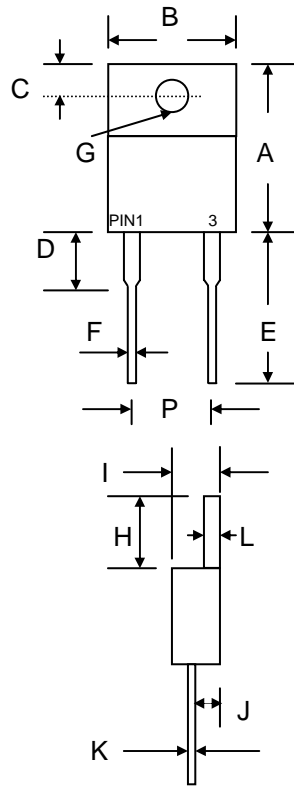


## Features

- Schottky Barrier Chip
- Guard Ring for Transient Protection
- Low Forward Voltage Drop
- Low Reverse Leakage Current
- High Surge Current Capability
- Plastic Material has UL Flammability Classification 94V-O

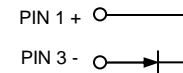
## Mechanical Data

- Case: ITO-220A, Full Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 2.24 grams (approx.)
- Mounting Position: Any
- Mounting Torque: 11.5 cm·kg (10 in·lbs) Max.
- **Lead Free: For RoHS / Lead Free Version, Add "-LF" Suffix to Part Number, See Page 4**



ITO-220A		
Dim	Min	Max
A	14.60	15.40
B	9.70	10.30
C	2.55	2.85
D	3.56	4.16
E	13.00	13.80
F	0.30	0.90
G	3.00 Ø	3.50 Ø
H	6.30	6.90
I	4.20	4.80
J	2.50	2.90
K	0.36	0.80
L	2.90	3.30
P	4.83	5.33

All Dimensions in mm



## Maximum Ratings and Electrical Characteristics @<sub>T<sub>A</sub></sub>=25°C unless otherwise specified

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

Characteristic	Symbol	SB 620F	SB 630F	SB 640F	SB 645F	SB 650F	SB 660F	SB 680F	SB 6100F	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>									V
Working Peak Reverse Voltage	V <sub>RWM</sub>	20	30	40	45	50	60	80	100	
DC Blocking Voltage	V <sub>R</sub>									
RMS Reverse Voltage	V <sub>R(RMS)</sub>	14	21	28	32	35	42	56	70	V
Average Rectified Output Current @ <sub>T<sub>C</sub></sub> = 75°C	I <sub>O</sub>	6.0								A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	75								A
Forward Voltage @ <sub>I<sub>F</sub></sub> = 6.0A	V <sub>FM</sub>	0.55			0.75		0.85			V
Peak Reverse Current @ <sub>T<sub>A</sub></sub> = 25°C	I <sub>RM</sub>	0.2								mA
At Rated DC Blocking Voltage @ <sub>T<sub>A</sub></sub> = 100°C		15								
Typical Junction Capacitance (Note 1)	C <sub>j</sub>	400								pF
Typical Thermal Resistance (Note 2)	R <sub>θJC</sub>	5.0								°C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-65 to +150								°C

Note: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.  
2. Thermal resistance junction to case mounted on heatsink.

