

CMXT3090L

SURFACE MOUNT SILICON  
LOW  $V_{CE(SAT)}$   
NPN POWER TRANSISTOR



SOT-26 CASE



www.centrasemi.com

#### DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMXT3090L is a low  $V_{CE(SAT)}$  NPN transistor in a six lead Power SOT-26 surface mount package designed for LAN cards, motor control, power management, strobe flash units and DC-DC converters for mobile systems.

MARKING CODE: X309L

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

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

#### SYMBOL

|                |             |
|----------------|-------------|
| $V_{CBO}$      | 45          |
| $V_{CEO}$      | 15          |
| $V_{EBO}$      | 6.0         |
| $I_C$          | 3.0         |
| $I_{CM}$       | 6.0         |
| $P_D$          | 350         |
| $T_J, T_{stg}$ | -65 to +150 |
| $\theta_{JA}$  | 357         |

#### UNITS

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

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

##### SYMBOL TEST CONDITIONS

|               |                          |
|---------------|--------------------------|
| $I_{CBO}$     | $V_{CB}=20V$             |
| $I_{EBO}$     | $V_{EB}=5.0V$            |
| $BV_{CBO}$    | $I_C=10\mu A$            |
| $BV_{CEO}$    | $I_C=10mA$               |
| $BV_{EBO}$    | $I_E=10\mu A$            |
| $V_{CE(SAT)}$ | $I_C=100mA, I_B=1.0mA$   |
| $V_{CE(SAT)}$ | $I_C=1.0A, I_B=20mA$     |
| $V_{CE(SAT)}$ | $I_C=2.0A, I_B=200mA$    |
| $V_{CE(SAT)}$ | $I_C=3.0A, I_B=60mA$     |
| $h_{FE}$      | $V_{CE}=2.0V, I_C=500mA$ |
| $h_{FE}$      | $V_{CE}=2.0V, I_C=1.0A$  |
| $h_{FE}$      | $V_{CE}=2.0V, I_C=3.0A$  |
| $C_{ob}$      | $V_{CB}=10V, f=1.0MHz$   |
| $f_T$         | $V_{CE}=10V, I_C=500mA$  |

##### MIN

##### TYP

##### MAX

##### UNITS

|     |     |     |     |     |
|-----|-----|-----|-----|-----|
|     |     |     | 100 | nA  |
|     |     |     | 100 | nA  |
| 45  |     |     |     | V   |
| 15  |     |     |     | V   |
| 6.0 |     |     |     | V   |
|     | 30  | 50  |     | mV  |
|     | 60  | 150 |     | mV  |
|     | 85  | 200 |     | mV  |
|     | 145 | 300 |     | mV  |
| 200 |     |     |     |     |
| 200 |     |     |     |     |
| 150 |     |     |     |     |
|     |     |     | 100 | pF  |
| 100 |     |     |     | MHz |

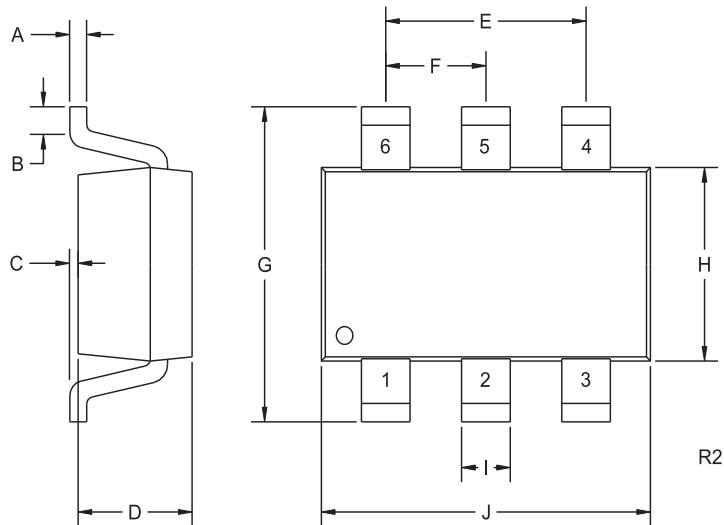
R3 (21-May 2013)

CMXT3090L

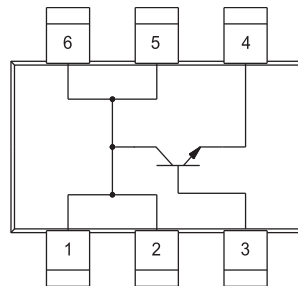
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SOT-26 CASE - MECHANICAL OUTLINE



PIN CONFIGURATION



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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| SYMBOL | INCHES |       | MILLIMETERS |      |
|--------|--------|-------|-------------|------|
|        | MIN    | MAX   | MIN         | MAX  |
| A      | 0.004  | 0.007 | 0.11        | 0.19 |
| B      | 0.016  | -     | 0.40        | -    |
| C      | -      | 0.004 | -           | 0.10 |
| D      | 0.039  | 0.047 | 1.00        | 1.20 |
| E      | 0.074  | 0.075 | 1.88        | 1.92 |
| F      | 0.037  | 0.038 | 0.93        | 0.97 |
| G      | 0.102  | 0.118 | 2.60        | 3.00 |
| H      | 0.059  | 0.067 | 1.50        | 1.70 |
| I      | 0.016  |       | 0.41        |      |
| J      | 0.110  | 0.118 | 2.80        | 3.00 |

SOT-26 (REV: R2)

R3 (21-May 2013)