

isc Silicon PNP Darlington Power Transistor

2SB669

DESCRIPTION

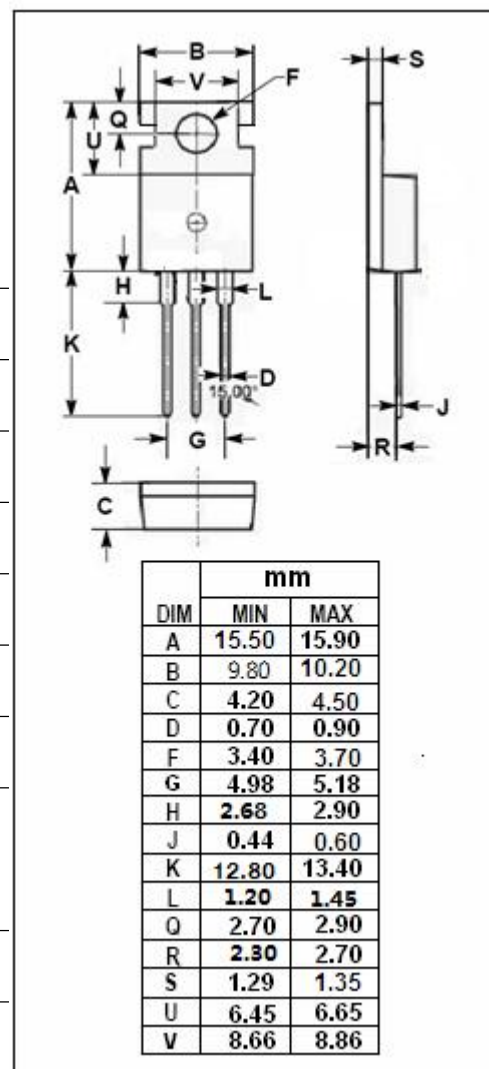
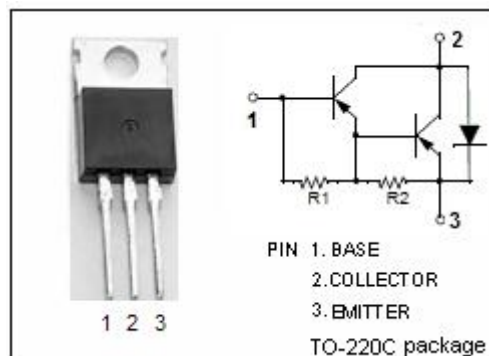
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = -70V(\text{Min})$
- High DC Current Gain
: $h_{FE} = 2000(\text{Min}) @ I_C = -1A$
- Low Saturation Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for use in power amplifier and switching applications

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | -70 | V |
| V_{CEO} | Collector-Emitter Voltage | -70 | V |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_C | Collector Current-Continuous | -4 | A |
| I_{CP} | Collector Current-Peak | -6 | A |
| I_B | Base Current-Continuous | -0.3 | A |
| P_C | Collector Power Dissipation @ $T_a = 25^\circ\text{C}$ | 2 | W |
| | Collector Power Dissipation @ $T_c = 25^\circ\text{C}$ | 40 | |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature Range | -55~150 | $^\circ\text{C}$ |



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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 | $I_C = -10\text{mA}$; $I_B = 0$ | -70 | | | V |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage | $I_E = -2\text{mA}$; $I_C = 0$ | -5 | | | V |
| $V_{(BR)CBO}$ | Collector-Base breakdown voltage | $I_C = -1\text{mA}$; $I_E = 0$ | -70 | | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = -3\text{A}$; $I_B = -6\text{mA}$ | | | -2.0 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C = -3\text{A}$; $I_B = -6\text{mA}$ | | | -2.5 | V |
| I_{CBO} | Collector Cutoff Current | $V_{CB} = -70\text{V}$; $I_E = 0$ | | | -0.1 | mA |
| I_{CEO} | Collector Cutoff Current | $V_{CE} = -70\text{V}$; $I_B = 0$ | | | -0.5 | mA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB} = -5\text{V}$; $I_C = 0$ | | | -2 | mA |
| h_{FE-1} | DC Current Gain | $I_C = -1\text{A}$; $V_{CE} = -3\text{V}$ | 2000 | | | |
| h_{FE-2} | DC Current Gain | $I_C = -4\text{A}$; $V_{CE} = -3\text{V}$ | 750 | | | |

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