

isc Silicon NPN Power Transistor

BDW12

DESCRIPTION

- With TO-3 Package
- High Current Capability
- Wide area of safe operation
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

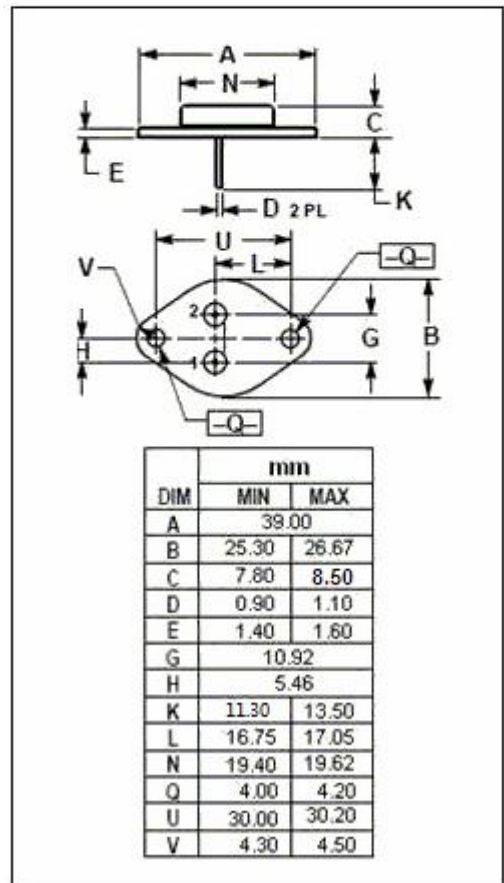
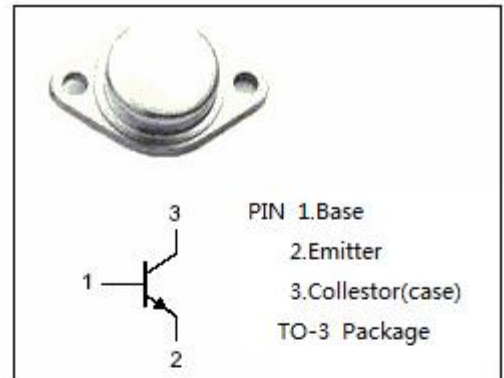
- Designed for general-purpose power amplifier and switching applications.

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 | 6 | V |
| I_C | Collector Current-Continuous | 15 | A |
| P_C | Collector Power Dissipation | 180 | W |
| T_J | Junction Temperature | 150 | $^{\circ}\text{C}$ |
| T_{stg} | Storage Temperature Range | -55~150 | $^{\circ}\text{C}$ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|--------------------------------------|------|----------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 0.83 | $^{\circ}\text{C/W}$ |



isc Silicon NPN Power Transistor**BDW12****ELECTRICAL CHARACTERISTICS****T_c=25°C unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|------------------------|--------------------------------------|--------------------------------------------------------------------------|-----|------|-----|------|
| V _{CE(sat)} | Collector-Emitter Saturation Voltage | I _C =5A; I _B = 0.5A | | | 1.0 | V |
| V _{CE(sat)-2} | Collector-Emitter Saturation Voltage | I _C = 10A; I _B = 1A | | | 2.0 | V |
| V _{BE(sat)} | Base-Emitter Saturation Voltage | I _C =5A; I _B = 0.5A | | | 1.5 | V |
| V _{(BR)CEO} | Collector-Emitter Breakdown Voltage | I _C = 25mA; I _B = 0 | 120 | | | V |
| V _{(BR)EBO} | Emitter-Base Breakdown Voltage | I _E = 1mA; I _C = 0 | 6 | | | V |
| h _{FE-1} | DC Current Gain | I _C =1A; V _{CE} = 5V | 80 | | 200 | |
| h _{FE-2} | DC Current Gain | I _C =5A; V _{CE} = 5V | 60 | | | |
| h _{FE-3} | DC Current Gain | I _C =15A; V _{CE} = 5V | 20 | | | |
| I _{CBO} | Collector Cutoff Current | V _{CB} =120V ; I _E = 0 | | | 100 | uA |
| I _{EBO} | Emitter Cutoff Current | V _{EB} =6V; I _C = 0 | | | 100 | uA |
| f _T | Current-Gain—Bandwidth Product | I _C = 0.1A; V _{CE} = 10V; f _{test} = 1.0MHz | 4 | | | MHz |

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