

isc Silicon PNP Power Transistor
BD312
DESCRIPTION

- Excellent Safe Operating Area
- DC Current Gain- $h_{FE} = 25(\text{Min.}) @ I_C = -5A$
- Collector-Emitter Saturation Voltage-
: $V_{CE(\text{sat})} = -1.0 \text{ V}(\text{Max}) @ I_C = -5A$
- Complement to Type BD311
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

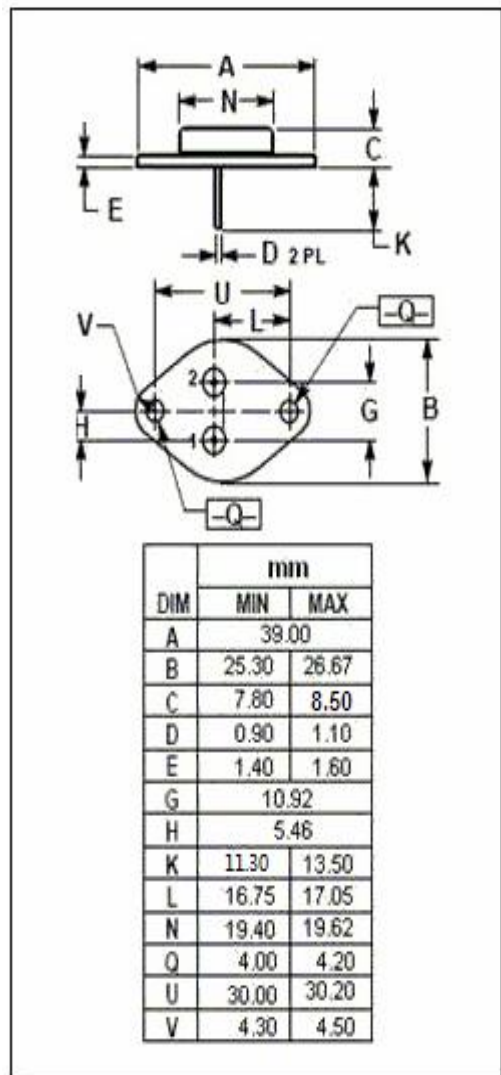
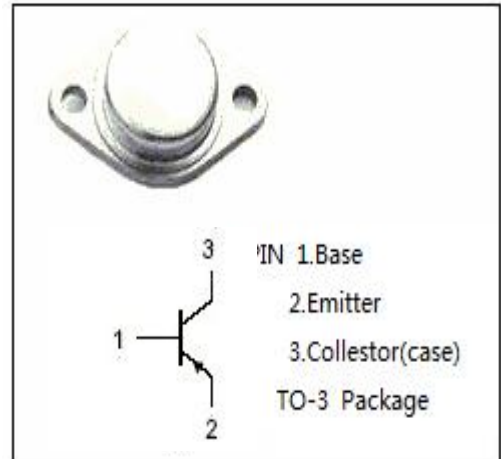
- Designed for high quality amplifiers operating up to 60 watts into 4 ohm load.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-10	A
I_{CM}	Collector Current-Peak	-20	A
I_B	Base Current-Continuous	-4	A
P_C	Collector Power Dissipation@ $T_C = 25^\circ\text{C}$	115	W
T_J	Junction Temperature	200	$^\circ\text{C}$
T_{stg}	Storage Temperature	-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(j-c)}$	Thermal Resistance, Junction to Case	1.52	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{CEQ(SUS)}	Collector-Emitter Sustaining Voltage	I _C = -30mA; I _B =0	-60		V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = -5A; I _B = -0.5A		-1.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = -5A; I _B = -0.5A		-1.8	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = -5A; V _{CE} = -4V		-1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = -60V; I _B = 0		-1.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = -7.0V; I _C = 0		-1.0	mA
h _{FE-1}	DC Current Gain	I _C = -5A; V _{CE} = -4V	25		
h _{FE-2}	DC Current Gain	I _C = -10A; V _{CE} = -4V	5		
I _{s/b}	Second Breakdown Collector Current with Base Forward Biased	V _{CE} = -39V, t= 0.5s V _{CE} = -50V, t= 0.5s	-2.95 -0.60		A
f _T	Current Gain-Bandwidth Product	I _C = -0.5A; V _{CE} = -10V; f=1.0MHz	4		MHz

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