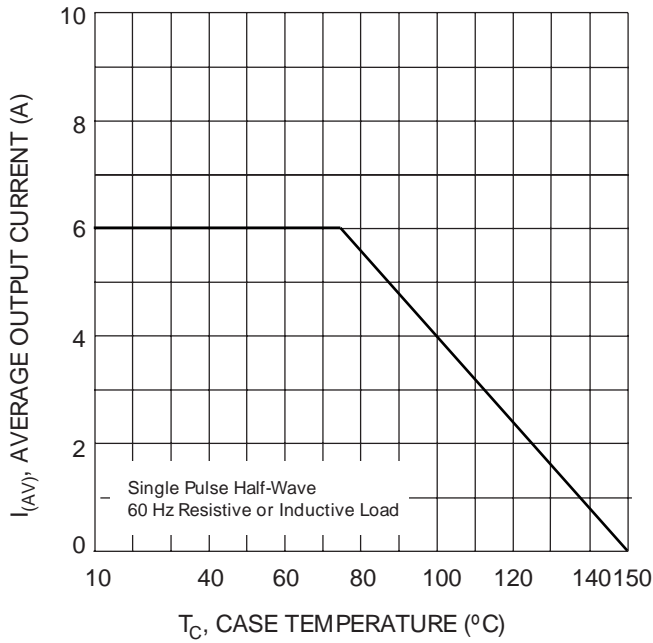


Fig. 1 Forward Current Derating Curve

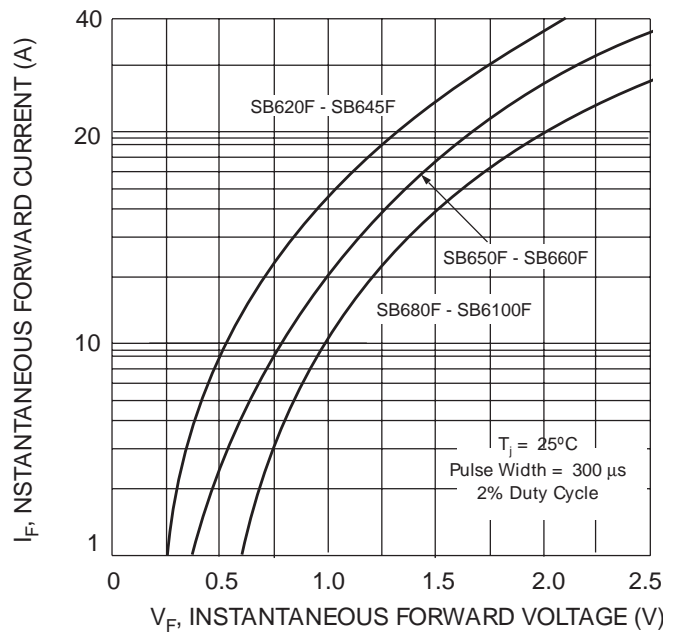


Fig. 2 Typical Forward Characteristics

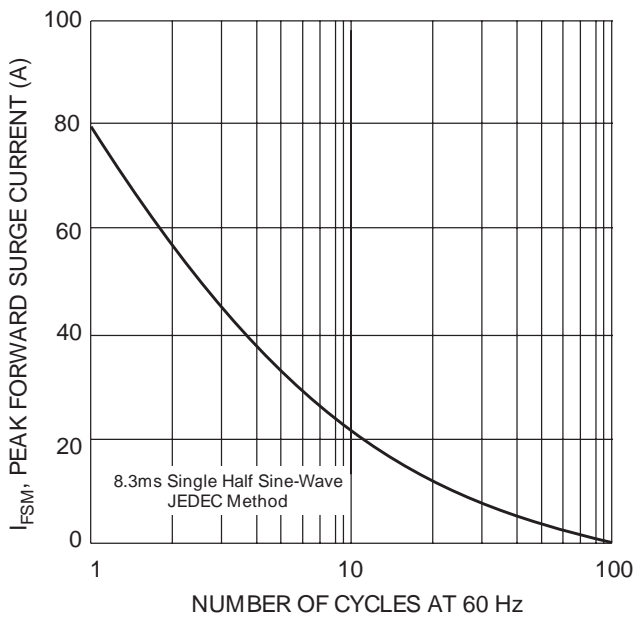


Fig. 3 Maximum Non-Repetitive Peak Fwd Surge Current

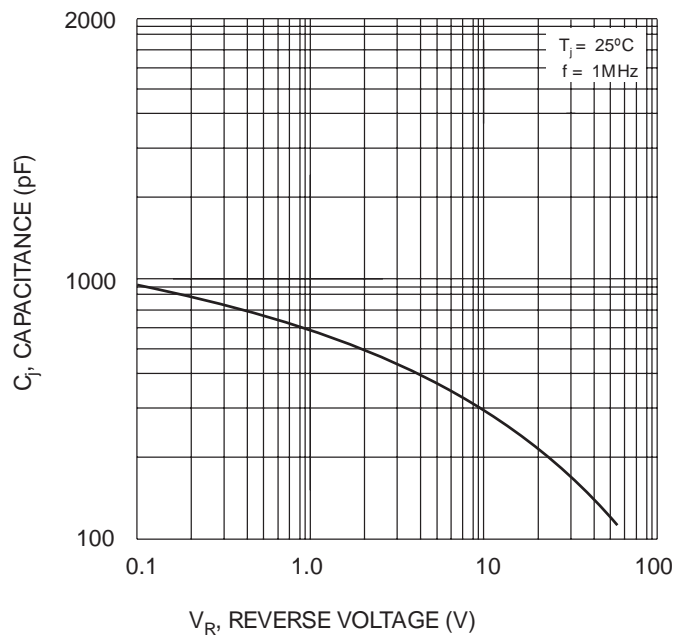
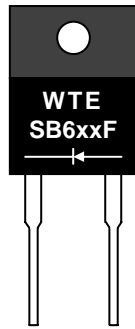


Fig. 4 Typical Junction Capacitance

## MARKING INFORMATION



WTE = Manufacturer's Logo  
 SB6xxF = 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

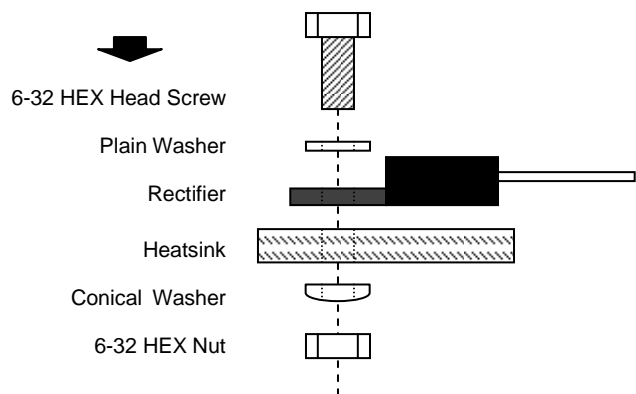
**Note:** 1. Anti-static tube, water clear color.

## 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
SB620F	ITO-220A	50 Units/Tube
SB630F	ITO-220A	50 Units/Tube
SB640F	ITO-220A	50 Units/Tube
SB645F	ITO-220A	50 Units/Tube
SB650F	ITO-220A	50 Units/Tube
SB660F	ITO-220A	50 Units/Tube
SB680F	ITO-220A	50 Units/Tube
SB6100F	ITO-220A	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, SB620F-LF.**

Won-Top Electronics Co., Ltd (WTE) has checked all information carefully and believes it to be correct and accurate. However, WTE cannot assume any responsibility for inaccuracies. Furthermore, this information does not give the purchaser of semiconductor devices any license under patent rights to manufacturer. WTE reserves the right to change any or all information herein without further notice.

**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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