

isc Silicon NPN Power Transistor
2SD1841
DESCRIPTION

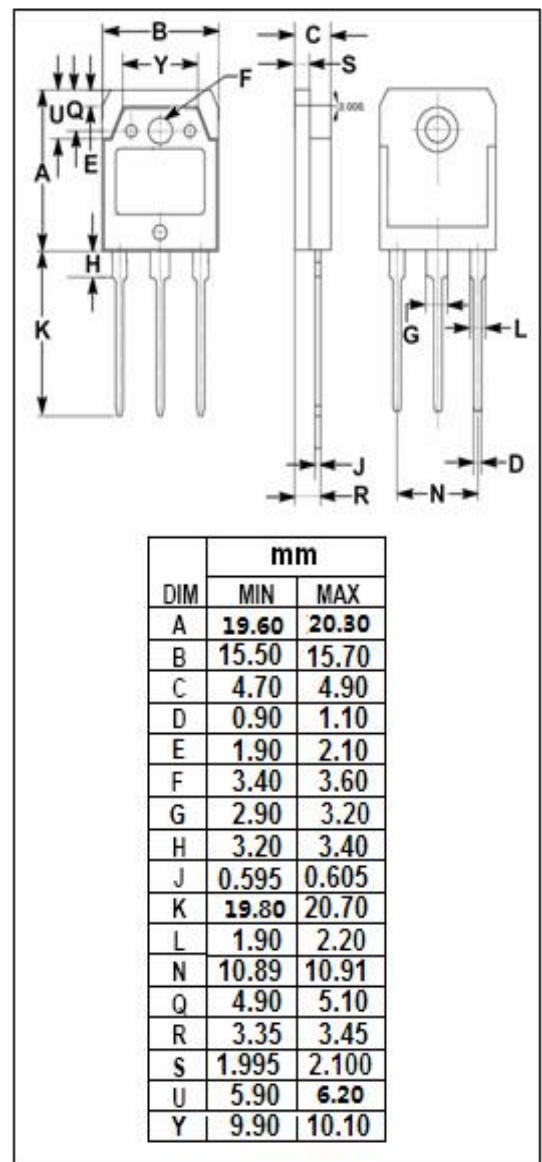
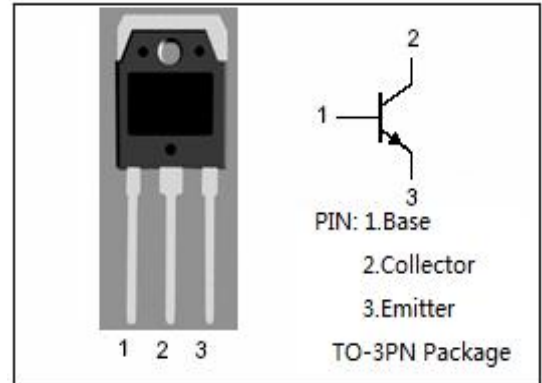
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 100V(\text{Min})$
- High Current Capability
- Wide Area of Safe Operation
- Complement to Type 2SB1231
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for motor drivers, relay drivers, converters and other general high-current switching applications.

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 110 | V |
| V_{CEO} | Collector-Emitter Voltage | 100 | V |
| V_{EBO} | Emitter-Base Voltage | 6 | V |
| I_C | Collector Current-Continuous | 25 | A |
| I_{CP} | Collector Current-Pulse | 40 | A |
| I_B | Base Current-Continuous | 8 | A |
| P_C | Collector Power Dissipation @ $T_a=25^\circ\text{C}$ | 3 | W |
| | Collector Power Dissipation @ $T_c=25^\circ\text{C}$ | 120 | |
| 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 _{(BR)CEO} | Collector-Emitter Breakdown Voltage | I _C = 5mA; R _{BE} = ∞ | 100 | | | V |
| V _{(BR)CBO} | Collector-Base Breakdown Voltage | I _C = 1mA; I _E = 0 | 110 | | | V |
| V _{(BR)EBO} | Emitter-Base Breakdown Voltage | I _E = 1mA; I _C = 0 | 6 | | | V |
| V _{CE(sat)} | Collector-Emitter Saturation Voltage | I _C = 10A; I _B = 1A | | | 0.8 | V |
| V _{BE(sat)} | Base -Emitter Saturation Voltage | I _C = 10A; I _B = 1A | | | 1.5 | V |
| I _{CBO} | Collector Cutoff Current | V _{CB} = 100V; I _E = 0 | | | 100 | μ A |
| I _{EBO} | Emitter Cutoff Current | V _{EB} = 5V; I _C = 0 | | | 100 | μ A |
| h _{FE-1} | DC Current Gain | I _C = 2.5A; V _{CE} = 2V | 50 | | 140 | |
| h _{FE-2} | DC Current Gain | I _C = 10A; V _{CE} = 2V | 20 | | | |

◆ h_{FE-1} Classifications

| P | Q |
|--------|--------|
| 50-100 | 70-140 |

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