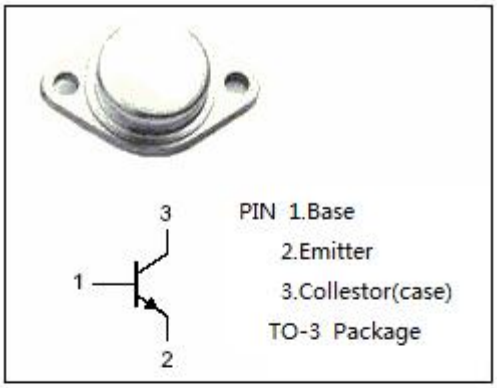
isc Silicon NPN Power Transistor BD112

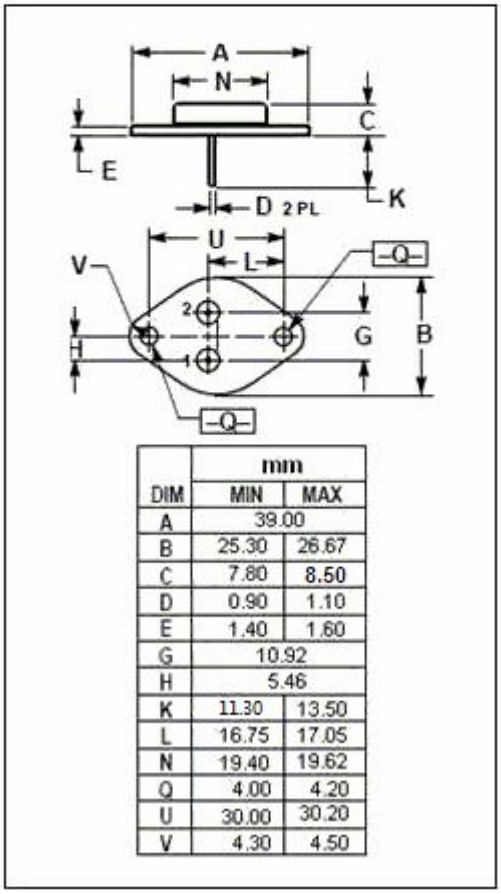
DESCRIPTION

- Excellent Safe Operating Area
- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 60V(Min)
- Collector-Emitter Saturation Voltage-
  : $V_{CE(sat)}$= 1.0V(Max)@ I_C = 5A
- Good Linearity of h_{FE}
- Minimum Lot-to-Lot variations for robust device performance and reliable operation.



APPLICATIONS

- Designed for general-purpose switching and amplifier applications



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

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	12	A
I_{CM}	Collector Current-Peak	15	A
I_B	Base Current-Continuous	2	A
P_C	Collector Power Dissipation@T_C=75℃	15	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

isc Silicon NPN Power Transistors BD112

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	60		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 5A; I_B= 0.5A		1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 10A; I_B= 1A		2.0	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	I_C= 5A; I_B= 0.5A		2.0	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	I_C= 10A; I_B= 1A		3.0	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 80V ; I_E= 0		0.1	mA
I_{CEO}	Collector Cutoff Current	V_{CE}= 60V; I_B=0		0.5	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 7.0V; I_C=0		0.1	mA
h_{FE-1}	DC Current Gain	I_C= 1A ; V_{CE}= 4V	50	130	
h_{FE-2}	DC Current Gain	I_C= 5A ; V_{CE}= 4V	20		
h_{FE-3}	DC Current Gain	I_C= 10A ; V_{CE}= 4V	8		
f_T	Current Gain-Bandwidth Product	I_C= 0.5A ; V_{CE}= 10V;f=1.0MHz	30		MHz