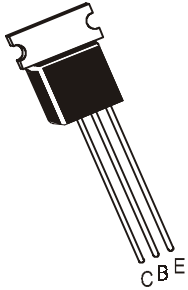




Continental Device India Limited

An ISO/TS16949 and ISO 9001 Certified Company

**NPN SILICON PLANAR EPITAXIAL TRANSISTORS****CTN368****CTN369****TO-237****Plastic Package****Complementary CTN 369****Amplifier Transistors.****ABSOLUTE MAXIMUM RATINGS(Ta=25° C unless specified otherwise )**

| DESCRIPTION                                      | SYMBOL         | VALUE       | UNIT  |
|--|----------------|-------------|-------|
| Collector -Emitter Voltage                       | $V_{CES}$      | 25          | V     |
| Collector -Emitter Voltage                       | $V_{CEO}$      | 20          | V     |
| Emitter Base Voltage                             | $V_{EBO}$      | 5           | V     |
| Collector Current Continuous                     | $I_C$          | 1           | A     |
| Total Power Dissipation @ $T_A=25^\circ\text{C}$ | $P_D$          | 1.0         | W     |
| Derate Above =25°C                               |                | 6.4         | mW/°C |
| Total Power Dissipation @ $T_C=25^\circ\text{C}$ | $P_D$          | 2.75        | W     |
| Derate Above =25°C                               |                | 22          | mW/°C |
| Operating and Storage Junction Temperature Range | $T_j, T_{stg}$ | -55 to +150 | °C    |

**THERMAL RESISTANCE**

|                     |               |     |      |
|---------------------|---------------|-----|------|
| Junction to Case    | $R_{th(j-c)}$ | 45  | °C/W |
| Junction to Ambient | $R_{th(j-a)}$ | 156 | °C/W |

**ELECTRICAL CHARACTERISTICS (Ta=25° C unless specified otherwise )**

| DESCRIPTION                          | SYMBOL        | TEST CONDITION   | MIN            | MAX     | UNIT          |
|--------------------------------------|---------------|--|----------------|---------|---------------|
| Collector Emitter Breakdown Voltage  | $V_{CEO}$     | $I_C=10\text{mA}, I_B=0$   | 20             |         | V             |
| Collector Base Breakdown Voltage     | $V_{CBO}$     | $I_C=100\mu\text{A}, I_E=0$  | 25             |         | V             |
| Emitter Base Breakdown Voltage       | $V_{EBO}$     | $I_E=100\mu\text{A}, I_C=0$  | 5              |         | V             |
| Collector Cut off Current            | $I_{CBO}$     | $V_{CB}=25\text{V}, I_E=0$<br>$I_E=0, V_{CB}=25\text{V},$<br>$T_j=150^\circ\text{C}$                             |                | 10<br>1 | $\mu\text{A}$ |
| Emitter Cut off Current              | $I_{EBO}$     | $V_{EB}=5\text{V}, I_C=0$  |                | 10      | $\mu\text{A}$ |
| Base Emitter on Voltage              | $V_{BE(on)}$  | $I_C=1\text{A}, V_{CE}=1\text{V}$  |                | 1       | V             |
| Collector Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=1\text{A}, I_B=100\text{mA}$  |                | 0.5     | V             |
| DC Current Gain                      | $h_{FE}$      | $I_C=5\text{mA}, V_{CE}=10\text{V}$<br>$I_C=500\text{mA}, V_{CE}=1\text{V}$<br>$I_C=1\text{A}, V_{CE}=1\text{V}$ | 50<br>85<br>60 | 375     |               |

