

**isc Silicon NPN Power Transistor**
**BDW10**
**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**

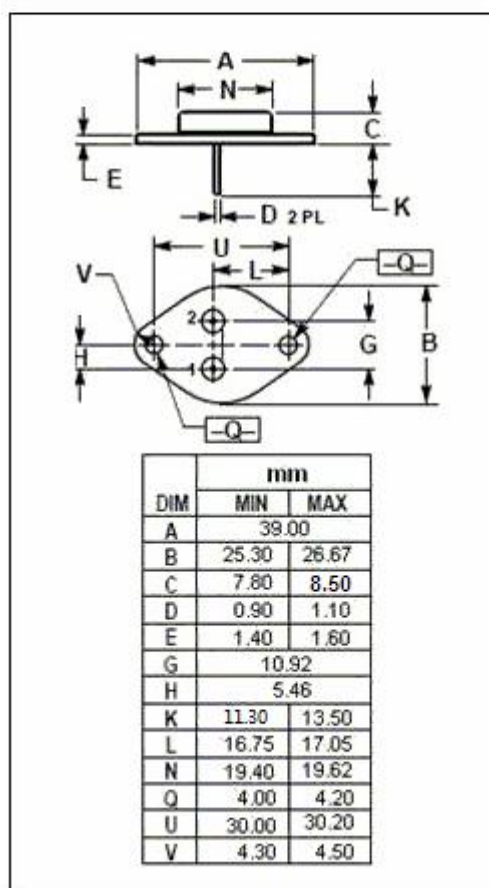
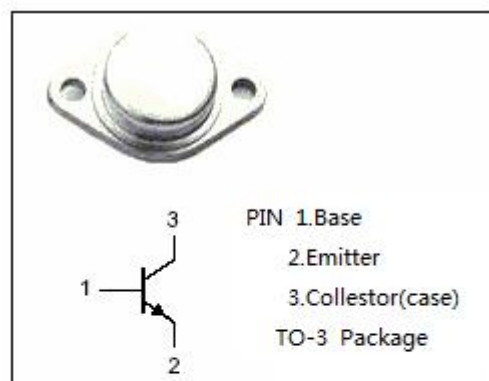
- Designed for general-purpose power amplifier and switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	100	V
$V_{CEO}$	Collector-Emitter Voltage	100	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****BDW10****ELECTRICAL CHARACTERISTICS****T<sub>C</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CE(sat)</sub> -1	Collector-Emitter Saturation Voltage	I <sub>C</sub> =5A; I <sub>B</sub> = 0.5A			1.0	V
V <sub>CE(sat)</sub> -2	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 10A; I <sub>B</sub> = 1A			2.0	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> =5A; I <sub>B</sub> = 0.5A			1.5	V
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 25mA; I <sub>B</sub> = 0	100			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 1mA; I <sub>C</sub> = 0	6			V
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> =1A; V <sub>CE</sub> = 5V	80		200	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> =5A; V <sub>CE</sub> = 5V	60			
h <sub>FE-3</sub>	DC Current Gain	I <sub>C</sub> =15A; V <sub>CE</sub> = 5V	20			
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> =100V ; I <sub>E</sub> = 0			100	uA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> =6V; I <sub>C</sub> = 0			100	uA
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 0.1A; V <sub>CE</sub> = 10V; f <sub>test</sub> = 1.0MHz	4			MHz

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