

isc Silicon PNP Darlington Power Transistor

MJ11029

DESCRIPTION

- Collector-Emitter Breakdown Voltage
: $V_{(BR)CEO} = -60V(\text{Min.})$
- High DC Current Gain-
: $h_{FE} = 1000(\text{Min.})@I_C = -25A$
: $h_{FE} = 400(\text{Min.})@I_C = -50A$
- Complement to Type MJ11028

APPLICATIONS

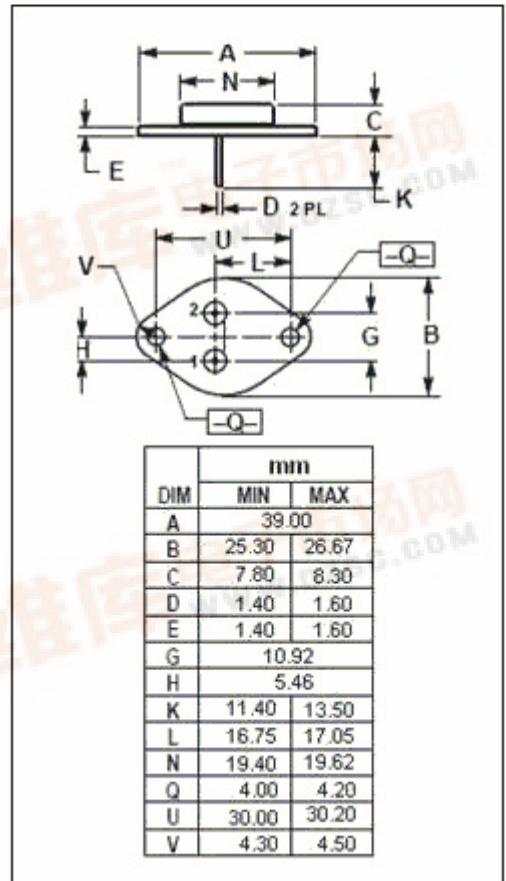
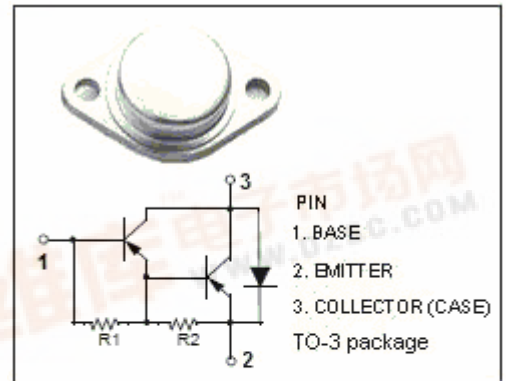
- Designed for use as output devices in complementary general purpose amplifier applications.

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|----------|------------------|
| V_{CBO} | Collector-Base Voltage | -60 | V |
| V_{CEO} | Collector-Emitter Voltage | -60 | V |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_C | Collector Current-Continuous | -50 | A |
| I_{CM} | Collector Current-Peak | -100 | A |
| I_B | Base Current-Continuous | -2 | A |
| P_C | Collector Power Dissipation @ $T_C=25^\circ\text{C}$ | 300 | W |
| T_j | Junction Temperature | 200 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature Range | -55~+200 | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|--------------------------------------|-------|--------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 0.584 | $^\circ\text{C/W}$ |



isc Silicon PNP Darlington Power Transistor

MJ11029

ELECTRICAL CHARACTERISTICS

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

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|-----------------|--------------------------------------|---|------|------|--------------|------|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | $I_C = -0.1\text{A}; I_B = 0$ | -60 | | | V |
| $V_{CE(sat)-1}$ | Collector-Emitter Saturation Voltage | $I_C = -25\text{A}; I_B = -250\text{mA}$ | | | -2.5 | V |
| $V_{CE(sat)-2}$ | Collector-Emitter Saturation Voltage | $I_C = -50\text{A}; I_B = 500\text{mA}$ | | | -3.5 | V |
| $V_{BE(sat)-1}$ | Base-Emitter Saturation Voltage | $I_C = -25\text{A}; I_B = -250\text{mA}$ | | | -3.0 | V |
| $V_{BE(sat)-2}$ | Base-Emitter Saturation Voltage | $I_C = -50\text{A}; I_B = -500\text{mA}$ | | | -4.5 | V |
| I_{CER} | Collector Cutoff Current | $V_{CE} = -60\text{V}; R_{BE} = 1\text{k}\Omega$ $V_{CE} = -60\text{V}; R_{BE} = 1\text{k}\Omega; T_C = 150^{\circ}\text{C}$ | | | -2.0 -5.0 | mA |
| I_{CEO} | Collector Cutoff Current | $V_{CE} = -50\text{V}; I_B = 0$ | | | -2.0 | mA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB} = -5\text{V}; I_C = 0$ | | | -5.0 | mA |
| h_{FE-1} | DC Current Gain | $I_C = -25\text{A}, V_{CE} = -5\text{V}$ | 1000 | | 18000 | |
| h_{FE-2} | DC Current Gain | $I_C = -50\text{A}, V_{CE} = -5\text{V}$ | 400 | | | |