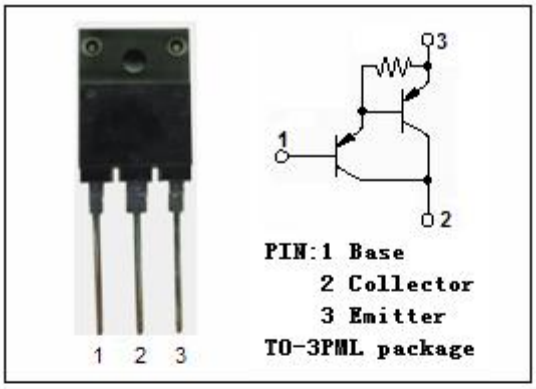
# isc Silicon PNP Darlington Power Transistor — 2SB1649




## DESCRIPTION

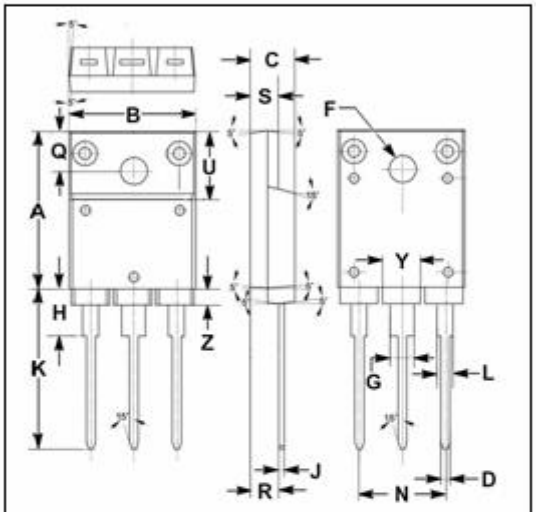
- High Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= -150V(Min)
- Low-Collector Saturation Voltage-
  : $V_{CE(sat)}$= -2.5V(Max.)@$I_C$= -10A
- Complement to Type 2SD2561
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- Designed for audio,series regulator and general purpose applications.

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | -150 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | -150 | V |
| $V_{EBO}$ | Emitter-Base Voltage | -5 | V |
| $I_C$ | Collector Current-Continuous | -15 | A |
| $I_B$ | Base Current- Continuous | -1 | A |
| $P_C$ | Collector Power Dissipation @ $T_C$=25℃ | 85 | W |
| $T_J$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -55~150 | ℃ |




| DIM | mm MIN | MAX |
|---|---|---|
| A | 19.90 | 20.10 |
| B | 15.75 | 16.10 |
| C | 5.50 | 5.70 |
| D | 0.90 | 1.10 |
| F | 3.30 | 3.50 |
| G | 2.90 | 3.20 |
| H | 5.90 | 6.10 |
| J | 0.595 | 0.70 |
| K | 21.10 | 22.50 |
| L | 1.90 | 2.25 |
| N | 10.80 | 11.00 |
| Q | 4.90 | 5.10 |
| R | 3.75 | 3.95 |
| S | 3.20 | 3.60 |
| U | 9.90 | 10.10 |
| Y | 4.20 | 4.90 |
| Z | 1.90 | 2.10 |

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## ELECTRICAL CHARACTERISTICS

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

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | $I_C$= -30mA; $I_B$= 0 | -150 | | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C$= -10A; $I_B$= -10mA | | | -2.5 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C$= -10A; $I_B$= -10mA | | | -3.0 | V |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$= -5V; $I_C$= 0 | | | -100 | μA |
| $I_{CBO}$ | Collector Cutoff Current | $V_{CB}$= -150V; $I_E$= 0 | | | -100 | μA |
| $h_{FE}$ | DC Current Gain | $I_C$= -10A; $V_{CE}$= -4V | 5000 | | 30000 | |
| $C_{OB}$ | Collector Output Capacitance | $I_E$= 0; $V_{CB}$= -10V; f= 1MHz | | 320 | | pF |
| $f_T$ | Current-Gain—Bandwidth Product | $I_C$= -2A; $V_{CE}$= -12V | | 45 | | MHz |

◆ **$h_{FE}$Classifications**

| O | P | Y |
|---|---|---|
| 5000-12000 | 6500-20000 | 15000-30000 |

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