

DESCRIPTION

- Excellent Safe Operating Area
- High DC Current Gain-
: $h_{FE} = 20-100(\text{Min}) @ I_C = -5A$
- Low Saturation Voltage-
: $V_{CE(\text{sat})} = -1.3V(\text{Max}) @ I_C = -5A$

APPLICATIONS

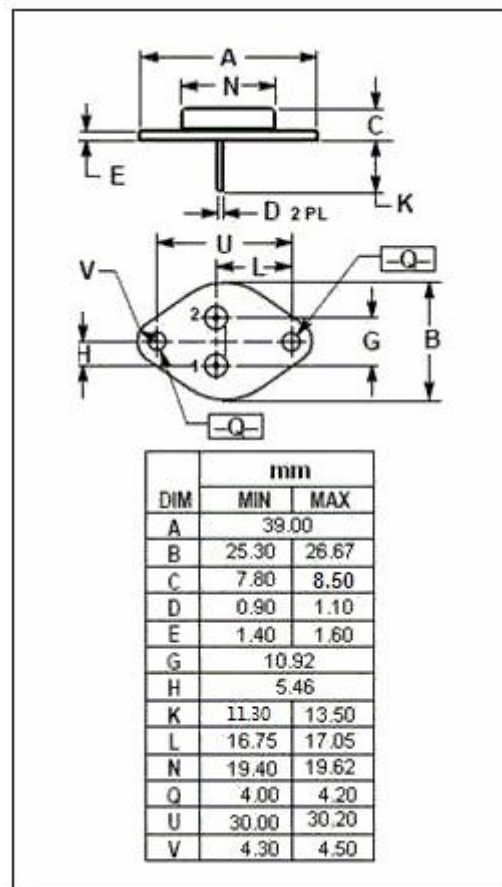
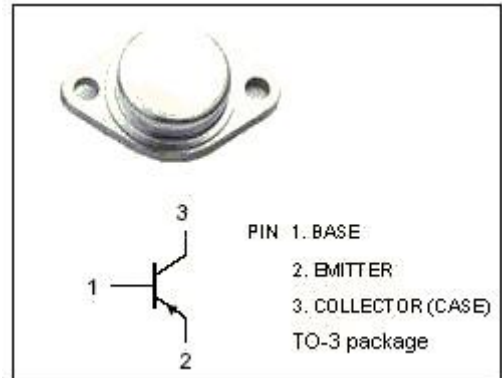
- Designed for general-purpose switching and linear amplifier applications.

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--|---------|------------------|
| V_{CBO} | Collector-Base Voltage | -110 | V |
| V_{CER} | Collector-Emitter Voltage $R_{BE} = 100 \Omega$ | -110 | V |
| V_{CEO} | Collector-Emitter Voltage | -100 | V |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_C | Collector Current-Continuous | -10 | A |
| I_B | Base Current-Continuous | -5 | A |
| P_C | Collector Power Dissipation @ $T_c=25^\circ\text{C}$ | 125 | W |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | -65~150 | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|--------------------------------------|-----|--------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 1.4 | $^\circ\text{C/W}$ |



ELECTRICAL CHARACTERISTICS

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

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|-----------------|--------------------------------------|--|------|--------------|------|
| $V_{CE0(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C = -50\text{mA}; I_B = 0$ | -100 | | V |
| $V_{CEr(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C = -200\text{mA}; R_{BE} = 100\ \Omega$ | -110 | | V |
| $V_{CE(sat)-1}$ | Collector-Emitter Saturation Voltage | $I_C = -5\text{A}; I_B = -0.5\text{A}$ | | -1.3 | V |
| $V_{CE(sat)-2}$ | Collector-Emitter Saturation Voltage | $I_C = -10\text{A}; I_B = -2\text{A}$ | | -3.5 | V |
| $V_{BE(on)}$ | Base-Emitter On Voltage | $I_C = -5\text{A}; V_{CE} = -4\text{V}$ | | -1.8 | V |
| I_{CEO} | Collector Cutoff Current | $V_{CE} = -40\text{V}; I_B = 0$ | | -1.0 | mA |
| I_{CER} | Collector Cutoff Current | $V_{CE} = -95\text{V}; R_{BE} = 100\ \Omega$ | | -0.2 | mA |
| I_{CEX} | Collector Cutoff Current | $V_{CE} = -100\text{V}; V_{BE(off)} = -1.5\text{V}$ $V_{CE} = -90\text{V}; V_{BE(off)} = -1.5\text{V}, T_C = 150^{\circ}\text{C}$ | | -0.2 -5.0 | mA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB} = -5\text{V}; I_C = 0$ | | -1.0 | mA |
| h_{FE-1} | DC Current Gain | $I_C = -5\text{A}; V_{CE} = -4\text{V}$ | 20 | 100 | |
| h_{FE-2} | DC Current Gain | $I_C = -10\text{A}; V_{CE} = -4\text{V}$ | 5 | | |