

isc Silicon PNP Darlington Power Transistor
2SB1391
DESCRIPTION

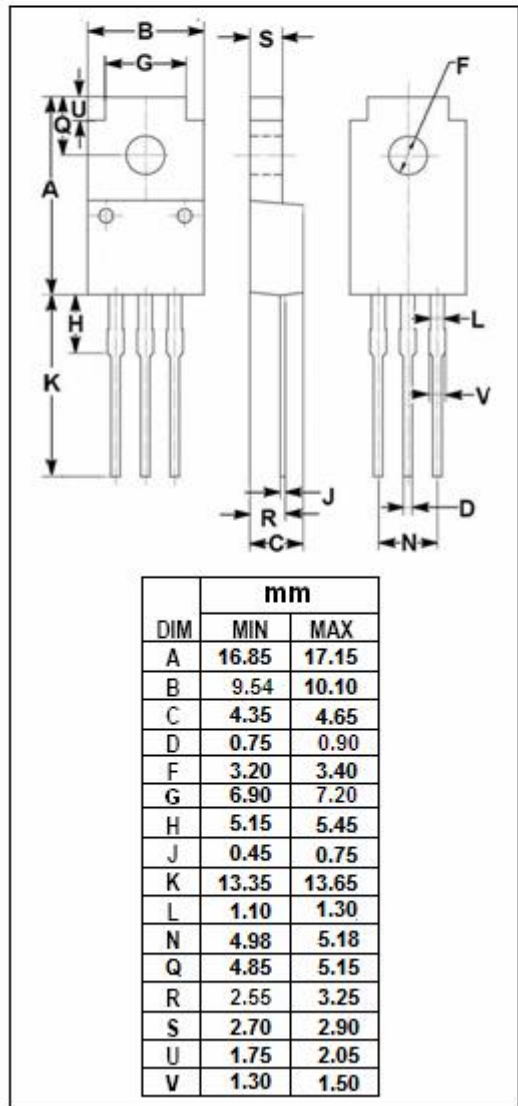
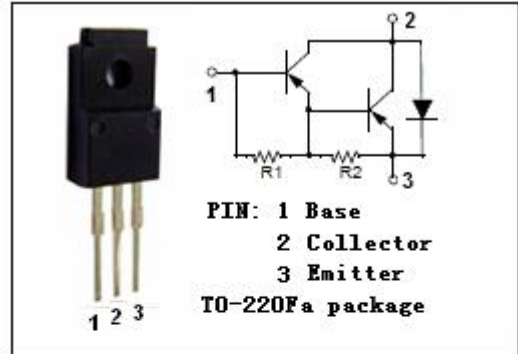
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = -120V(\text{Min})$
- High DC Current Gain-
: $h_{FE} = 1000(\text{Min})@ (V_{CE} = -3V, I_C = -4A)$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for power switching applications.

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | -120 | V |
| V_{CEO} | Collector-Emitter Voltage | -120 | V |
| V_{EBO} | Emitter-Base Voltage | -7 | V |
| I_C | Collector Current-Continuous | -8 | A |
| I_{CM} | Collector Current-Peak | -12 | A |
| P_C | Collector Power Dissipation @ $T_a=25^\circ\text{C}$ | 2 | W |
| | Collector Power Dissipation @ $T_c=25^\circ\text{C}$ | 25 | |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | -55~150 | $^\circ\text{C}$ |



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ELECTRICAL CHARACTERISTICS

T_j=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|-------------------------|--------------------------------------|--|------|------|-------|------|
| V _{CEO(SUS)} | Collector-Emitter Sustaining Voltage | I _C = -25mA; I _B = 0 | -120 | | | V |
| V _{(BR)EBO} | Emitter-Base Breakdown Voltage | I _E = -5mA; I _C = 0 | -7 | | | V |
| V _{(BR)CBO} | Collector-Base breakdown voltage | I _C =-0.1mA; I _E = 0 | -120 | | | V |
| V _{CE(sat) -1} | Collector-Emitter Saturation Voltage | I _C = -4A; I _B = -8mA | | | -1.5 | V |
| V _{CE(sat) -2} | Collector-Emitter Saturation Voltage | I _C = -8A; I _B = -80mA | | | -3.0 | V |
| V _{BE(sat)-1} | Base-Emitter Saturation Voltage | I _C = -4A; I _B = -8mA | | | -2.0 | V |
| V _{BE(sat) -2} | Base-Emitter Saturation Voltage | I _C = -8A; I _B = -80mA | | | -3.5 | V |
| I _{CBO} | Collector Cutoff Current | V _{CB} = -100V; I _E = 0 | | | -10 | μ A |
| I _{CEO} | Collector Cutoff Current | V _{CE} = -100V; I _B = 0 | | | -10 | μ A |
| I _{EBO} | Emitter Cutoff Current | V _{EB} = -7V; I _C = 0 | | | -5 | mA |
| h _{FE} | DC Current Gain | I _C = -4A; V _{CE} = -3V | 1000 | | 20000 | |

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