

# SB1020F – SB10100F

10A SCHOTTKY BARRIER RECTIFIER

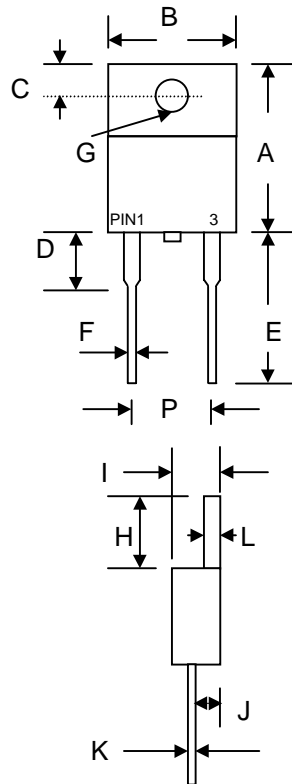


## Features

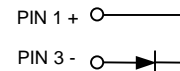
- Schottky Barrier Chip
- Guard Ring for Transient Protection
- Low Forward Voltage Drop
- Low Reverse Leakage Current
- High Surge Current Capability
- Plastic Material has UL Flammability Classification 94V-O

## 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 @ $T_A=25^\circ\text{C}$ unless otherwise specified

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

Characteristic	Symbol	SB 1020F	SB 1030F	SB 1040F	SB 1045F	SB 1050F	SB 1060F	SB 1080F	SB 10100F	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	20	30	40	45	50	60	80	100	V
Working Peak Reverse Voltage	$V_{RWM}$									
DC Blocking Voltage	$V_R$									
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	32	35	42	56	70	V
Average Rectified Output Current @ $T_L = 95^\circ\text{C}$	$I_O$	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 @ $I_F = 10\text{A}$	$V_{FM}$	0.55			0.75		0.85			V
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$	$I_{RM}$					0.5				mA
Typical Junction Capacitance (Note 1)	$C_j$					700				pF
Typical Thermal Resistance (Note 2)	$R_{\theta JC}$					4.0				$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_j, T_{STG}$	-65 to +150								$^\circ\text{C}$

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.

