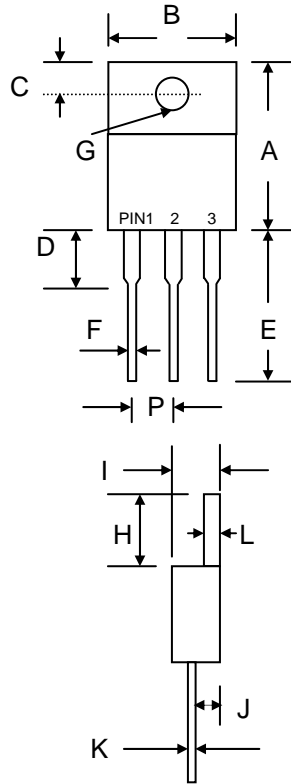


Features

- Schottky Barrier Chip
- Guard Ring for Transient Protection
- Low Forward Voltage Drop
- Low Power Loss, High Efficiency
- High Surge Current Capability
- Epoxy Meets UL 94V-0 Classification
- Ideally Suited for Use in High Frequency SMPS, Inverters and As Free Wheeling Diodes

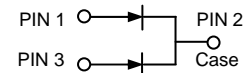
Mechanical Data

- Case: TO-220, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 1.9 grams (approx.)
- Mounting Position: Any
- Mounting Torque: 0.6 N.m Max.
- **Lead Free: For RoHS / Lead Free Version, Add "-LF" Suffix to Part Number, See Page 4**



TO-220		
Dim	Min	Max
A	13.90	15.90
B	9.80	10.70
C	2.54	3.43
D	3.56	4.56
E	12.70	14.73
F	0.51	0.96
G	3.55 Ø	4.09 Ø
H	5.75	6.85
I	4.16	5.00
J	2.03	2.92
K	0.30	0.65
L	1.14	1.40
P	2.29	2.79

All Dimensions in mm



Maximum Ratings and Electrical Characteristics @_{T_A}=25°C unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	SB	SB	SB	SB	SB	SB	SB	SB	Unit	
		620CT	630CT	640CT	645CT	650CT	660CT	680CT	6100CT		
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	20	30	40	45	50	60	80	100	V	
RMS Reverse Voltage	V _{R(RMS)}	14	21	28	32	35	42	56	70	V	
Average Rectified Output Current @ _{T_C} = 100°C	I _O	6.0 3.0								A	
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	75								A	
Forward Voltage per diode @ _{I_F} = 3.0A	V _{FM}	0.55			0.75		0.85			V	
Peak Reverse Current At Rated DC Blocking Voltage	I _{RM}	0.2				15					mA
Typical Junction Capacitance (Note 1)	C _J	300			200		150			pF	
Thermal Resistance Junction to Ambient per diode Thermal Resistance Junction to Case per diode	R _{JA} R _{JC}	60				3.0					°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150								°C	

