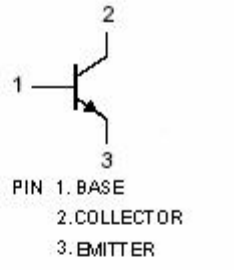
isc Silicon NPN Power Transistor — BUT11AI

DESCRIPTION

- High Voltage
- High Speed Switching
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

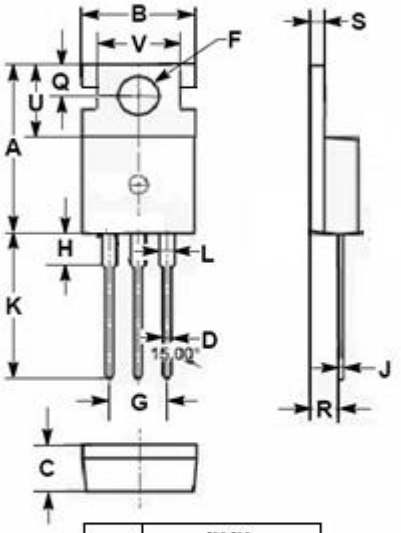
- Converters
- Inverters
- Switching regulators
- Motor control systems

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	1000	V
V_{CEO}	Collector-Emitter Voltage	450	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current-Continuous	5	A
I_{CM}	Collector Current-Peak	10	A
I_B	Base Current	2	A
P_C	Collector Power Dissipation @T_C=25℃	100	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

THERMAL CHARACTERISTICS

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



DIM	mm MIN	MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

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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= 10mA; I_B= 0	450			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 2.5A; I_B= 0.33A			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 2.5A; I_B= 0.33A			1.3	V
I_{CES}	Collector Cutoff Current	V_{CE}=RatedV_{CES} ;V_{BE}= 0 V_{CE}=RatedV_{CES} ;V_{BE}= 0;T_C=125℃			1 2	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 9V; I_C= 0			10	mA
h_{FE-1}	DC Current Gain	I_C= 5mA; V_{CE}= 5V	10		35	
h_{FE-2}	DC Current Gain	I_C= 0.5A; V_{CE}= 5V	14		35	
h_{FE-3}	DC Current Gain	I_C= 2.5A; V_{CE}= 5V	9		17	
Switching Times; Resistive Load						
t_{on}	Turn-on Time	I_C= 2.5A;I_{B1}= -I_{B2}= 0.5A			1.0	μs
t_s	Storage Time				4.0	μs
t_f	Fall Time				0.8	μs

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