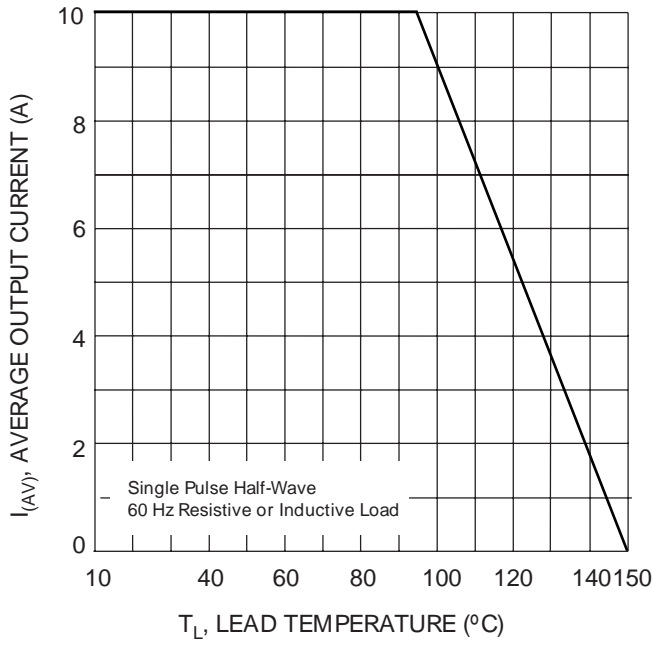


Fig. 1 Forward Current Derating Curve

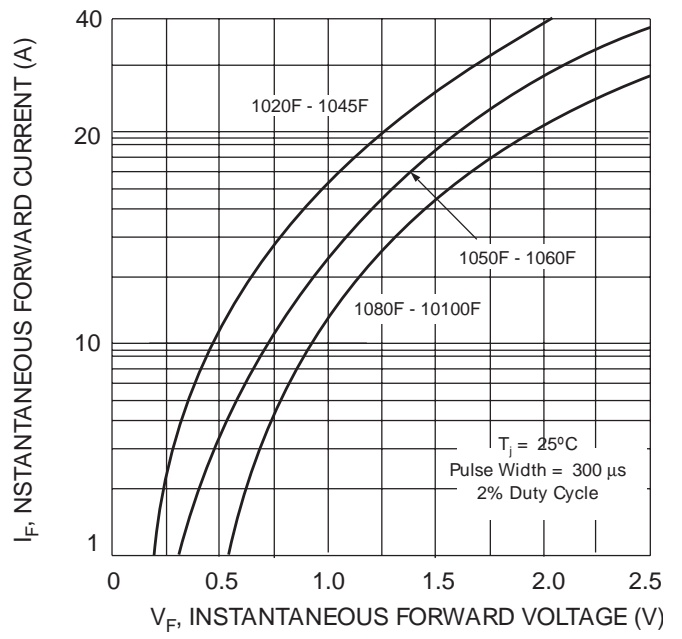


Fig. 2 Typical Forward Characteristics

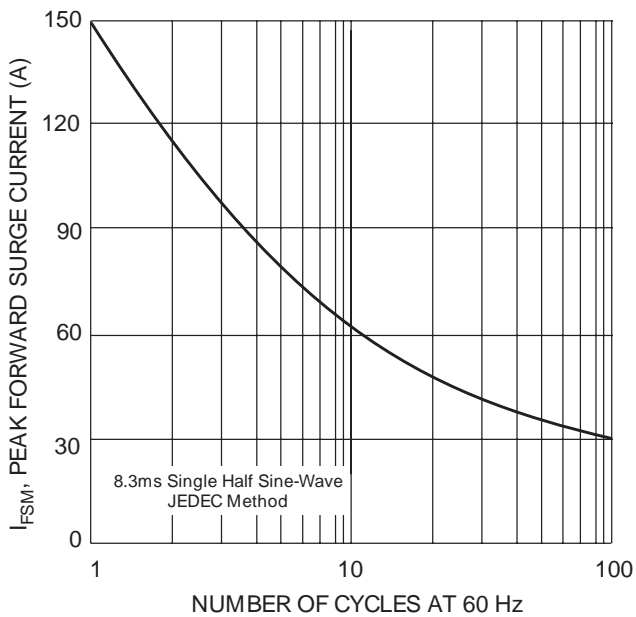


Fig. 3 Maximum Non-Repetitive Peak Fwd Surge Current

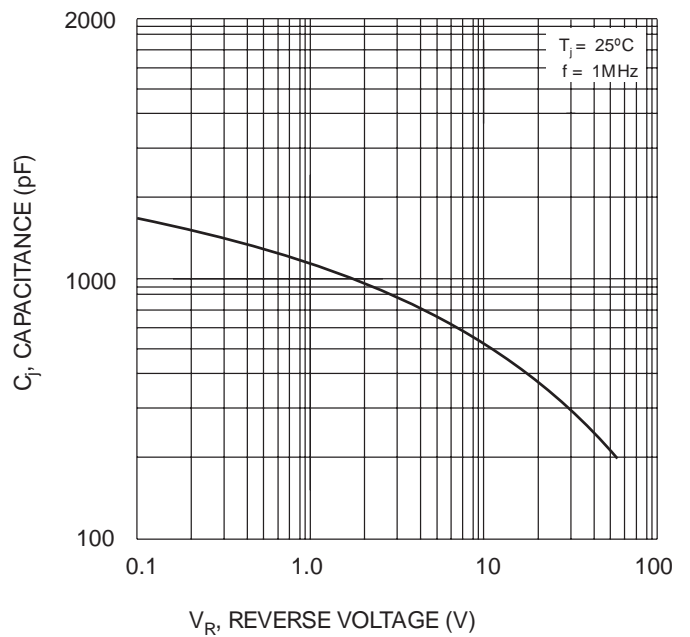
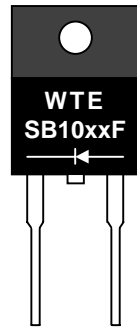


Fig. 4 Typical Junction Capacitance

**MARKING INFORMATION**



WTE = Manufacturer's Logo  
 SB10xxF = 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

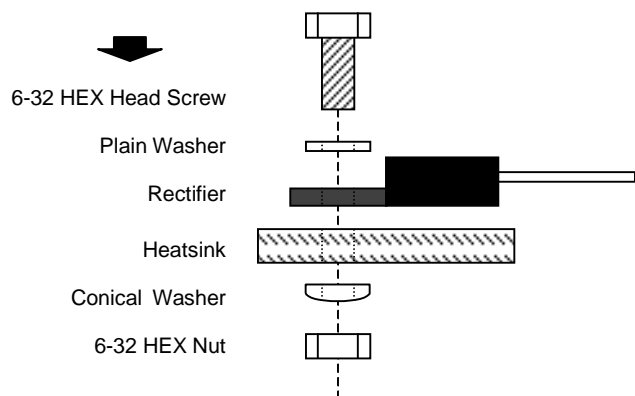
**Note:** 1. Anti-static tube, water clear color.

**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
SB1020F	ITO-220A	50 Units/Tube
SB1030F	ITO-220A	50 Units/Tube
SB1040F	ITO-220A	50 Units/Tube
SB1045F	ITO-220A	50 Units/Tube
SB1050F	ITO-220A	50 Units/Tube
SB1060F	ITO-220A	50 Units/Tube
SB1080F	ITO-220A	50 Units/Tube
SB10100F	ITO-220A	50 Units/Tube

- Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
- To order RoHS / Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, SB1020F-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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