

Features

- Low Forward Voltage Drop.
- Excellent High Temperature Stability.
- Super Barrier Design.
- Soft, Fast Switching Capability.



Lead-free



Typical Applications

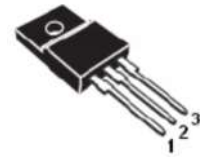
Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications.

Mechanical Data

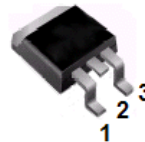
- Case: TO-220AB、ITO-220AB、TO-263.
- Molding compound, UL flammability classification rating 94V-0.
- Terminals: Matte tin plated leads, solderable per MIL-STD-202, Method 208.



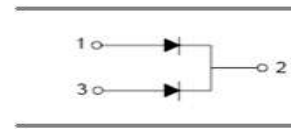
SBT20300CT
TO-220AB



SBTF20300CT
ITO-220AB



SBTB20300CT
TO-263



Ordering Information

Part Number	Package	Shipping	Marking Code
SBT20300CT□	TO-220AB	50/Tube	SBT20300CT
SBTF20300CT□	ITO-220AB	50/Tube	SBTF20300CT
SBTB20300CT□	TO-263	50/Tube or 800/Tape Reel	SBTB20300CT

□: none is for Lead Free package;

“G” is for Halogen Free package.

Maximum Ratings (@ $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Characteristic	Symbol	Value	Units
Peak repetitive reverse voltage	V_{RRM}	300	V
RMS reverse voltage	V_{RMS}	212	V
DC blocking voltage	V_{DC}	300	V
Maximum average forward output current	$I_{F(AV)}$	20	A
Peak forward surge current, 8.3ms single half-sine-wave	I_{FSM}	180	A

Thermal Characteristics

Parameter	Symbol	SBT20300CT	SBTF20300CT	SBTB20300CT	Units
Typical thermal resistance per leg	$R_{\theta JC}$	2	4	3	$^{\circ}C/W$
Operating junction temperature range	T_J	150			$^{\circ}C$
Storage temperature range	T_{STG}	-55 to +150			$^{\circ}C$

Electrical Characteristics (@ $T_A=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Testconditions	Min.	Typ.	Max.	Units
Forward Voltage	V_F^*	$I_F=3A, T_J=25^{\circ}C$	-	0.73	0.79	V
		$I_F=10A, T_J=25^{\circ}C$	-	0.84	0.95	
MaximumPeakReverse Current	I_R^*	$V_R= \text{Rated } V_{RRM}, T_J=25^{\circ}C$	-	-	2	μA
		$V_R= \text{Rated } V_{RRM}, T_J=125^{\circ}C$	-	-	20	mA

*Pulse width < 300 μS , Duty cycle < 2%

Ratings and Characteristic Curves ($T_A=25^{\circ}C$ unless otherwise noted)

