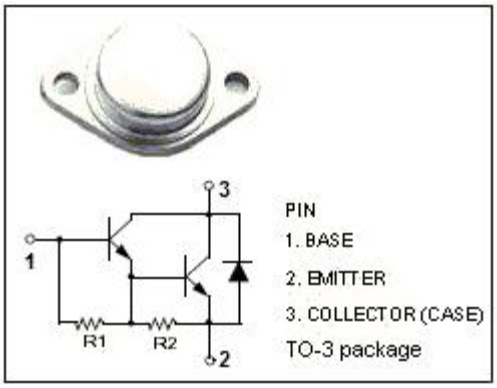
# isc Silicon NPN Darlingtion Power Transistor 2N6283

## DESCRIPTION

- Built-in Base-Emitter Shunt Resistors
- High DC current gain-
  $h_{FE}$ = 750 (Min) @ $I_C$ =10 Adc
- Collector-Emitter Sustaining Voltage-
  $V_{CEO(SUS)}$=80V(Min)
- Complement to type 2N6286
- Minimum Lot-to-Lot variations for robust device performance and reliable operation




## APPLICATIONS

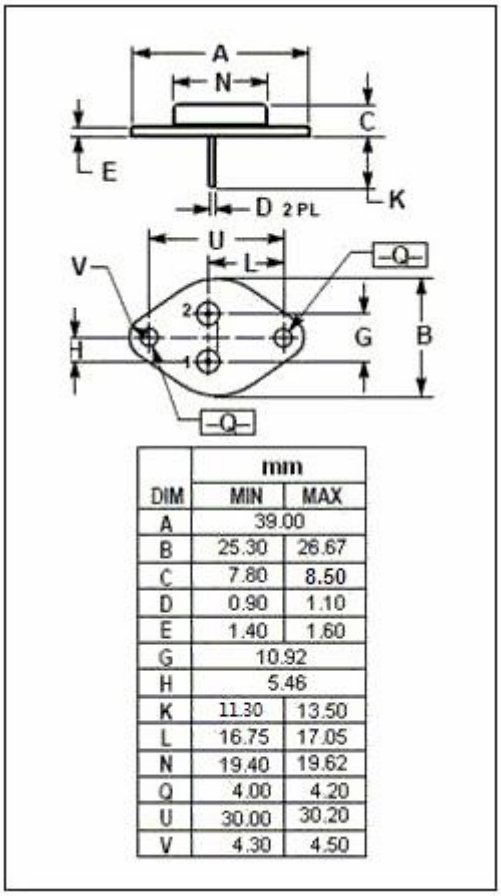
- Intended for general purpose amplifier and low frequency switching applications, such as linear and switching industrial equipment.

## ABSOLUTE MAXIMUM RATINGS($T_C$=25℃)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 80 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 80 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 5.0 | V |
| $I_C$ | Collector Current -Continuous | 20 | A |
| $I_{CP}$ | Collector Current-Peak | 40 | A |
| $I_B$ | Base Current | 0.5 | A |
| $P_C$ | Collector Power Dissipation@$T_C$=25℃ | 160 | W |
| $T_j$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature | -65~150 | ℃ |

## THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| $R_{th\ j\text{-}c}$ | ThermalResistance, Junction to Case | 1.09 | ℃/W |




| DIM | mm MIN | MAX |
|---|---|---|
| A | 39.00 | |
| B | 25.30 | 26.67 |
| C | 7.80 | 8.50 |
| D | 0.90 | 1.10 |
| E | 1.40 | 1.60 |
| G | 10.92 | |
| H | 5.46 | |
| K | 11.30 | 13.50 |
| L | 16.75 | 17.05 |
| N | 19.40 | 19.62 |
| Q | 4.00 | 4.20 |
| U | 30.00 | 30.20 |
| V | 4.30 | 4.50 |

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## ELECTRICAL CHARACTERISTICS

**$T_C$=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|---|---|---|---|---|---|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C$= 50mA ; $I_B$= 0 | 80 | | V |
| $V_{CE(sat)-1}$ | Collector-Emitter Saturation Voltage | $I_C$= 10A; $I_B$= 40mA | | 2.0 | V |
| $V_{CE(sat)-2}$ | Collector-Emitter Saturation Voltage | $I_C$= 20A; $I_B$= 200mA | | 3.0 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation voltage | $I_C$= 20A; $I_B$= 200mA | | 4.0 | V |
| $V_{BE(on)}$ | Base-Emitter On voltage | $I_C$= 10A ; $V_{CE}$= 3V | | 2.8 | V |
| $I_{CEO}$ | Collector Cutoff current | $V_{CE}$= 40V; $I_B$=0 | | 1.0 | mA |
| $I_{EBO}$ | Emitter Cut-off current | $V_{EB}$= 5V; $I_C$= 0 | | 2.0 | mA |
| $h_{FE-1}$ | DC Current Gain | $I_C$= 10A ; $V_{CE}$= 3V | 750 | 18000 | |
| $h_{FE-2}$ | DC Current Gain | $I_C$= 20A ; $V_{CE}$= 3V | 100 | | |
| $C_{OB}$ | Output Capacitance | $I_E$=0 ; $V_{CB}$= 10V;$f_{test}$= 1.0MHz | | 400 | pF |