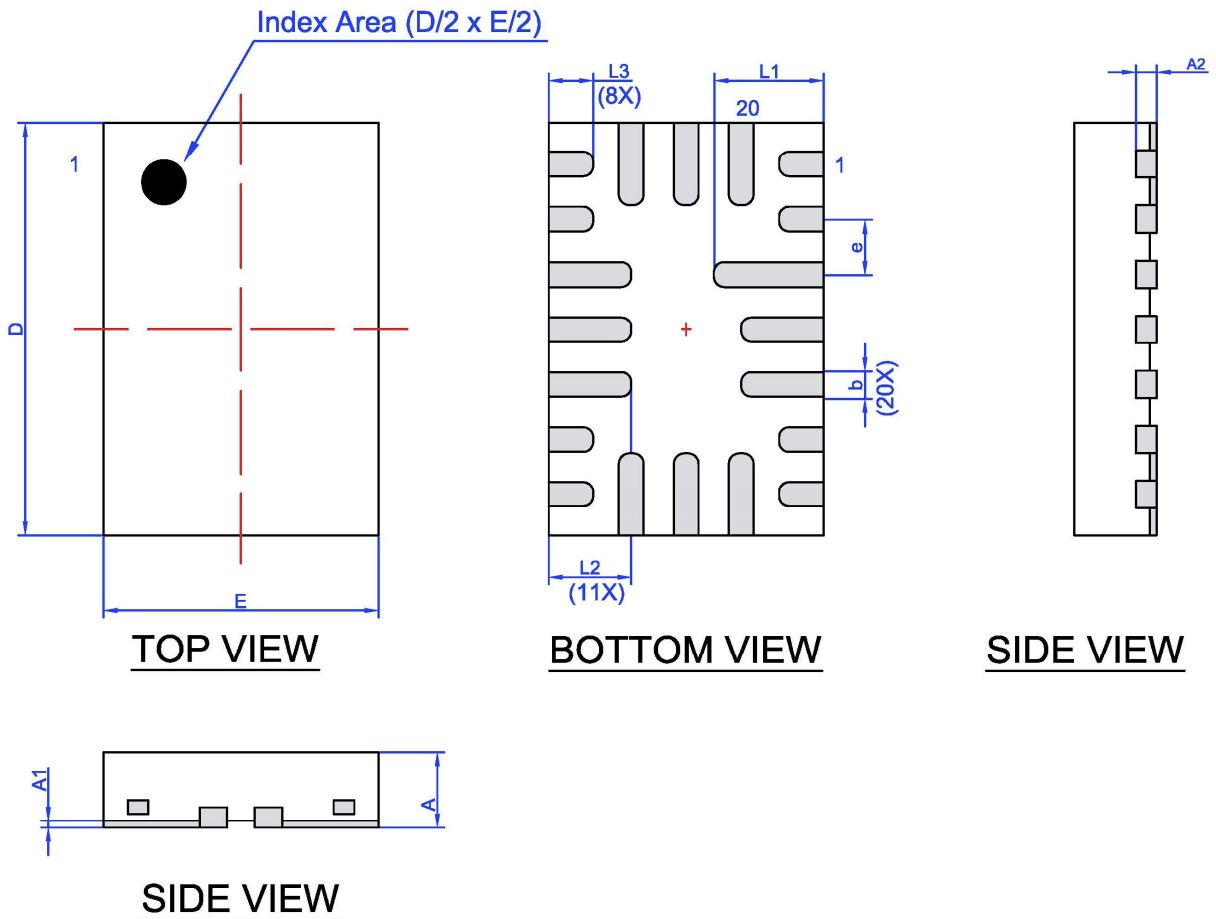
XXXXX – Part ID Field: identifies the specific device configuration  
 DD – Date Code Field: Coded date of manufacture  
 LLL – Lot Code: Designates Lot #  
 C – Assembly Site/COO: Specifies Assembly Site/Country of Origin  
 RR – Revision Code: Device Revision