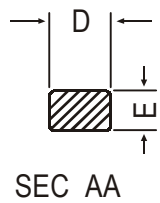
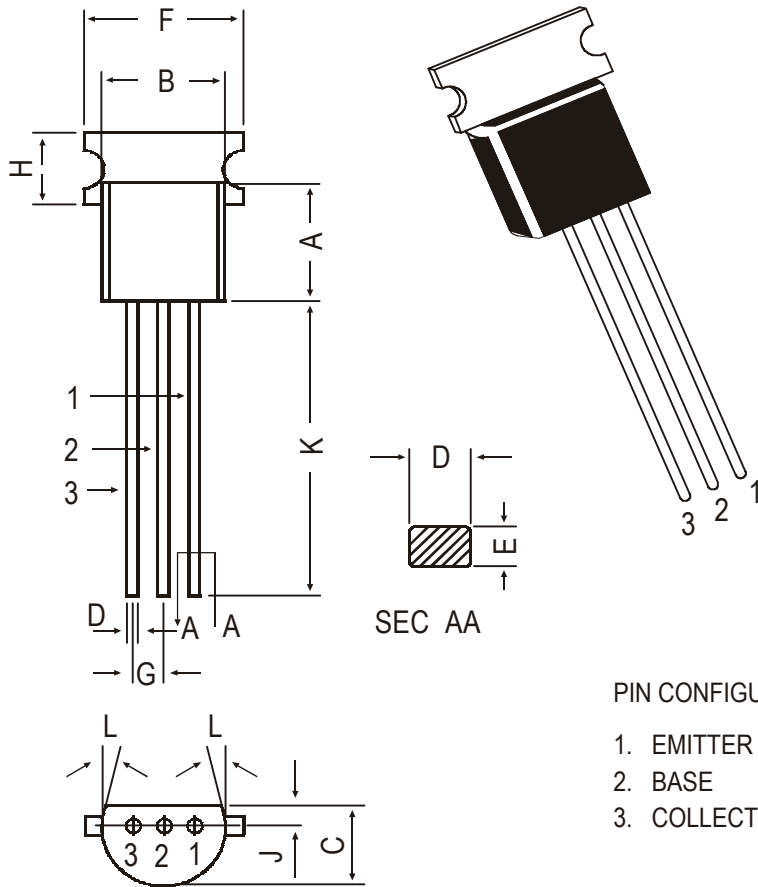
**DYNAMIC CHARACTERISTICS**

|                      |       |  |    |  |     |
|----------------------|-------|--|----|--|-----|
| Transition Frequency | $f_T$ | $V_{CE}=5\text{V}, I_C=10\text{mA},$<br>$f=20\text{MHz}$ | 65 |  | MHz |
|----------------------|-------|--|----|--|-----|

**CTN368  
CTN369**

**TO-237  
Plastic Package**

**TO-237 Plastic Package**



All dimensions in mm.

| DIM | MIN.  | MAX. |
|-----|-------|------|
| A   | 4.32  | 5.33 |
| B   | 4.45  | 5.20 |
| C   | 3.18  | 4.19 |
| D   | 0.41  | 0.55 |
| E   | 0.35  | 0.50 |
| F   | —     | 5.40 |
| G   | 1.14  | 1.40 |
| H   | —     | 2.54 |
| K   | 12.70 | —    |
| L   | 5 DEG |      |
| J   | 1.14  | 1.53 |

**PIN CONFIGURATION**

- 1. EMITTER
- 2. BASE
- 3. COLLECTOR

**Packing Detail**

| PACKAGE     | STANDARD PACK |                | INNER CARTON BOX  |     | OUTER CARTON BOX  |     |          |
|-------------|---------------|----------------|-------------------|-----|-------------------|-----|----------|
|             | Details       | Net Weight/Qty | Size              | Qty | Size              | Qty | Gr Wt    |
| TO-237 Bulk | 1K/polybag    | 240 gm/1K pcs  | 3" x 7.5" x 7.5"  | 5K  | 17" x 15" x 13.5" | 80K | 26.2 kgs |
| TO-237 T&A  | 2K/ammo box   | 725 gm/2K pcs  | 12.5" x 8" x 1.8" | 2K  | 17" x 15" x 13.5" | 32K | 13.8 kgs |

### **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 in the Data Sheet and 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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