

isc Silicon NPN Power Transistor
BD313
DESCRIPTION

- Excellent Safe Operating Area
- DC Current Gain- $h_{FE} = 25(\text{Min.}) @ I_C = 4A$
- Collector-Emitter Saturation Voltage-
: $V_{CE(\text{sat})} = 1.0 \text{ V}(\text{Max}) @ I_C = 5A$
- Complement to Type BD314
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

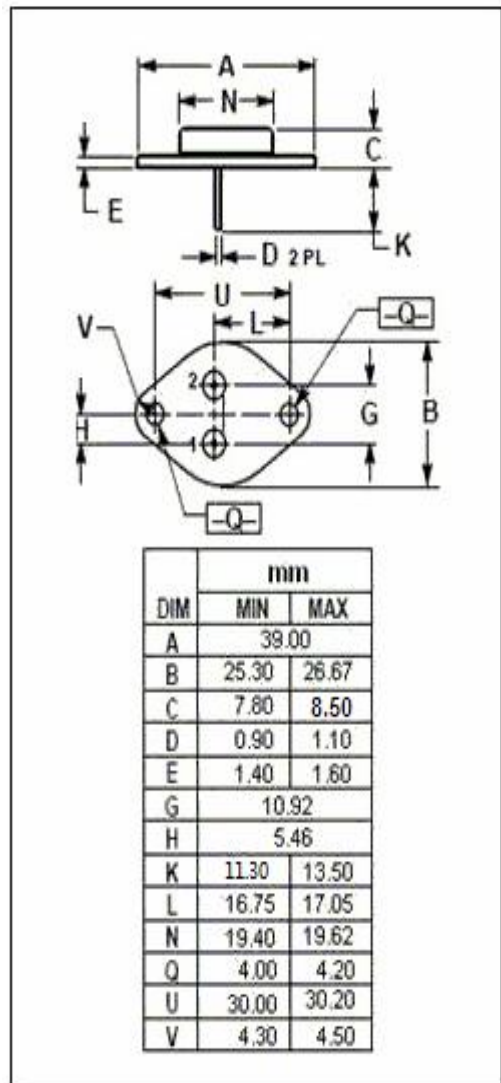
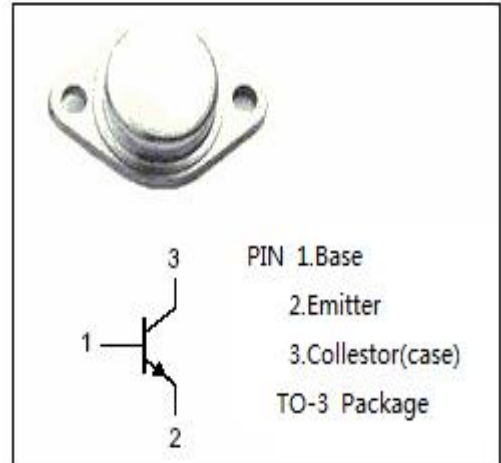
- Designed for high quality amplifiers operating up to 60 watts into 4 ohm load.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	80	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	$^\circ\text{C}/\text{W}$



isc Silicon NPN Power Transistor**BD313****ELECTRICAL CHARACTERISTICS**T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{CE0(SUS)}	Collector-Emitter Sustaining Voltage	I _C =30mA; I _B =0	80		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 = 4A; V _{CE} = 4V		1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 80V; 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 = 4A; V _{CE} = 4V	25		
h _{FE-2}	DC Current Gain	I _C = 10A; V _{CE} = 4V	5		
f _T	Current Gain-Bandwidth Product	I _C = 0.5A ; V _{CE} = 10V;f=1.0MHz	4		MHz

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