

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-
: $V_{CE(sat)} = -1.0 V(\text{Max}) @ I_C = -5A$
- Complement to Type BD311
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

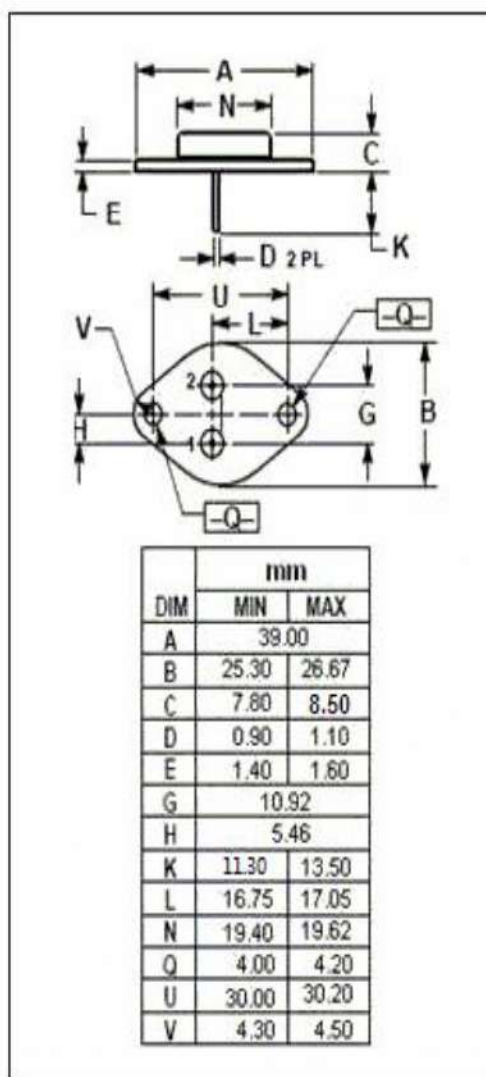
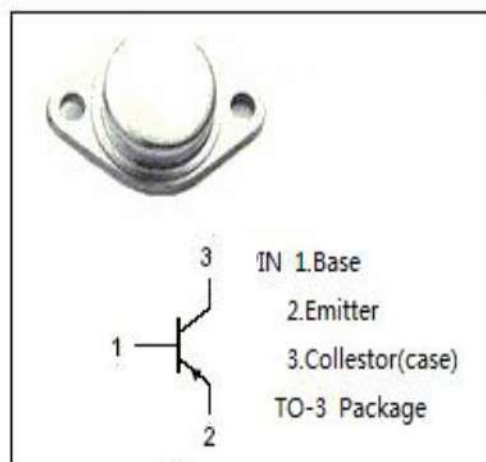
- Designed for high quality amplifiers operating up to 60 watts into 4 ohm load.

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	$^\circ\text{C/W}$



isc Silicon PNP Power Transistor**BD312****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

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

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