<b>Datasheet Revision</b>	<b>Programming Code Number</b>	<b>Locked Status</b>	<b>Part Code</b>	<b>Revision</b>	<b>Date</b>
1.01	004	L	4317V	AB	02/25/2022

The IC security bit is locked/set for code security for production unless otherwise specified. Revision number is not changed for bit locking

### Package Drawing and Dimensions

#### 20 Lead STQFN Package JEDEC MO-220, Variation WECE



Unit: mm

Symbol	Min	Nom.	Max	Symbol	Min	Nom.	Max
A	0.50	0.55	0.60	D	2.95	3.00	3.05
A1	0.005	-	0.050	E	1.95	2.00	2.05
A2	0.10	0.15	0.20	L1	0.75	0.80	0.85
b	0.13	0.18	0.23	L2	0.55	0.60	0.65
e	0.40 BSC			L3	0.275	0.325	0.375

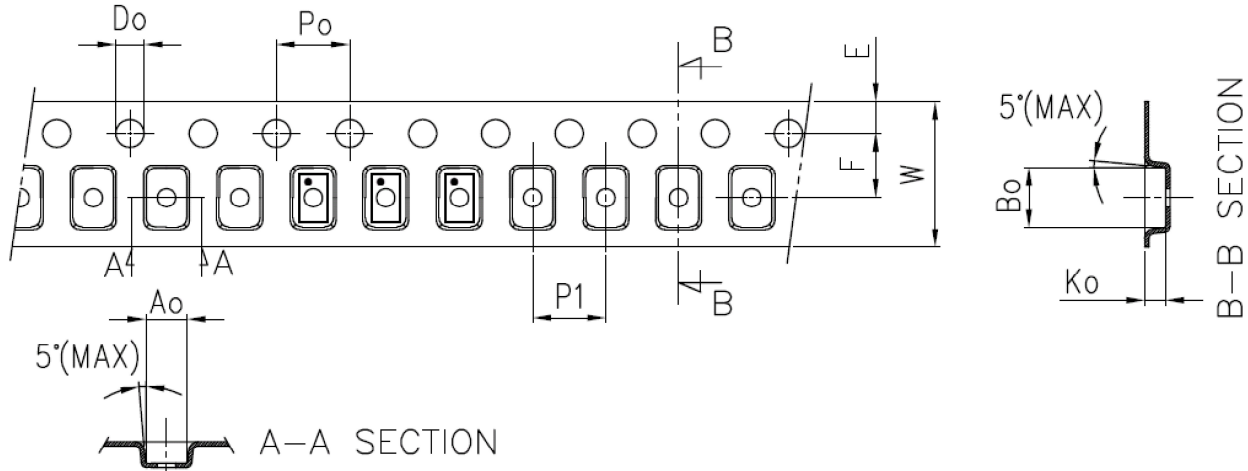
### Tape and Reel Specification

Package Type	# of Pins	Nominal Package Size (mm)	Max Units		Reel & Hub Size (mm)	Trailer A		Leader B		Pocket (mm)	
			per reel	per box		Pockets	Length (mm)	Pockets	Length (mm)	Width	Pitch
STQFN 20L 2x3mm 0.4P Green	20	2x3x0.55	3000	3000	178/60	100	400	100	400	8	4

### Carrier Tape Drawing and Dimensions

Package Type	Pocket BTM Length (mm)	Pocket BTM Width (mm)	Pocket Depth (mm)	Index Hole Pitch (mm)	Pocket Pitch (mm)	Index Hole Diameter (mm)	Index Hole to Tape Edge (mm)	Index Hole to Pocket Center (mm)	Tape Width (mm)
	A0	B0	K0	P0	P1	D0	E	F	W
STQFN 20L 2x3mm 0.4P Green	2.2	3.15	0.76	4	4	1.5	1.75	3.5	8

Refer to EIA-481 Specifications



### Recommended Reflow Soldering Profile

Please see IPC/JEDEC J-STD-020: latest revision for reflow profile based on package volume of 3.3 mm<sup>3</sup> (nominal). More information can be found at [www.jedec.org](http://www.jedec.org).