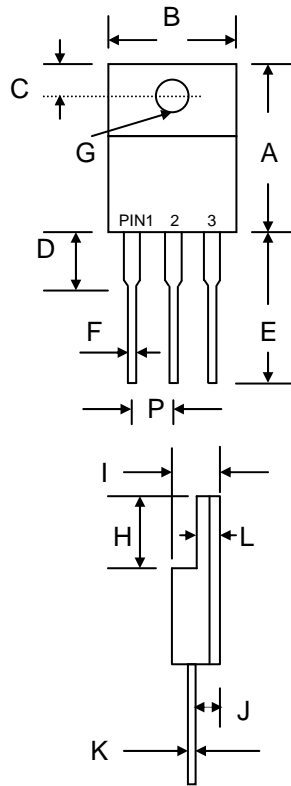


### Features

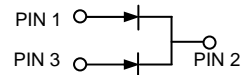
- Schottky Barrier Chip
- Guard Ring for Transient Protection
- Low Forward Voltage Drop
- Low Power Loss, High Efficiency
- High Surge Current Capability
- Epoxy Meets UL 94V-0 Classification
- Ideally Suited for Use in High Frequency SMPS, Inverters and As Free Wheeling Diodes

### Mechanical Data

- Case: ITO-220, Full 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**



ITO-220		
Dim	Min	Max
A	14.60	15.40
B	9.70	10.30
C	2.55	2.85
D	—	4.16
E	13.00	13.80
F	0.50	0.75
G	3.00 Ø	3.50 Ø
H	6.30	6.90
I	4.20	4.80
J	2.50	2.90
K	0.50	0.75
L	2.60	3.30
P	2.29	2.79
All Dimensions in mm		



### Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ 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	
		2020FCT	2030FCT	2040FCT	2045FCT	2050FCT	2060FCT	2080FCT	20100FCT		
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 @ $T_C = 100^\circ\text{C}$ Total Device Per Diode	$I_O$	20 10								A	
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	150								A	
Forward Voltage per diode @ $I_F = 10\text{A}$ , $T_J = 25^\circ\text{C}$ @ $I_F = 10\text{A}$ , $T_J = 125^\circ\text{C}$	$V_{FM}$	0.55 0.50				0.75 0.65		0.85 0.75		V	
Peak Reverse Current At Rated DC Blocking Voltage @ $T_J = 25^\circ\text{C}$ @ $T_J = 100^\circ\text{C}$	$I_{RM}$	0.5 20									mA
Typical Junction Capacitance (Note 1)	$C_J$	650				350				pF	
Thermal Resistance Junction to Ambient per diode Thermal Resistance Junction to Case per diode	$R_{JA}$ $R_{JC}$	62 4.0									$^\circ\text{C/W}$
RMS Isolation Voltage, $t = 1$ min	$V_{ISO}$	1500									V
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150									$^\circ\text{C}$

