

isc Silicon NPN Darlington Power Transistor
2SD2398
DESCRIPTION

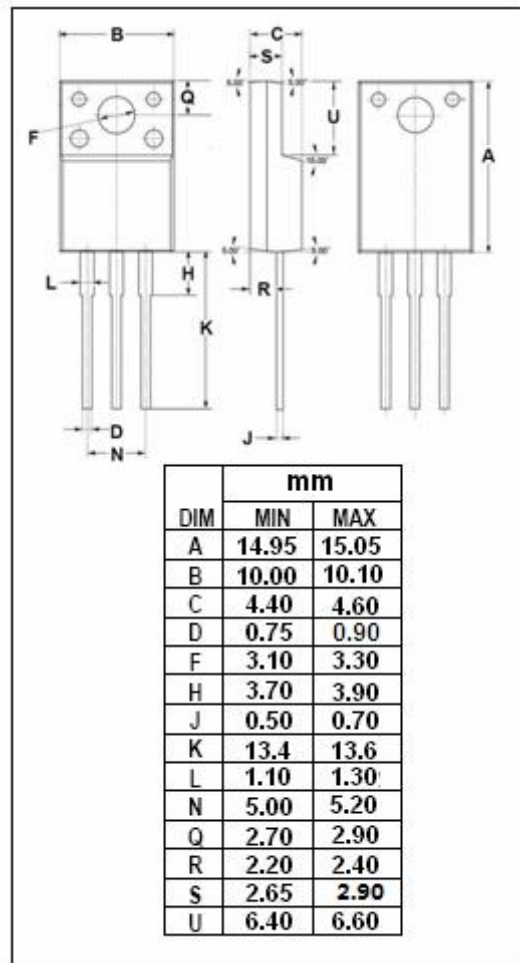
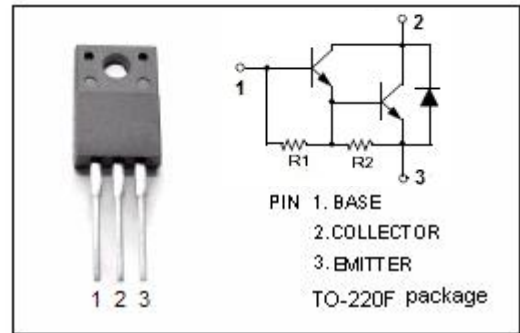
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 100V(\text{Min})$
- High DC Current Gain
: $h_{FE} = 1000(\text{Min}) @ I_C = 1A$
- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 1.5V(\text{Max.}) @ I_C = 1A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Motor, Relay drive

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 100 | V |
| V_{CEO} | Collector-Emitter Voltage | 100 | V |
| V_{EBO} | Emitter-Base Voltage | 6 | V |
| I_C | Collector Current-Continuous | 2 | A |
| I_{CP} | Collector Current-Peak | 3 | A |
| P_C | Collector Power Dissipation @ $T_a = 25^\circ\text{C}$ | 2.0 | W |
| | Collector Power Dissipation @ $T_C = 25^\circ\text{C}$ | 20 | |
| 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; I _B = 0 | 100 | | | V |
| V _{(BR)CBO} | Collector-Base Breakdown Voltage | I _C =50uA; I _E = 0 | 100 | | | V |
| V _{(BR)EBO} | Emitter-Base Breakdown Voltage | I _E = 3mA; I _C = 0 | 5 | | | V |
| V _{CE(sat)} | Collector-Emitter Saturation Voltage | I _C = 1A; I _B = 1mA | | | 1.5 | V |
| V _{BE(sat)} | Base-Emitter Saturation Voltage | I _C = 1A; I _B = 1mA | | | 2.0 | V |
| I _{CBO} | Collector Cutoff Current | V _{CB} = 100V; I _E = 0 | | | 10 | μ A |
| I _{EBO} | Emitter Cutoff Current | V _{EB} = 5V; I _C = 0 | | | 3.0 | mA |
| h _{FE} | DC Current Gain | I _C = 1A; V _{CE} = 2V | 1000 | | 10000 | |
| C _{OB} | Output Capacitance | I _E = 0 ; V _{CB} = 10V, f _{test} = 1MHz | | 25 | | pF |

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