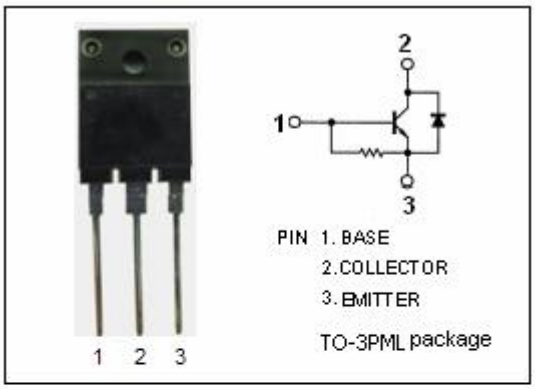
isc Silicon NPN Power Transistor — BUW12AF

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 450V(Min.)
- Low Collector Saturation Voltage-
  : $V_{CE(sat)}$= 1.5V(Max.)@I_C= 5A
- High Speed Switching
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

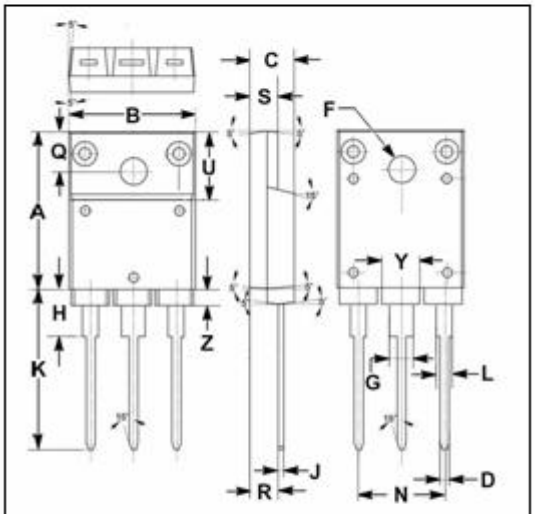
- Designed for high voltage, fast switching industrial applications.

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	8	A
I_{CM}	Collector Current-Peak	20	A
I_B	Base Current	4	A
I_{BM}	Base Current-Peak	6	A
P_C	Collector Power Dissipation @T_C=25℃	34	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	3.7	℃/W



DIM	mm MIN	MAX
A	19.90	20.10
B	15.75	16.10
C	5.50	5.70
D	0.90	1.10
F	3.30	3.50
G	2.90	3.20
H	5.90	6.10
J	0.595	0.70
K	21.10	22.50
L	1.90	2.25
N	10.80	11.00
Q	4.90	5.10
R	3.75	3.95
S	3.20	3.60
U	9.90	10.10
Y	4.20	4.90
Z	1.90	2.10

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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= 50mA; I_B= 0	450			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 5A; I_B= 1A			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 5A; I_B= 1A			1.5	V
I_{CES}	Collector Cutoff Current	V_{CE}=V_{CES} ;V_{BE}= 0 V_{CE}=V_{CES} ;V_{BE}= 0;T_C=125℃			1.0 3.0	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 9V; I_C= 0			10	mA
h_{FE-1}	DC Current Gain	I_C= 10mA; V_{CE}= 5V	10		35	
h_{FE-2}	DC Current Gain	I_C= 1A; V_{CE}= 5V	10		35	
Switching Times; Resistive Load						
t_{on}	Turn-on Time	I_C= 5A;I_{B1}= -I_{B2}= 1A			1.0	μs
t_s	Storage Time				4.0	μs
t_f	Fall Time				0.8	μs

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