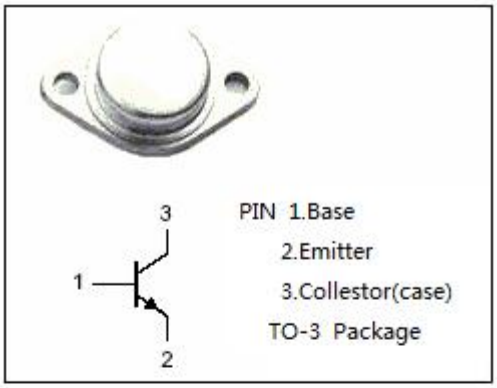
isc Silicon NPN Power Transistor BDX13

DESCRIPTION

- Excellent Safe Operating Area
- DC Current Gain-h_{FE}=15-60@I_C = 8A
- Collector-Emitter Saturation Voltage-
  : $V_{CE(sat)}$= 1.0 V(Max)@ I_C = 4A
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation.



APPLICATIONS

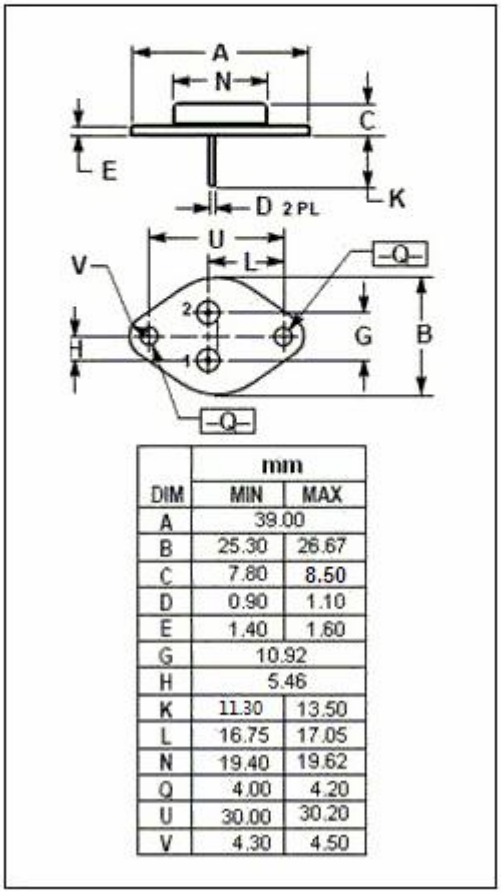
- Designed for general-purpose switching and amplifier applications

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	15	A
I_B	Base Current	7	A
P_C	Collector Power Dissipation@T_C=25℃	117	W
T_J, T_{stg}	Operating and Storage Junction Temperature Range	-65~+150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.52	℃/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

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C=30mA ; I_B=0	40		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 4A; I_B= 0.4A		1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 10A; I_B= 1A		3.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 4A ; V_{CE}= 4V		1.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}=50V ; I_E= 0		0.1	mA
I_{CEO}	Collector Cutoff Current	V_{CE}= 40V; I_B=0		0.5	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 6.0V; I_C=0		0.1	mA
h_{FE-1}	DC Current Gain	I_C= 1A ; V_{CE}= 4V	60	200	
h_{FE-2}	DC Current Gain	I_C= 8A ; V_{CE}= 4V	15	60	
h_{FE-2}	DC Current Gain	I_C= 10A ; V_{CE}= 4V	5.0		
f_T	Current Gain-Bandwidth Product	I_C= 0.5A ; V_{CE}= 10V;f=1.0MHz	2.5		MHz

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