

isc Silicon NPN Power Transistor

BDW30

DESCRIPTION

- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 0.6V(\text{Max.}) @ I_C = 10A$
- High Switching Speed
- High DC Current Gain-
: $h_{FE} = 20(\text{Min.}) @ I_C = 25A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

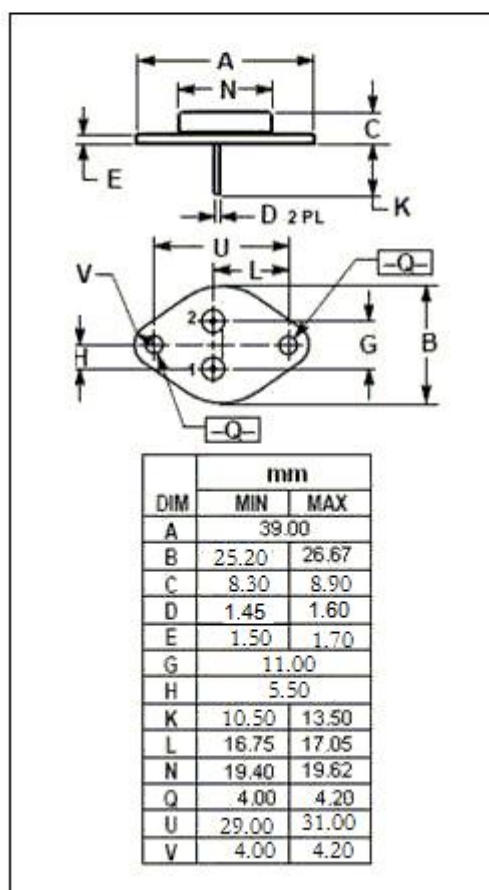
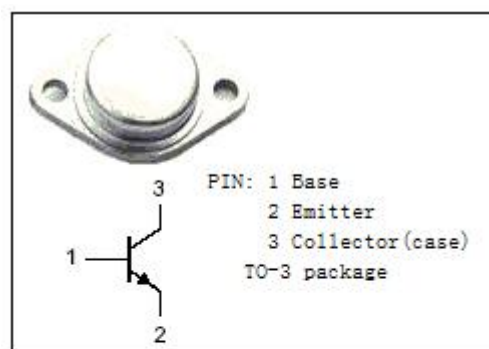
- Designed for high current, high speed, high power applications

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	30	A
I_{CM}	Collector Current-Peak	40	A
P_C	Collector Power Dissipation	250	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$

HERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	0.7	$^\circ\text{C/W}$



isc Silicon NPN Power Transistor**BDW30****ELECTRICAL CHARACTERISTICS****T_c=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CE(sat)} -1	Collector-Emitter Saturation Voltage	I _C =10A; I _B = 1A			0.6	V
V _{CE(sat)} -2	Collector-Emitter Saturation Voltage	I _C = 25A; I _B = 2.5A			1.5	V
V _{BE(sat)} -1	Base-Emitter Saturation Voltage	I _C =10A; I _B = 1A			1.2	V
V _{BE(sat)} -1	Base-Emitter Saturation Voltage	I _C = 25A; I _B = 2.5A			2.0	V
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 30mA; I _B = 0	100			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	60		200	
h _{FE-2}	DC Current Gain	I _C =10A; V _{CE} = 5V	30			
h _{FE-3}	DC Current Gain	I _C =25A; V _{CE} = 5V	20			
I _{CBO}	Collector Cutoff Current	V _{CB} =100V ; 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	3			MHz

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