Note: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

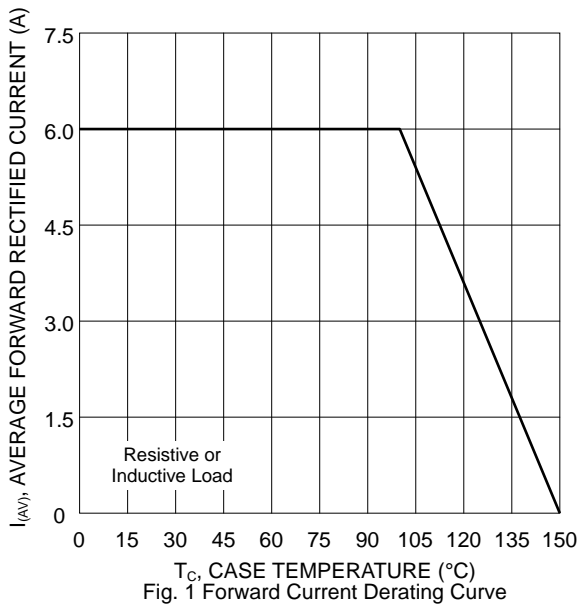


Fig. 1 Forward Current Derating Curve

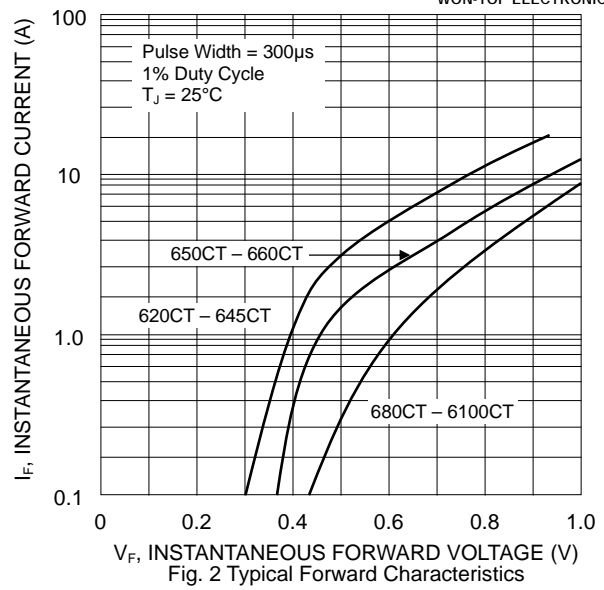


Fig. 2 Typical Forward Characteristics

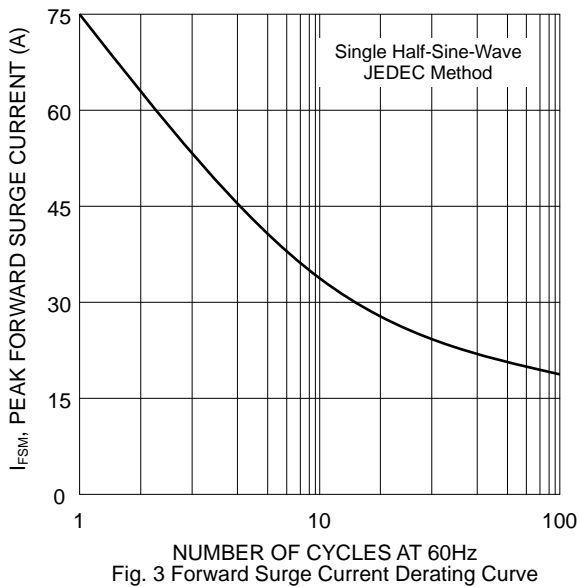


Fig. 3 Forward Surge Current Derating Curve

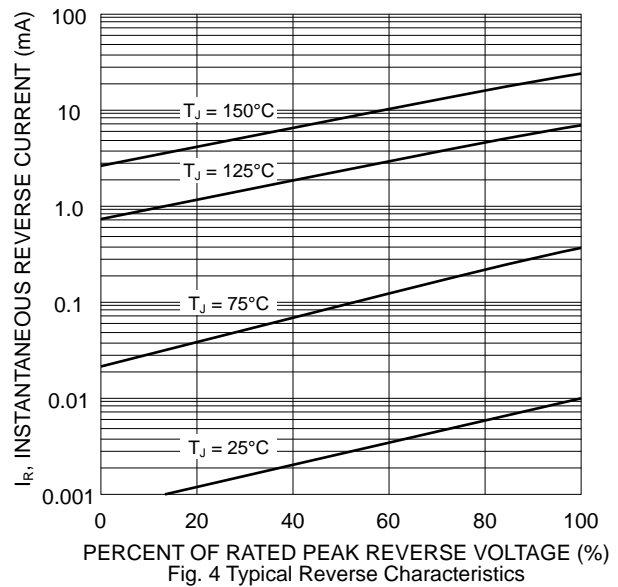


Fig. 4 Typical Reverse Characteristics

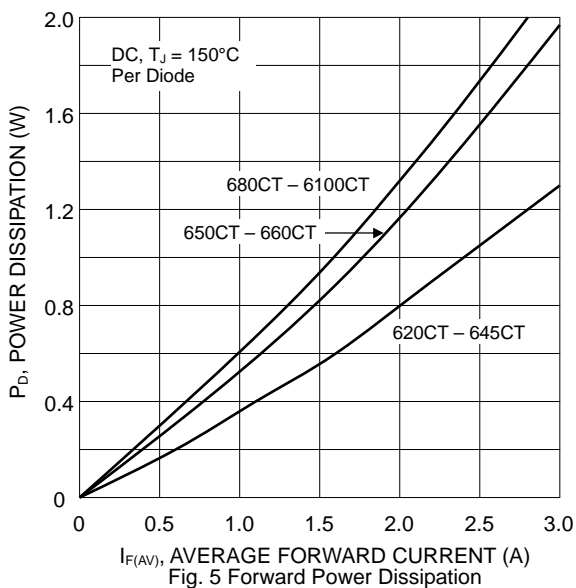


Fig. 5 Forward Power Dissipation

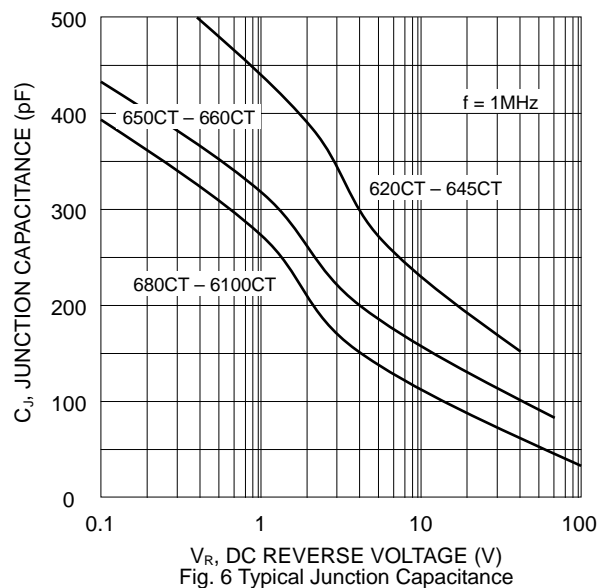
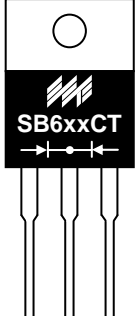


Fig. 6 Typical Junction Capacitance

MARKING INFORMATION



SB6xxCT = Device Number
xx = 20, 30, 40, 45, 50, 60, 80 or 100
Polarity = As Marked on Body

PACKAGING INFORMATION

BULK

Tube Size L x W x H (mm)	Quantity (PCS)	Inner Box Size L x W x H (mm)	Quantity (PCS)	Carton Size L x W x H (mm)	Quantity (PCS)	Approx. Gross Weight (KG)
525 x 31 x 6	50	555 x 145 x 95	2,000	572 x 306 x 218	8,000	19.0

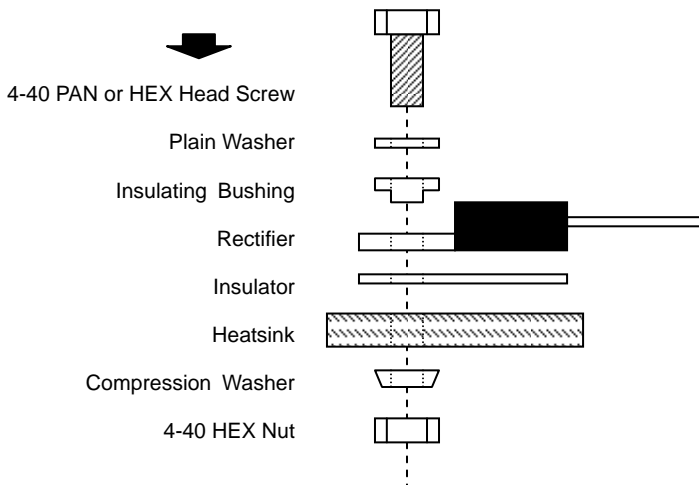
Note: 1. Anti-static tube, water clear color.

RECOMMENDED SCREW MOUNTING ARRANGEMENT

Recommended isolated mounting when screw is at heatsink potential. 4-40 hardware is used.

Screw should not be tightened with any type of air-forced torque or equipment that may cause high impact on device package. The insulating bushing inside the mounting hole will insure the screw threads do not contact the metal base.


The interface should apply a layer of thermal grease or a highly conductive thermal pad for better heat dissipation.



ORDERING INFORMATION

Product No.	Package Type	Shipping Quantity
SB620CT	TO-220	50 Units/Tube
SB630CT	TO-220	50 Units/Tube
SB640CT	TO-220	50 Units/Tube
SB645CT	TO-220	50 Units/Tube
SB650CT	TO-220	50 Units/Tube
SB660CT	TO-220	50 Units/Tube
SB680CT	TO-220	50 Units/Tube
SB6100CT	TO-220	50 Units/Tube

1. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
2. **To order RoHS / Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, SB620CT-LF.**

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WARNING: DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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