



查询CMBT2369供应商

Continental Device India Limited

An ISO/TS 16949, ISO 9001 and ISO 14001 Certified Company

捷多邦, 专业PCB打样工厂, 24小时加急出货

ISO 14001



SOT-23 Formed SMD Package

CMBT2369

SILICON PLANAR EPITAXIAL SWITCHING TRANSISTOR

N-P N transistor

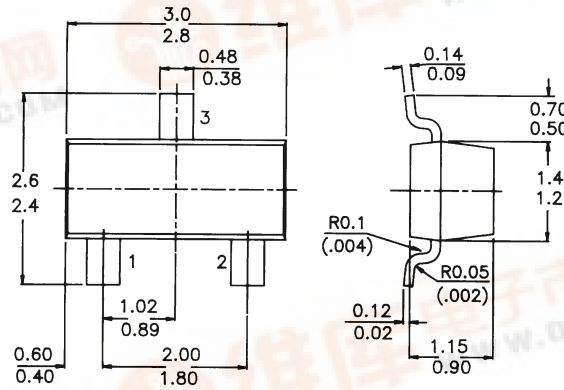
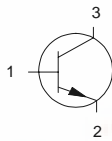
Marking

CMBT2369 = 11

PACKAGE OUTLINE DETAILS
ALL DIMENSIONS IN nm

Pin configuration

- 1 = BASE
- 2 = EMITTER
- 3 = COLLECTOR



ABSOLUTE MAXIMUM RATINGS

Collector-base voltage (open emitter) V_{CB0} max. 40 V
 Collector-emitter voltage ($V_{BE} = 0$) V_{CES} max. 40 V
 Collector-emitter voltage (open base) V_{CE0} max. 15 V
 Collector current (d.c. value) I_C max. 500 mA
 Total power dissipation up to $T_{amb} = 25^\circ C$ P_{tot} max. 250 mW
 D.C. current gain
 $I_C = 10\text{mA}; V_{CE} = 1\text{V}$ h_{FE} 40 to 120
 $I_C = 100\text{mA}; V_{CE} = 2\text{V}$ h_{FE} > 20
 Storage time
 $I_{Con} = I_{Bon} = I_{Boff} = 10\text{mA}$ t_s < 13 ns

V_{CB0} max. 40 V
 V_{CES} max. 40 V
 V_{CE0} max. 15 V
 I_C max. 500 mA
 P_{tot} max. 250 mW
 h_{FE} 40 to 120
 h_{FE} > 20
 t_s < 13 ns



CMBT2369

RATINGS (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

Limiting values

| | | | |
|--|-----------|------|----------------------------|
| Collector-base voltage (open emitter) | V_{CB0} | max. | 40 V |
| Collector-emitter voltage ($V_{BE} = 0$) | V_{CES} | max. | 40 V |
| Collector-emitter voltage (open base) | V_{CE0} | max. | 15 V |
| Emitter-base voltage (open collector) | V_{EB0} | max. | 4,5 V |
| Collector current (d.c. value) | I_C | max. | 500 mA |
| Total power dissipation up to $T_{amb} = 25^\circ\text{C}$ | P_{tot} | max. | 250 mW |
| Storage temperature | T_{stg} | | -55 to 150°C |
| Junction temperature | T_j | max. | 150°C |

THERMAL RESISTANCE

| | | | |
|--------------------------------------|---------------|---|---------|
| From junction to ambient in free air | $R_{th\ j-a}$ | = | 500 K/W |
|--------------------------------------|---------------|---|---------|

CHARACTERISTICS (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

$T_j = 25^\circ\text{C}$ unless otherwise specified

Collector cut-off current

| | | | |
|--|-----------|---|------------------|
| $I_E = 0$; $V_{CB} = 20\text{ V}$ | I_{CB0} | < | 400 nA |
| $I_E = 0$; $V_{CB} = 20\text{ V}$; $T_j = 125^\circ\text{C}$ | I_{CB0} | < | 30 μA |

Saturation voltages

| | | | |
|--|-------------|---|----------------|
| $I_C = 10\text{ mA}$; $I_B = 1\text{ mA}$ | V_{CEsat} | < | 0,25 V |
| | V_{BEsat} | | 0,70 to 0,85 V |

D.C. current gain

| | | | |
|--|----------|---|-----------|
| $I_C = 10\text{ mA}$; $V_{CE} = 1\text{ V}$ | h_{FE} | | 40 to 120 |
| $I_C = 10\text{ mA}$; $V_{CE} = 1\text{ V}$; $T_{amb} = -55^\circ\text{C}$ | h_{FE} | > | 20 |
| $I_C = 100\text{ mA}$; $V_{CE} = 2\text{ V}$ | h_{FE} | > | 20 |

Output capacitance at $f = 1\text{ MHz}$

| | | | |
|-----------------------------------|-------|---|--------|
| $I_E = 0$; $V_{CB} = 5\text{ V}$ | C_o | < | 4,0 pF |
|-----------------------------------|-------|---|--------|

Small-signal current gain

| | | | |
|--|----------|---|-----|
| $I_C = 1,0\text{ mA}$; $V_{CE} = 10\text{ V}$; $f = 100\text{ MHz}$; $T_{amb} = 25^\circ\text{C}$ | h_{fe} | > | 5,0 |
|--|----------|---|-----|

Breakdown voltages

| | | | |
|--|---------------|------|-------|
| $I_C = 10\text{ mA}$; $I_B = 0$ | $V_{(BR)CEO}$ | min. | 15 V |
| $I_C = 10\text{ }\mu\text{A}$; $I_E = 0$ | $V_{(BR)CBO}$ | min. | 40 V |
| $I_C = 0$; $I_E = 10\text{ }\mu\text{A}$ | $V_{(BR)EBO}$ | min. | 4,5 V |
| $I_C = 10\text{ }\mu\text{A}$; $V_{BE} = 0$ | $V_{(BR)CES}$ | min. | 40 V |

Switching times at $T_{amb} = 25^\circ\text{C}$

| | | | |
|--|-------|------|--------|
| Storage time | | typ. | 5,0 ns |
| $I_{Con} = I_{Bon} = -I_{Boff} = 10\text{ mA}$ | t_s | < | 13 ns |

Turn-on time

| | | | |
|--|----------|------|--------|
| $I_C = 10\text{ mA}$; $I_{Bon} = 3\text{ mA}$; $V_{CC} = 3\text{ V}$ | t_{on} | typ. | 8,0 ns |
| | t_{on} | < | 12 ns |

Turn-off time

| | | | |
|---|-----------|------|-------|
| $I_C = 10\text{ mA}$; $I_{Bon} = 3\text{ mA}$; $I_{Boff} = 1,5\text{ mA}$; $V_{CC} = 3\text{ V}$ | t_{off} | typ. | 10 ns |
| | t_{off} | < | 18 ns |

Customer Notes

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished on the CDIL Web Site/ CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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