



Micro Commercial Components

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2SC1623-L5
2SC1623-L6
2SC1623-L7

Features

- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- High DC Current Gain: $h_{FE}=600$ Max. ($V_{CE}=6.0V$, $I_C=1.0mA$)
- High voltage: $V_{CEO}=50V$
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Maximum Ratings

| Symbol | Rating | Rating | Unit |
|-----------|-----------------------------|-------------|------|
| V_{CEO} | Collector-Emitter Voltage | 50 | V |
| V_{CBO} | Collector-Base Voltage | 60 | V |
| V_{EBO} | Emitter-Base Voltage | 5.0 | V |
| I_C | Collector Current | 100 | mA |
| P_C | Collector power dissipation | 200 | mW |
| T_J | Junction Temperature | -55 to +150 | °C |
| T_{STG} | Storage Temperature | -55 to +150 | °C |

Electrical Characteristics @ 25°C Unless Otherwise Specified

| Symbol | Parameter | Min | Typ | Max | Units |
|--------|-----------|-----|-----|-----|-------|
|--------|-----------|-----|-----|-----|-------|

OFF CHARACTERISTICS

| | | | | | |
|-----------|--|-----|-----|-----|--------------|
| I_{CBO} | Collector Cutoff Current ($V_{CB}=60Vdc$, $I_E=0$) | --- | --- | 0.1 | μA_{dc} |
| I_{EBO} | Emitter Cutoff Current ($V_{EB}=5.0Vdc$, $I_C=0$) | --- | --- | 0.1 | μA_{dc} |

ON CHARACTERISTICS

| | | | | | |
|---------------|---|------|------|------|-----|
| h_F | DC Current Gain* ($I_C=1.0mA_{dc}$, $V_{CE}=6.0Vdc$) | 135 | --- | 600 | --- |
| $V_{CE(sat)}$ | Collector Saturation Voltage* ($I_C=100mA_{dc}$, $I_B=10mA_{dc}$) | --- | 0.15 | 0.3 | Vdc |
| $V_{BE(sat)}$ | Base Saturation Voltage* ($I_C=100mA_{dc}$, $I_B=10mA_{dc}$) | --- | 0.86 | 1.0 | Vdc |
| V_{BE} | Base Emitter Voltage* ($V_{CE}=6.0Vdc$, $I_C=1.0mA_{dc}$) | 0.55 | 0.62 | 0.65 | Vdc |
| C_{ob} | Collector Capacitance ($V_{CB}=6.0Vdc$, $I_E=0$, $f=1.0MHz$) | --- | 3.0 | --- | pF |
| f_T | Gain Bandwidth product ($V_{CE}=6.0Vdc$, $I_E=10mA_{dc}$) | --- | 250 | --- | MHz |

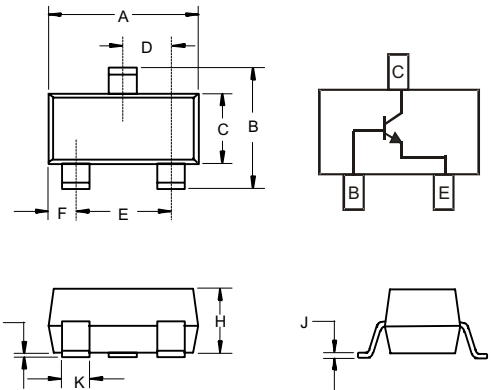
h_{FE} CLASSIFICATION

| Marking | L5 | L6 | L7 |
|----------|---------|---------|---------|
| h_{FE} | 135-270 | 200-400 | 300-600 |

* Pulse Test PW<350us, duty cycle<2%

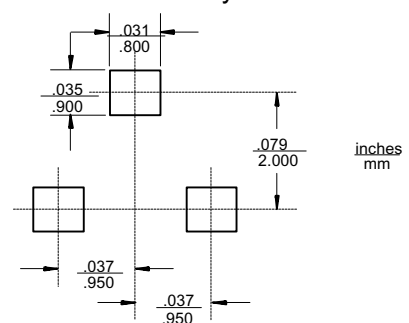
NPN Silicon Epitaxial Transistors

SOT-23



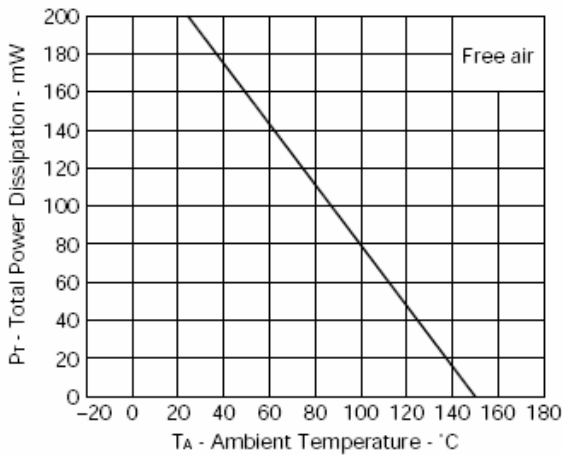
| DIM | INCHES | | MM | | NOTE |
|-----|--------|-------|------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | .110 | .120 | 2.80 | 3.04 | |
| B | .083 | .104 | 2.10 | 2.64 | |
| C | .047 | .055 | 1.20 | 1.40 | |
| D | .035 | .041 | .89 | 1.03 | |
| E | .070 | .081 | 1.78 | 2.05 | |
| F | .018 | .024 | .45 | .60 | |
| G | .0005 | .0039 | .013 | .100 | |
| H | .035 | .044 | .89 | 1.12 | |
| J | .003 | .007 | .085 | .180 | |
| K | .015 | .020 | .37 | .51 | |

