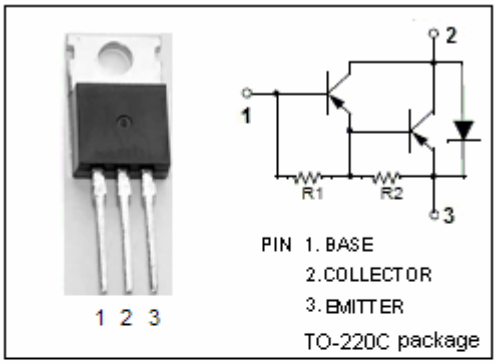
# isc Silicon PNP Darlington Power Transistor 2N6666

## DESCRIPTION

- High DC Current Gain-
  : $h_{FE}$ = 1000(Min)@ $I_C$= -3A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = -40V(Min)
- Low Collector-Emitter Saturation Voltage-
  : $V_{CE(sat)}$ = -2.0V(Max)@ $I_C$= -3A
- Complement to Type 2N6386




## APPLICATIONS

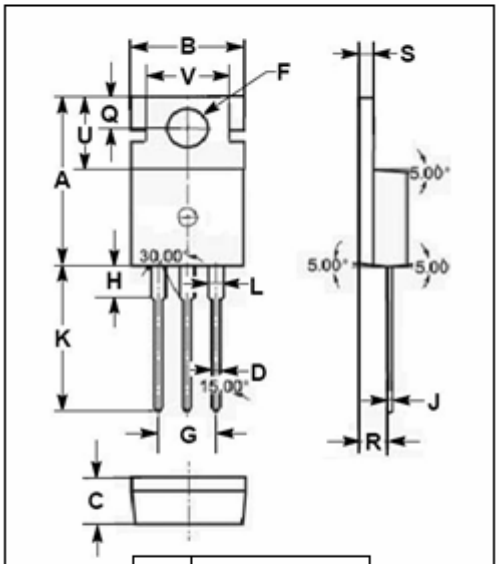
- Designed for general purpose amplifier and low speed switching applications.

## ABSOLUTE MAXIMUM RATINGS (Ta=25℃)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | -40 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | -40 | V |
| $V_{EBO}$ | Emitter-Base Voltage | -5 | V |
| $I_C$ | Collector Current-Continuous | -8 | A |
| $I_{CM}$ | Collector Current-Peak | -15 | A |
| $I_B$ | Base Current-DC | -250 | mA |
| $P_C$ | Collector Power Dissipation $T_C$=25℃ | 65 | W |
| | Collector Power Dissipation $T_a$=25℃ | 2 | |
| $T_j$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -65~150 | ℃ |

## THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| $R_{th\ j\text{-}c}$ | Thermal Resistance,Junction to Case | 1.92 | ℃/W |
| $R_{th\ j\text{-}a}$ | Thermal Resistance,Junction to Ambient | 62.5 | ℃/W |




| DIM | mm MIN | MAX |
|---|---|---|
| A | 15.70 | 15.90 |
| B | 9.90 | 10.10 |
| C | 4.20 | 4.40 |
| D | 0.70 | 0.90 |
| F | 3.40 | 3.60 |
| G | 4.98 | 5.18 |
| H | 2.70 | 2.90 |
| J | 0.44 | 0.46 |
| K | 13.20 | 13.40 |
| L | 1.10 | 1.30 |
| Q | 2.70 | 2.90 |
| R | 2.50 | 2.70 |
| S | 1.29 | 1.31 |
| U | 6.45 | 6.65 |
| V | 8.66 | 8.86 |

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## ELECTRICAL CHARACTERISTICS

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

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C$= -0.2A, $I_B$= 0 | -40 | | | V |
| $V_{CE(sat)-1}$ | Collector-Emitter Saturation Voltage | $I_C$= -3A ,$I_B$= -6mA | | | -2.0 | V |
| $V_{CE(sat)-2}$ | Collector-Emitter Saturation voltage | $I_C$= -8A ,$I_B$= -80mA | | | -3.0 | V |
| $V_{BE(on)-1}$ | Base-Emitter On Voltage | $I_C$= -3.0A ; $V_{CE}$= -3V | | | -2.8 | V |
| $V_{BE(on)-2}$ | Base-Emitter On Voltage | $I_C$= -8.0A ; $V_{CE}$= -3V | | | -4.5 | V |
| $I_{CEX}$ | Collector Cutoff Current | $V_{CEV}$= 40V;$V_{BE(off)}$=1.5V<br>$V_{CEV}$= 40V;$V_{BE(off)}$=1.5V;$T_C$=125℃ | | | 0.3<br>3.0 | mA |
| $I_{CEO}$ | Collector Cutoff Current | $V_{CE}$= -40V, $I_B$= 0 | | | 1 | mA |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$= -5V; $I_C$= 0 | | | 5 | mA |
| $h_{FE-1}$ | DC Current Gain | $I_C$= -3.0A ; $V_{CE}$= -3V | 1000 | | | |
| $h_{FE-2}$ | DC Current Gain | $I_C$= -8.0A ; $V_{CE}$= -3V | 100 | | | |
| $C_{OB}$ | Output Capacitance | $I_E$= 0; $V_{CB}$= -10V,$f_{test}$= 1MHz | | | 200 | pF |