

CMLT491E
SURFACE MOUNT
NPN SILICON TRANSISTOR



www.centrasemi.com

PICOmini™



SOT-563 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMLT491E type is an NPN Low $V_{CE(SAT)}$ 1.0 Amp transistor, epoxy molded in a space saving PICOmini™ SOT-563 surface mount package and designed for applications requiring a high current capability and low saturation voltages.

MARKING CODE: L49

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 |

SYMBOL

| | |
|----------------|-------------|
| V_{CBO} | 80 |
| V_{CEO} | 60 |
| V_{EBO} | 5.0 |
| I_C | 1.0 |
| I_{CM} | 2.0 |
| I_B | 200 |
| P_D | 250 |
| T_J, T_{stg} | -65 to +150 |
| θ_{JA} | 500 |

UNITS

| |
|--------------------|
| V |
| V |
| V |
| A |
| A |
| mA |
| mW |
| $^\circ\text{C}$ |
| $^\circ\text{C/W}$ |

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

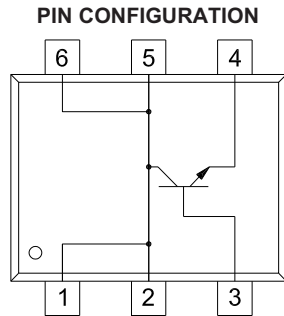
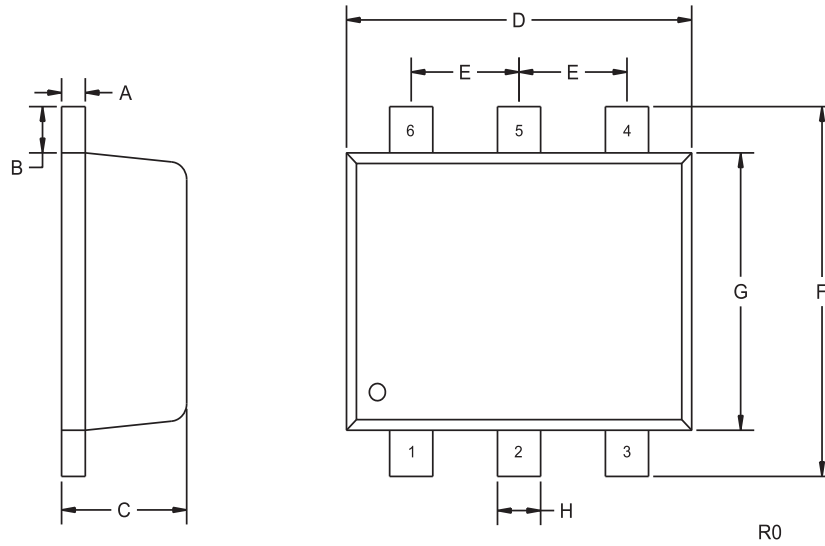
| SYMBOL | TEST CONDITIONS | MIN | MAX | UNITS |
|---------------|---|-----|------|-------|
| I_{CBO} | $V_{CB}=60\text{V}$ | | 100 | nA |
| I_{EBO} | $V_{EB}=4.0\text{V}$ | | 100 | nA |
| BV_{CBO} | $I_C=100\mu\text{A}$ | 80 | | V |
| BV_{CEO} | $I_C=10\text{mA}$ | 60 | | V |
| BV_{EBO} | $I_E=100\mu\text{A}$ | 5.0 | | V |
| $V_{CE(SAT)}$ | $I_C=500\text{mA}, I_B=50\text{mA}$ | | 0.20 | V |
| $V_{CE(SAT)}$ | $I_C=1.0\text{A}, I_B=100\text{mA}$ | | 0.40 | V |
| $V_{BE(SAT)}$ | $I_C=1.0\text{A}, I_B=100\text{mA}$ | | 1.1 | V |
| $V_{BE(ON)}$ | $V_{CE}=5.0\text{V}, I_C=1.0\text{A}$ | | 1.0 | V |
| h_{FE} | $V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$ | 200 | | |
| h_{FE} | $V_{CE}=5.0\text{V}, I_C=500\text{mA}$ | 200 | 600 | |
| h_{FE} | $V_{CE}=5.0\text{V}, I_C=1.0\text{A}$ | 50 | | |
| h_{FE} | $V_{CE}=5.0\text{V}, I_C=2.0\text{A}$ | 15 | | |
| f_T | $V_{CE}=10\text{V}, I_C=50\text{mA}, f=100\text{MHz}$ | 150 | | MHz |
| C_{ob} | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$ | | 10 | pF |

R3 (20-January 2010)

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SOT-563 CASE - MECHANICAL OUTLINE



| SYMBOL | INCHES | | MILLIMETERS | |
|--------|--------|-------|-------------|------|
| | MIN | MAX | MIN | MAX |
| A | 0.004 | 0.007 | 0.10 | 0.18 |
| B | 0.008 | | 0.20 | |
| C | 0.022 | 0.024 | 0.56 | 0.60 |
| D | 0.059 | 0.067 | 1.50 | 1.70 |
| E | 0.020 | | 0.50 | |
| F | 0.061 | 0.067 | 1.55 | 1.70 |
| G | 0.047 | | 1.20 | |
| H | 0.006 | 0.012 | 0.15 | 0.30 |

SOT-563 (REV: R0)

LEAD CODE:

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

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