

isc Silicon PNP Power Transistor

MJ15012

DESCRIPTION

- Excellent Safe Operating Area
- DC Current Gain-
: $h_{FE} = 20(\text{Min.}) @ I_C = -2A$
- Collector-Emitter Saturation Voltage-
: $V_{CE(\text{sat})} = -2.5V(\text{Max}) @ I_C = -4A$
- Complement to the NPN MJ15011
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

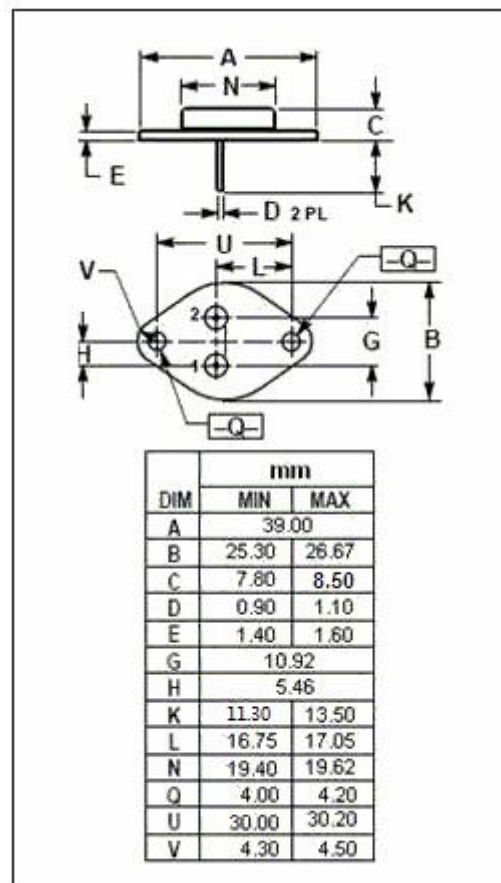
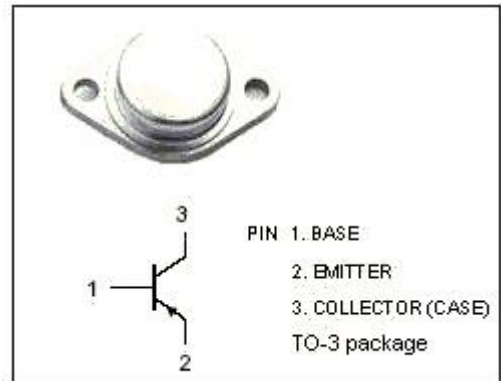
- Designed for high power audio, disk head positioners, and other linear applications. These devices can also be used in power switching circuits such as relay or solenoid drivers, DC-DC converters or inverters.

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------------------|---|---------|------------------|
| $V_{CEO(\text{SUS})}$ | Collector-Emitter Voltage | -250 | V |
| V_{CEX} | Collector-Emitter Voltage | -250 | V |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_C | Collector Current-Continuous | -10 | A |
| I_{CM} | Collector Current-Peak | -15 | A |
| I_B | Base Current-Continuous | -2 | A |
| I_{BM} | Base Current-Peak | -5 | A |
| I_E | Emitter Current-Continuous | 12 | A |
| I_{EM} | Emitter Current-Peak | 20 | A |
| P_D | Total Power Dissipation@ $T_C=25^\circ\text{C}$ | 200 | W |
| T_j | Junction Temperature | 200 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | -65~200 | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|--------------------------------------|-------|---------------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 0.875 | $^\circ\text{C}/\text{W}$ |



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ELECTRICAL CHARACTERISTICS

T_j=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|------------------------|--------------------------------------|---|------|------|------|
| V _{CEO(SUS)} | Collector-Emitter Sustaining Voltage | I _C = -50mA ; I _B = 0 | -250 | | V |
| V _{CE(sat)-1} | Collector-Emitter Saturation Voltage | I _C = -2A; I _B = -0.2A | | -0.8 | V |
| V _{CE(sat)-2} | Collector-Emitter Saturation Voltage | I _C = -4A; I _B = -0.4A | | -2.5 | V |
| V _{BE(on)} | Base-Emitter On Voltage | I _C = -4A ; V _{CE} = -2V | | -2.0 | V |
| I _{CEO} | Collector Cutoff Current | V _{CE} = -200V; I _B = 0 | | -1.0 | mA |
| I _{CBO} | Collector Cutoff Current | V _{CB} = -250V; I _E =0 | | -0.5 | mA |
| I _{EBO} | Emitter Cutoff Current | V _{EB} = -5V; I _C = 0 | | -0.5 | mA |
| h _{FE-1} | DC Current Gain | I _C = -2A ; V _{CE} = -2V | 20 | 100 | |
| h _{FE-2} | DC Current Gain | I _C = -4A ; V _{CE} = -2V | 5 | | |
| C _{OB} | Output Capacitance | I _E = 0 ; V _{CB} = -10V; f _{test} = 1.0MHz | 500 | | pF |

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