Suggested Solder Pad Layout

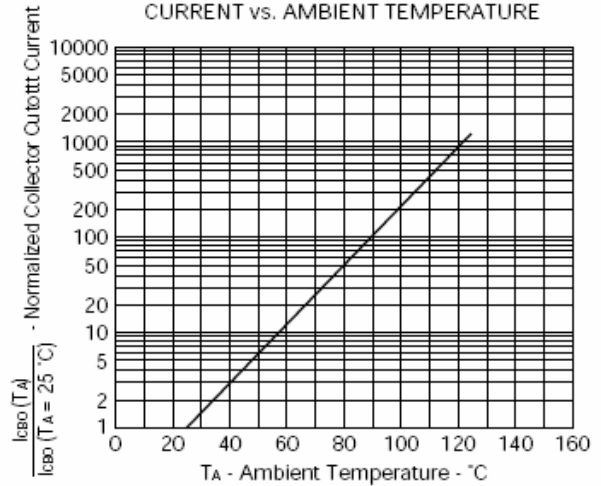


Typical Characteristics

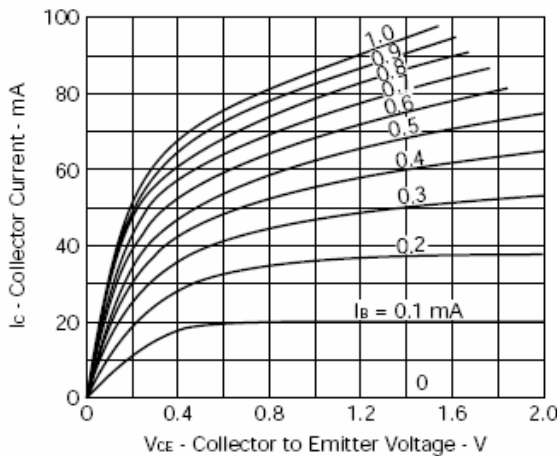
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



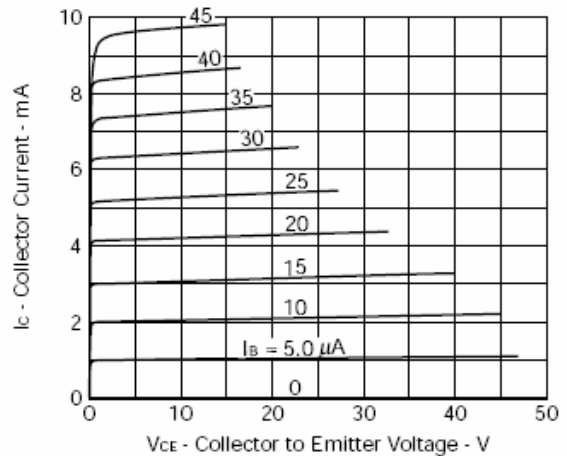
NORMALIZED COLLECTOR CUTOFF CURRENT vs. AMBIENT TEMPERATURE



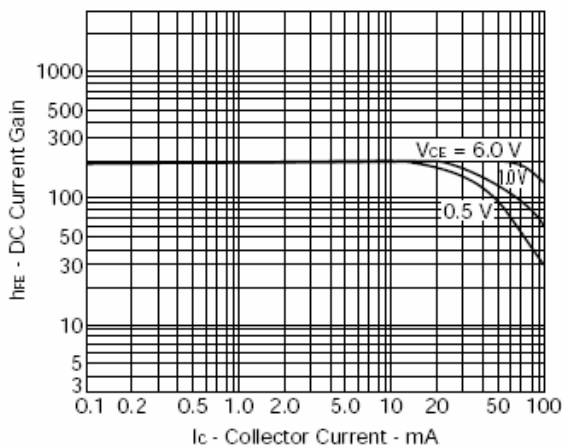
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



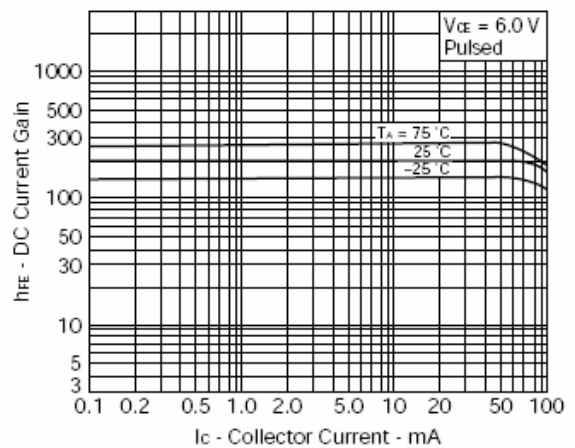
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



DC CURRENT GAIN vs. COLLECTOR CURRENT



DC CURRENT GAIN vs. COLLECTOR CURRENT



Typical Characteristics

