

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

APPLICATIONS

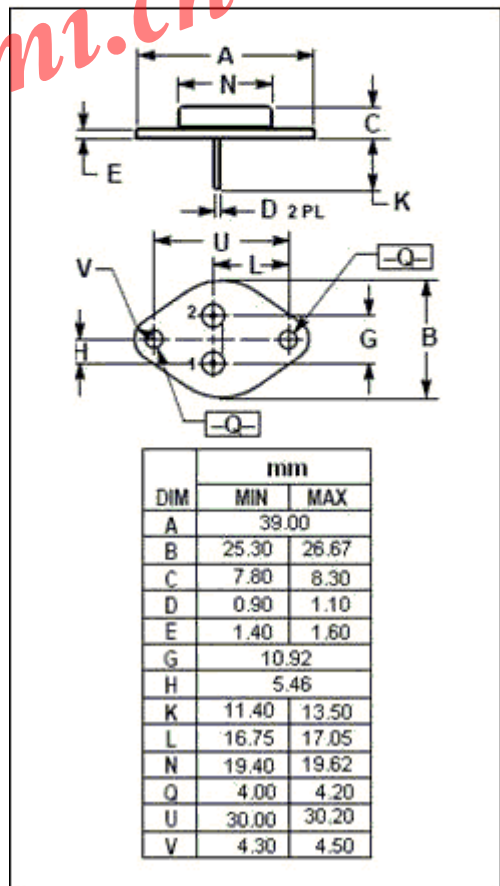
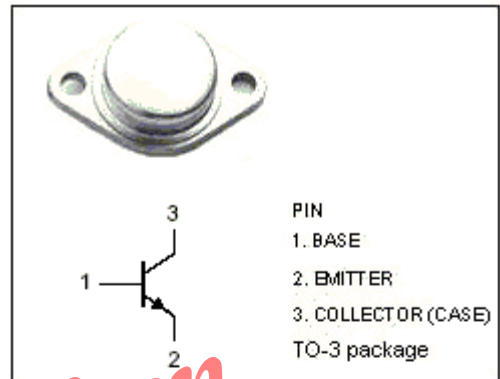
- Designed for high quality amplifiers operating up to 60 watts into 4 ohm load.

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
$R_{\text{th } j-c}$	Thermal Resistance, Junction to Case	1.52	$^\circ\text{C/W}$



isc Silicon NPN Power Transistor**BD313****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=200\text{mA}$; $I_B=0$	80		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	$I_C= 4\text{A}$; $V_{CE}= 4\text{V}$		1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}= 80\text{V}$; $I_B=0$		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	$I_C= 4\text{A}$; $V_{CE}= 4\text{V}$	25		
h_{FE-2}	DC Current Gain	$I_C= 10\text{A}$; $V_{CE}= 4\text{V}$	5		
f_T	Current Gain-Bandwidth Product	$I_C= 0.5\text{A}$; $V_{CE}= 10\text{V}$; $f=1.0\text{MHz}$	4		MHz