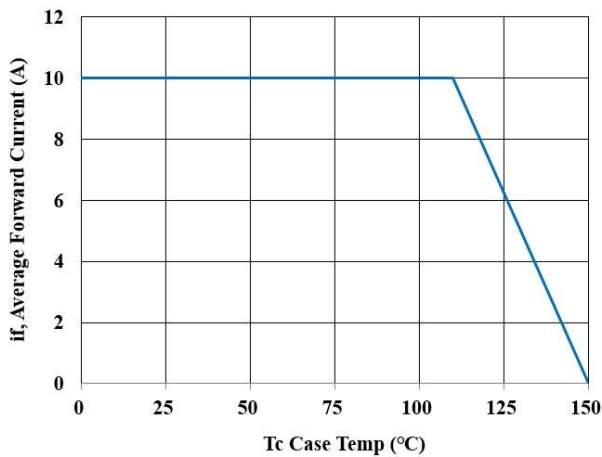


Fig.1-Current Derating Curve

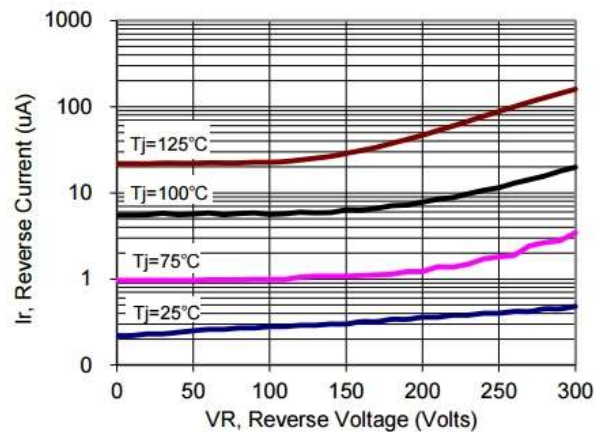


Fig.2- Typical Reverse Characteristic

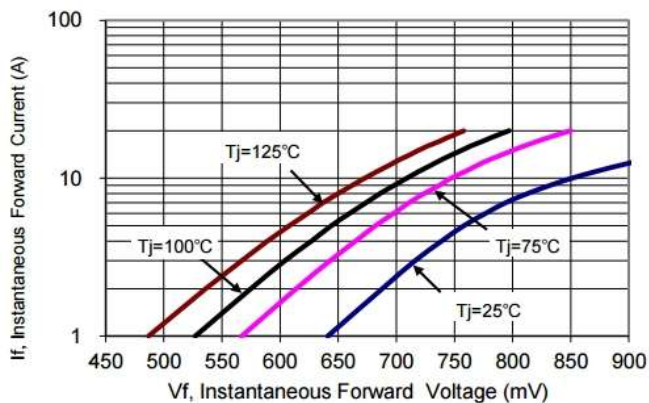
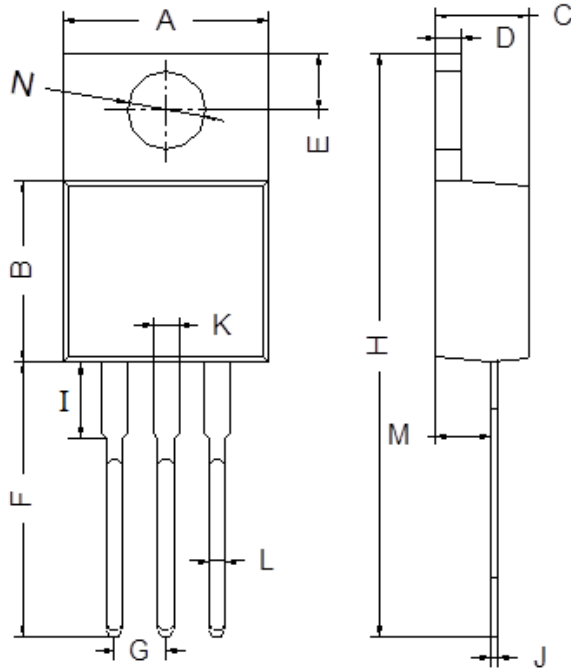


Fig.3- Forward Characteristics

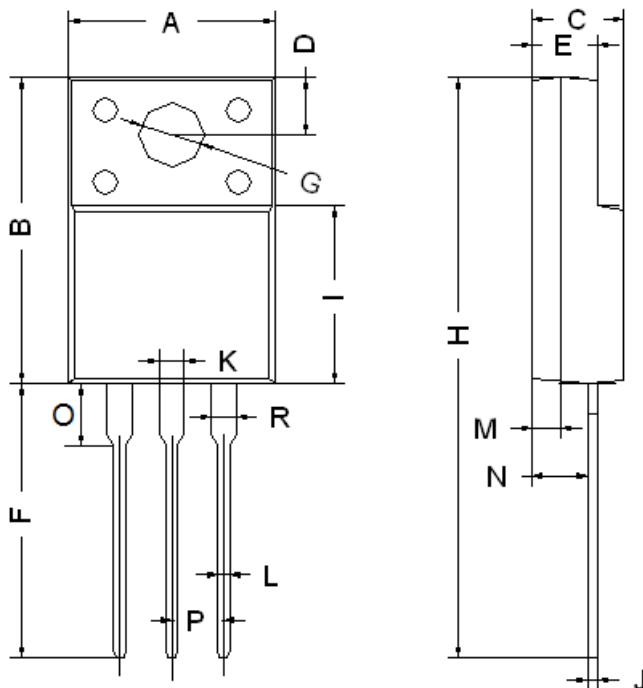
Package Outline Dimensions (unit:mm)

