

CMLT7820G
SURFACE MOUNT SILICON
VERY LOW $V_{CE(SAT)}$
PNP TRANSISTOR



SOT-563 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMLT7820G is a very low $V_{CE(SAT)}$ PNP Transistor, designed for applications where small size and efficiency are the prime requirements. Packaged in a space saving SOT-563 surface mount package, this component provides performance characteristics suitable for the most demanding size constrained applications.

MARKING CODE: 78G

APPLICATIONS:

- DC/DC Converters
- Voltage Clamping
- Protection Circuits
- Battery powered Cell Phones, Pagers, Digital Cameras, PDAs, Laptops, etc.

MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$)

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Peak Collector Current
Continuous Base Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

FEATURES:

- Device is **Halogen Free** by design
- High Current ($I_C=1.0\text{A}$)
- $V_{CE(SAT)}=0.34\text{V MAX @ } I_C=1.0\text{A}$
- SOT563 surface mount package
- Complementary NPN device **CMLT3820G**

| SYMBOL | | UNITS |
|----------------|-------------|----------------------|
| V_{CBO} | 80 | V |
| V_{CEO} | 60 | V |
| V_{EBO} | 5.0 | V |
| I_C | 1.0 | A |
| I_{CM} | 2.0 | A |
| I_B | 300 | mA |
| P_D | 250 | mW |
| T_J, T_{stg} | -65 to +150 | $^{\circ}\text{C}$ |
| Θ_{JA} | 500 | $^{\circ}\text{C/W}$ |

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

| SYMBOL | TEST CONDITIONS | MIN | MAX | UNITS |
|---------------|---------------------------------------------|-----|-------|-------|
| I_{CBO} | $V_{CB}=60\text{V}$ | | 100 | nA |
| I_{EBO} | $V_{EB}=5.0\text{V}$ | | 100 | nA |
| BV_{CBO} | $I_C=100\mu\text{A}$ | 80 | | V |
| BV_{CEO} | $I_C=10\text{mA}$ | 60 | | V |
| BV_{EBO} | $I_E=100\mu\text{A}$ | 5.0 | | V |
| $V_{CE(SAT)}$ | $I_C=100\text{mA}, I_B=1.0\text{mA}$ | | 0.175 | V |
| $V_{CE(SAT)}$ | $I_C=500\text{mA}, I_B=50\text{mA}$ | | 0.18 | V |
| $V_{CE(SAT)}$ | $I_C=1.0\text{A}, I_B=100\text{mA}$ | | 0.34 | V |
| $V_{BE(SAT)}$ | $I_C=1.0\text{A}, I_B=50\text{mA}$ | | 1.1 | V |
| $V_{BE(ON)}$ | $V_{CE}=5.0\text{V}, I_C=1.0\text{A}$ | | 0.9 | V |
| h_{FE} | $V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$ | 200 | | |
| h_{FE} | $V_{CE}=5.0\text{V}, I_C=500\text{mA}$ | 150 | | |
| h_{FE} | $V_{CE}=5.0\text{V}, I_C=1.0\text{A}$ | 100 | | |
| f_T | $V_{CE}=10\text{V}, I_C=50\text{mA}$ | 150 | | MHz |
| C_{ob} | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$ | | 15 | pF |

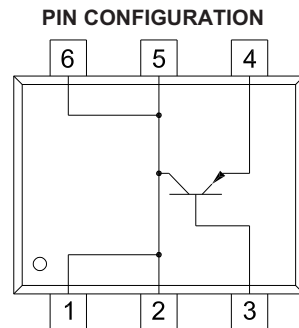
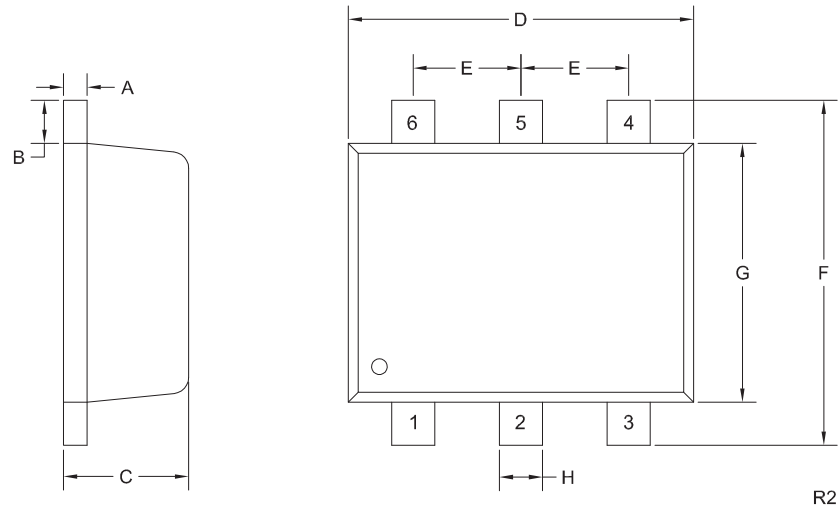
R4 (29-June 2015)

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SOT-563 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) Collector
 - 2) Collector
 - 3) Base
 - 4) Emitter
 - 5) Collector
 - 6) Collector
- Pins 1, 2, 5 and 6 are common.

MARKING CODE:78G

| DIMENSIONS | | | | |
|------------|--------|-------|-------------|------|
| SYMBOL | INCHES | | MILLIMETERS | |
| | MIN | MAX | MIN | MAX |
| A | 0.0027 | 0.007 | 0.07 | 0.18 |
| B | 0.008 | | 0.20 | |
| C | 0.017 | 0.024 | 0.45 | 0.60 |
| D | 0.059 | 0.067 | 1.50 | 1.70 |
| E | 0.020 | | 0.50 | |
| F | 0.059 | 0.067 | 1.50 | 1.70 |
| G | 0.043 | 0.051 | 1.10 | 1.30 |
| H | 0.006 | 0.012 | 0.15 | 0.30 |

SOT-563 (REV: R2)

R4 (29-June 2015)

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- Package Base Options
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R4 (29-June 2015)