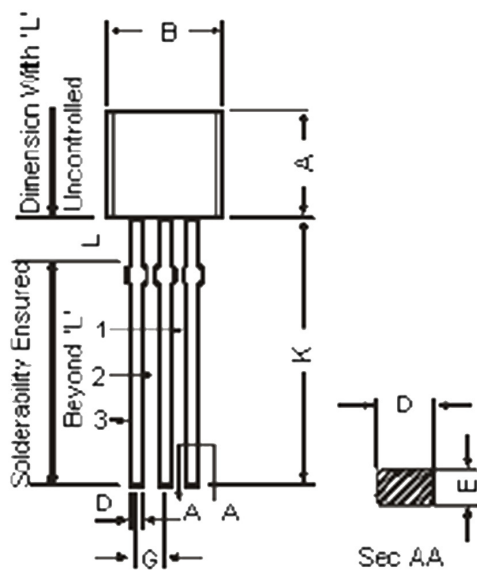


Bipolar Transistor

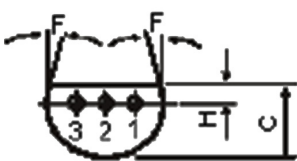


Description:

Silicon Planar Epitaxial Transistors.
 General Purpose Transistors Best Suited for use in Driver and Output Stages of Audio Amplifier.



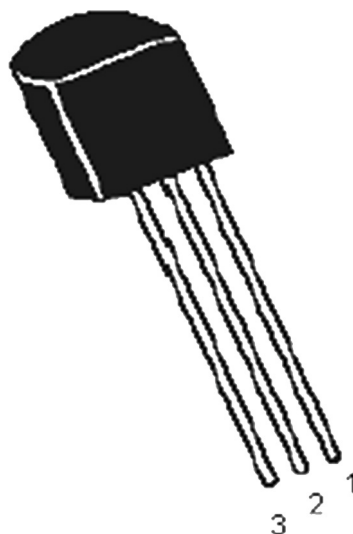
| Dimensions | Minimum (mm) | Maximum (mm) |
|------------|--------------|--------------|
| A | 4.42 | 5.33 |
| B | 4.45 | 5.20 |
| C | 3.18 | 4.19 |
| D | 0.41 | 0.55 |
| E | 0.35 | 0.50 |
| F | 5° | |
| G | 1.14 | 1.40 |
| H | 1.20 | 1.53 |
| K | 12.70 | - |
| L | 1.982 | 2.082 |



Dimensions : Millimetres

Pin Configuration:

1. Emitter
2. Base
3. Collector



Bipolar Transistor



Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$ unless specified otherwise)

| Description | Symbol | Value | Unit |
|--|----------------|-------------|----------------------------|
| Collector Emitter Voltage | V_{CEO} | 45 | V |
| Collector Emitter Voltage | V_{CES} | 50 | |
| Emitter Base Voltage | V_{EBO} | 5 | |
| Collector Current Continuous | I_C | 800 | mA |
| Collector Current Peak | I_{CM} | 1000 | |
| Base Current Peak | I_{BM} | 200 | |
| Base Current Continuous | I_B | 100 | |
| Base Current Peak | I_{BM} | 200 | |
| Power Dissipation at $T_a = 25^\circ\text{C}$ Derate Above 25°C | P_D | 625 5 | mW mW/ $^\circ\text{C}$ |
| Operating and Storage Junction Temperature Range | T_J, T_{stg} | -65 to +150 | $^\circ\text{C}$ |
| Thermal Resistance | | | |
| Junction to Ambient in Free Air | $R_{th(j-a)}$ | 200 | $^\circ\text{C/W}$ |

Electrical Characteristics ($T_a = 25^\circ\text{C}$ unless specified otherwise)

| Description | Symbol | Test Condition | Minimum | Maximum | Unit |
|--------------------------------------|----------------|---|---------|----------|---------------------|
| Collector Emitter Voltage | V_{CEO} | $I_C = 1\text{mA}, I_R = 0$ | 45 | - | V |
| Collector Emitter Voltage | V_{CES} | $I_C = 100\mu\text{A}, I_E = 0$ | 50 | - | |
| Emitter Base Voltage | V_{EBO} | $I_E = 10\mu\text{A}, I_C = 0$ | 5.0 | - | |
| Collector Cut off Current | I_{CBO} | $V_{CB} = 20\text{V}, I_E = 0$ $V_{CB} = 20\text{V}, I_E = 0, T_J = 150^\circ\text{C}$ | - | 100 5 | nA μA |
| Emitter Cut off Current | I_{EBO} | $V_{EB} = 5\text{V}, I_C = 0$ | - | 10 | μA |
| Collector Emitter Saturation Voltage | $*V_{CE(sat)}$ | $I_C = 500\text{mA}, I_B = 50\text{mA}$ | - | 0.7 | V |
| Base Emitter On Voltage | $*V_{BE(on)}$ | $I_C = 500\text{mA}, V_{CE} = 1\text{V}$ | - | 1.2 | |

*Pulse Test: Pulse Width $\leq 300\text{ms}$, Duty Cycle $\leq 2\%$.

Bipolar Transistor



Electrical Characteristics ($T_a = 25^\circ\text{C}$ unless specified otherwise)

| Description | Symbol | Test Condition | Minimum | Typical | Maximum | Unit |
|-------------------------------------|----------|---|---------|---------|---------|------|
| DC Current Gain | h_{FE} | $I_C = 100\text{mA}$, $V_{CE} = 1\text{V}$ | 100 | 400 | - | - |
| Small Signal Characteristics | | | | | | |
| Transistors Frequency | f_T | $I_C = 10\text{mA}$, $V_{CE} = 5\text{V}$, $f = 35\text{MHz}$ PNP | - | 100 | - | MHz |
| Input Capacitance | C_{ib} | $V_{BE} = 10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$ PNP | - | 8 | - | pF |

Specifications

| V_{CE0} (V) | V_{CBO} Maximum (V) | I_C (A) | h_{FE} Minimum at $I_C = 2\text{mA}$ | f_T Minimum (MHz) | P_{tot} (mW) | Package |
|------------------|--------------------------|--------------|--|---------------------------|-------------------|---------|
| 45 | 50 | 0.8 | 100 | 60 | 625 | TO-92 |

Part Number Table

| Description | Part Number |
|-------------------------------------|-------------|
| Bipolar Transistor, PNP, -45V TO-92 | BC327.25 |

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