TO-220AB



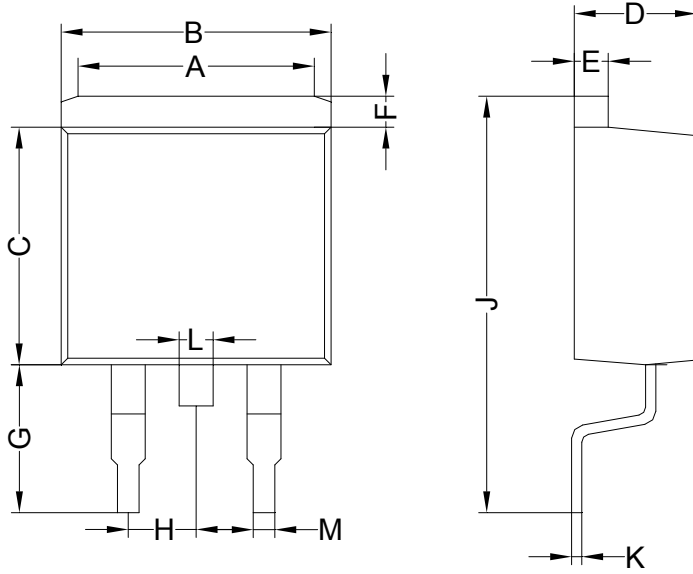
TO-220AB		
Dim	Min	Max
A	9.80	10.30
B	8.70	9.10
C	4.37	4.77
D	1.07	1.47
E	2.64	2.84
F	13.14	13.74
G	2.44	2.64
H	28.03	28.83
I	3.50	4.00
J	0.28	0.48
K	1.22	1.32
L	0.71	0.91
M	2.40	2.60
N	3.76	3.96

ITO-220AB



ITO-220AB		
Dim	Min	Max
A	9.90	10.30
B	14.80	15.20
C	4.30	4.70
D	2.50	2.90
E	2.80	3.30
F	13.00	13.60
G	3.10	3.30
H	28.00	28.60
I	7.90	8.90
J	0.40	0.60
L	0.70	0.90
M	1.30	1.50
N	2.60	2.80
O	2.60	3.10
P	2.45	2.65
K/R	1.10	1.30

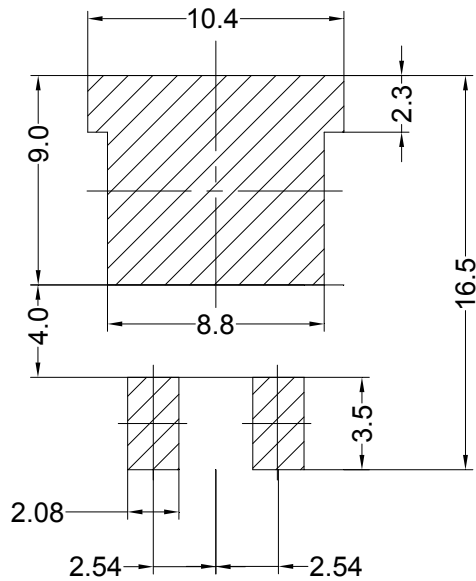
TO-263



TO-263		
A	7.30	7.70
B	9.90	10.30
C	8.70	9.10
D	4.37	4.77
E	1.07	1.47
F	1.06	1.26
G	5.34	5.74
H	2.44	2.64
J	15.30	15.90
K	0.28	0.48
L	1.17	1.37
M	0.71	0.91

Mounting Pad Layout(unit:mm)

TO-263



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