

isc Silicon PNP Power Transistor
2SB1669-Z
DESCRIPTION

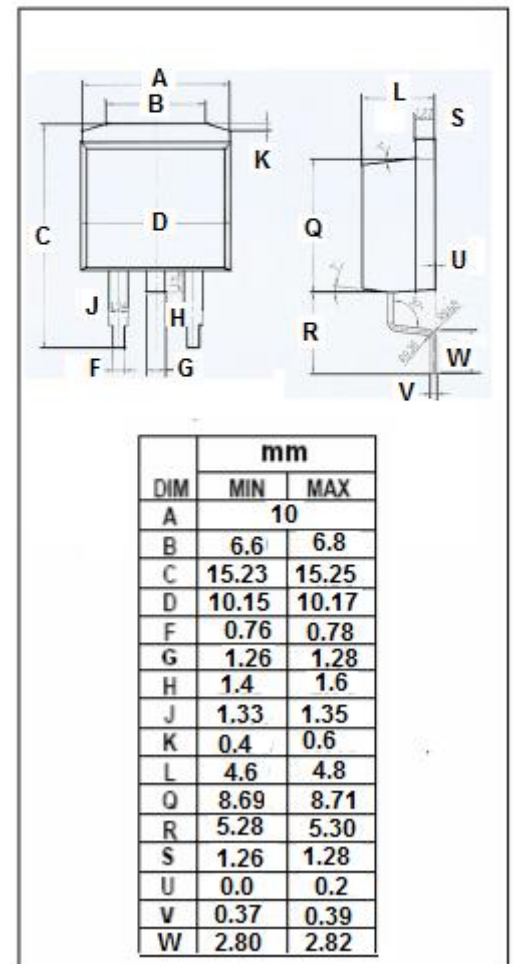
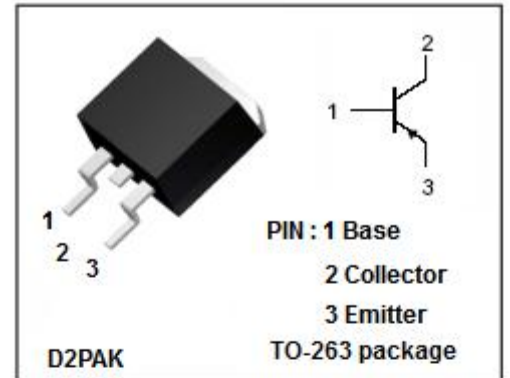
- High DC current amplifier rate
 $h_{FE} \geq 100 @ V_{CE} = -5V, I_C = -0.5A$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- The 2SB1669-Z is a power transistor that can be directly driven from the output of an IC. This transistor is ideal for OA and FA equipment such as motor and solenoid drivers

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | -60 | V |
| V_{CEO} | Collector-Emitter Voltage | -60 | V |
| V_{EBO} | Emitter-Base Voltage | -7 | V |
| I_C | Collector Current-Continuous | -3 | A |
| I_{CP} | Collector Current-Pulse | -6 | A |
| P_C | Total Power Dissipation @ $T_a = 25^\circ\text{C}$ | 1.5 | W |
| P_C | Total Power Dissipation @ $T_c = 25^\circ\text{C}$ | 25 | W |
| 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°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------------------------|--------------------------------------|---|-----|-----|------|------|
| V _{CE(sat)} ^{NOTE} | Collector-Emitter Saturation Voltage | I _C = -3.0A; I _B = -300mA | | | -1.0 | V |
| V _{BE(sat)} ^{NOTE} | Base-Emitter Saturation Voltage | I _C = -3.0A; I _B = -300mA | | | -2.0 | V |
| I _{CBO} | Collector Cutoff Current | V _{CB} = -60V; I _E = 0 | | | -10 | μ A |
| h _{FE1} ^{NOTE} | DC Current Gain | I _C = -0.5A; V _{CE} = -5V | 100 | | 400 | |
| h _{FE2} ^{NOTE} | DC Current Gain | I _C = -3A; V _{CE} = -5V | 20 | | | |
| f _T | Transition frequency | V _{CE} =-5V ,I _C =-500mA | | 5 | | MHz |
| C _{ob} | Collector output capacitance | V _{CB} =-10V ,I _E =0,f=1MHz | | 80 | | pF |

NOTE:Pulse test PW≤350us,duty cycle ≤2%

Switching Times

| | | | | | | |
|------------------|--------------|---|--|-----|--|-----|
| t _{on} | Turn-on Time | | | 0.4 | | μ s |
| t _{stg} | Storage Time | I _C = -2A; I _{B1} = -I _{B2} = -0.2A, | | 1.7 | | μ s |
| t _f | Fall Time | | | 0.5 | | μ s |

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