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

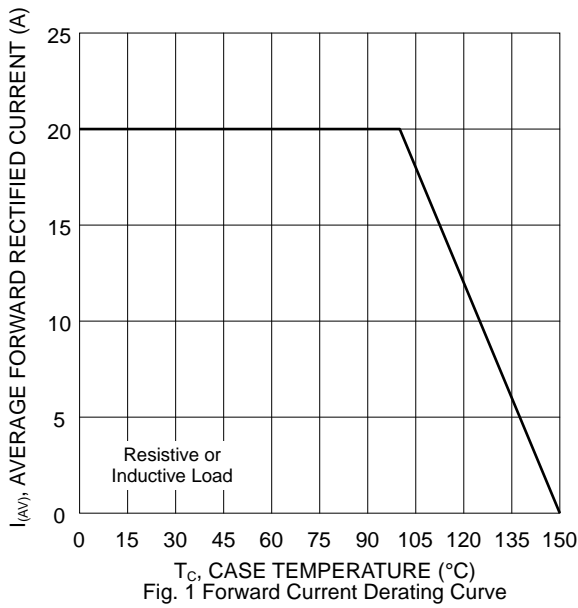


Fig. 1 Forward Current Derating Curve

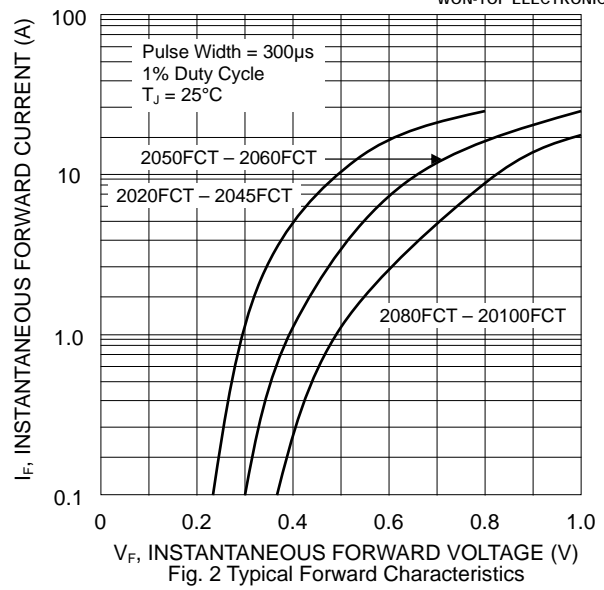


Fig. 2 Typical Forward Characteristics

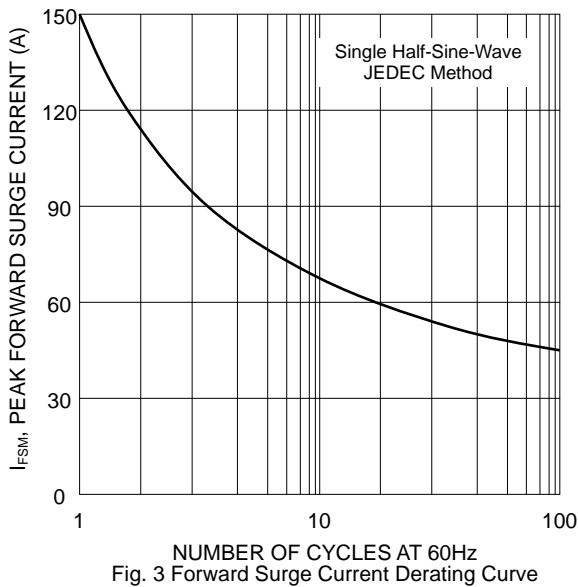


Fig. 3 Forward Surge Current Derating Curve

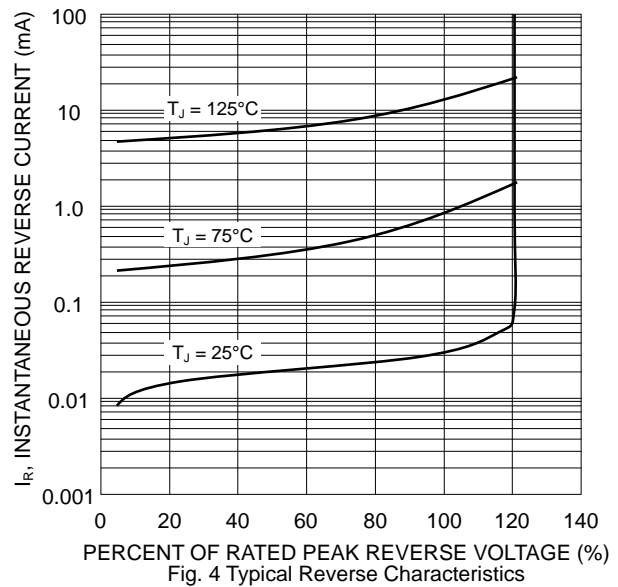


Fig. 4 Typical Reverse Characteristics

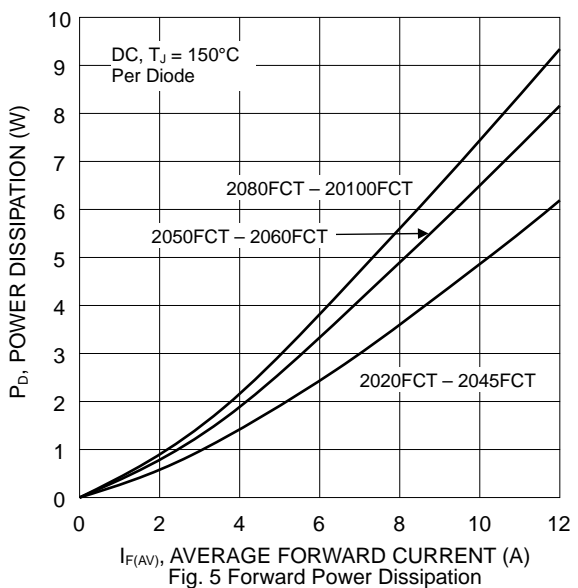


Fig. 5 Forward Power Dissipation

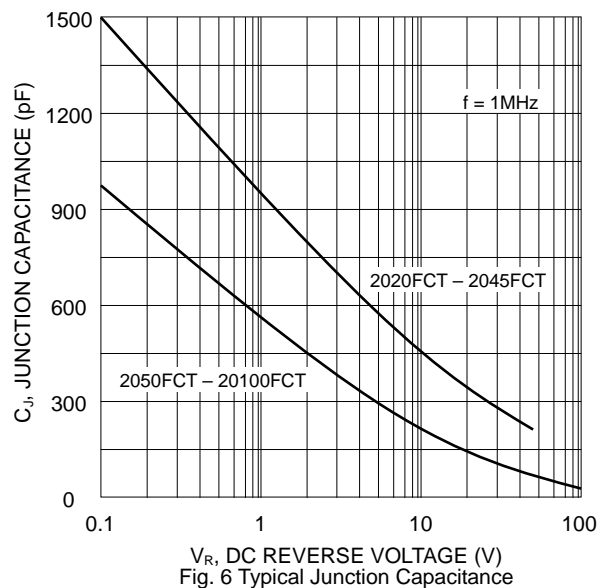


Fig. 6 Typical Junction Capacitance

## MARKING INFORMATION



SB20xxFCT = 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

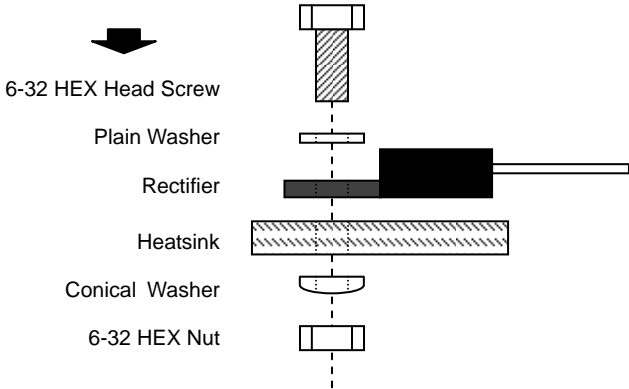
**Note:** 1. Anti-static tube, water clear color.

## RECOMMENDED SCREW MOUNTING ARRANGEMENT

The full molded plastic package affords a major reduction of hardware as compared to a standard TO-220 package. However, precautions should be made in mounting procedure.

A conical washer should be used to apply proper force to the device. Screw should not be tightened with any type of air-forced torque or equipment that may cause crack on device package.

A layer of thermal grease or thermal pad in the interface will be considerably helpful for heat dissipation.



## ORDERING INFORMATION

Product No.	Package Type	Shipping Quantity
SB2020FCT	ITO-220	50 Units/Tube
SB2030FCT	ITO-220	50 Units/Tube
SB2040FCT	ITO-220	50 Units/Tube
SB2045FCT	ITO-220	50 Units/Tube
SB2050FCT	ITO-220	50 Units/Tube
SB2060FCT	ITO-220	50 Units/Tube
SB2080FCT	ITO-220	50 Units/Tube
SB20100FCT	ITO-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, SB2020FCT-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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