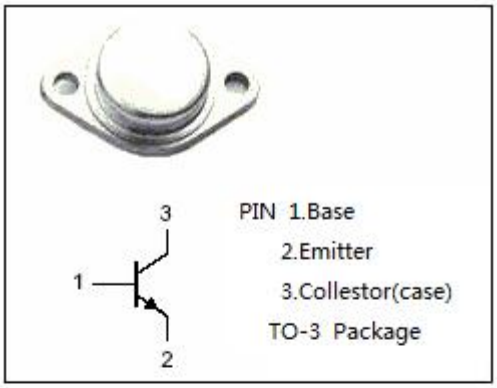
isc Silicon NPN Power Transistor BDW12

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

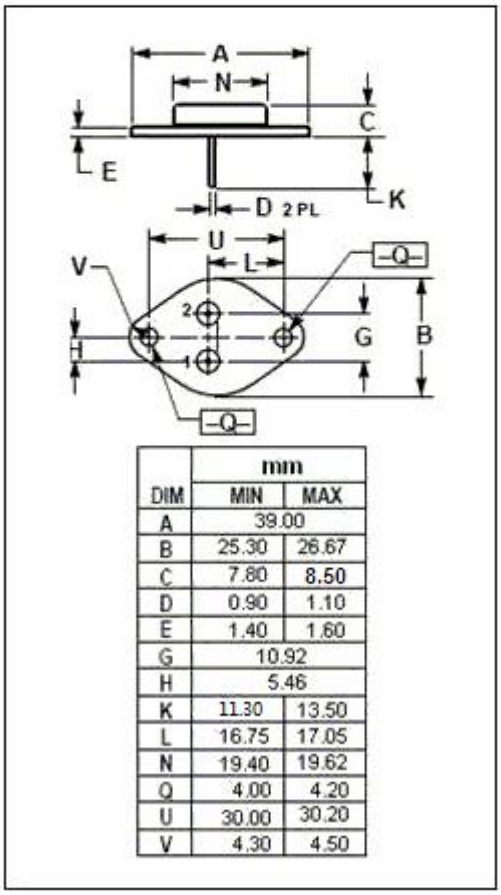
- Designed for general-purpose power amplifier and switching applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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	℃
T_{stg}	Storage Temperature Range	-55~150	℃

THERMAL CHARACTERISTICS

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



DIM	mm MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.50
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.30	13.50
L	16.75	17.05
N	19.40	19.62
Q	4.00	4.20
U	30.00	30.20
V	4.30	4.50

isc Silicon NPN Power Transistor BDW12

ELECTRICAL CHARACTERISTICS

T_C=25℃ 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