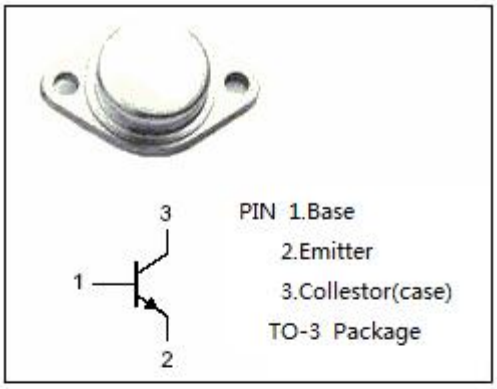
isc Silicon NPN Power Transistor — BUY21

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
  :$V_{(BR)CEO}$= 180V(Min.)
- Excellent Safe Operating Area
- High Speed Switching
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

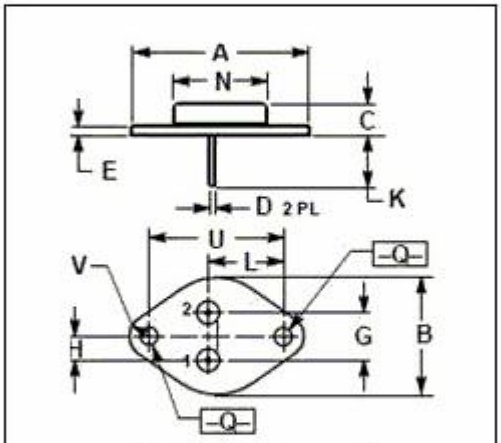


APPLICATIONS

- Designed for use in switching-control amplifiers, power gates,switching regulators, converters, and inverter.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	300	V
V_{CEO}	Collector-Emitter Voltage	180	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	10	A
I_{CM}	Collector Current-Peak	15	A
I_B	Base Current-Continuous	2	A
P_T	Total Power Dissipation @ T_C≤25℃	85	W
T_J	Junction Temperature	175	℃
T_{stg}	Storage Temperature Range	-65~175	℃



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

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	1.25	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 30mA ;I_B= 0	180			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 5A; I_B= 0.5A			0.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 10A; I_B= 1A			1.5	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	I_C= 5A; I_B= 0.5A			1.2	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	I_C= 10A; I_B= 1A			1.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}=300V; I_E=0			0.1	mA
I_{EBO}	Emitter Cutoff current	V_{EB}=6V; I_C=0			0.1	mA
h_{FE-1}	DC Current Gain	I_C= 1A ; V_{CE}= 5V	60			
h_{FE-2}	DC Current Gain	I_C= 2.5A ; V_{CE}= 5V	20		300	
h_{FE-3}	DC Current Gain	I_C= 10A ; V_{CE}= 5V	10			
f_T	Current-Gain—Bandwidth Product	I_C= 0.5 A;V_{CE}= 10V;f_{test} = 1MHz	10			MHz