SINLOON®

肖特基二極管

Case: ITO-220A

SB820F - SB8100F

8.0A Schottky Barrier Rectifier

☐ Feature

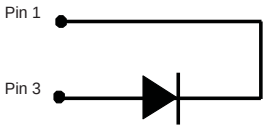
Figure

- ◆ 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-0

☐ Mechanical Data

- ◆ Case: ITO-220A, Full Moldes 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.

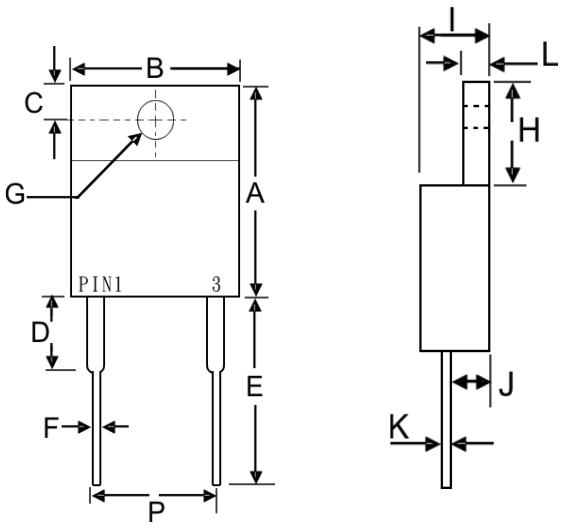
☐ Electrical Sambol



☐ Dimension

Case: ITO-220A (mm)

Dim.	Min.	Max.
A	14.6	15.4
B	9.7	10.3
C	2.55	2.85
D	3.56	4.16
E	13.0	13.8
F	0.3	0.9
G (Φ)	3.0	3.5
H	6.3	6.9
I	4.2	4.8
J	2.5	2.9
K	0.36	0.8
L	2.9	3.3
P	4.83	5.33



☐ Marking Information

SB8xxF = Device Number
xx = See Page 2 SB Part
Polarity = As Marked Body

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☐ Maximum Ratings and Electrical Characteristics @T_A=25℃ unless otherwise specified

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

Characteristics	Symbol	SB 820F	SB 830F	SB 840F	SB 845F	SB 850F	SB 860F	SB 880F	SB 8100F	Unit
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_L=9	I_O	8.0				8.0		8.0		A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC	I_{FSM}	150				150		150		A
Forward Voltage @I_F=8.0A	V_{FM}	0.55				0.75		0.85		V
Peak Reverse Current @T_A = 25℃ At Rated DC Blocking Vol. @T_A=100℃	I_{RM}	0.5 50								mA
Typical Junction Capacitance (Note 1)	C_j	700								pF
Typical Thermal Resistance (Note 2)	$R_{\theta JC}$	5.0								℃/W
Operating and Storage Temperature Ran	T_j,T_{STG}	-65 to +150								℃

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

Note 2: Thermal resistance junction to case mounted on heatsink.

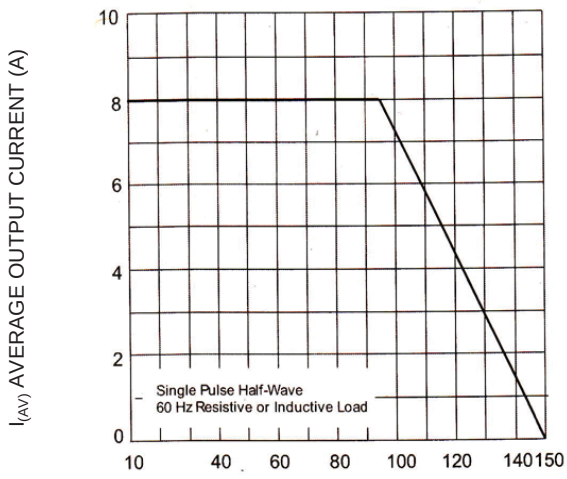

Fig-1 Forward and Current Derating Curve

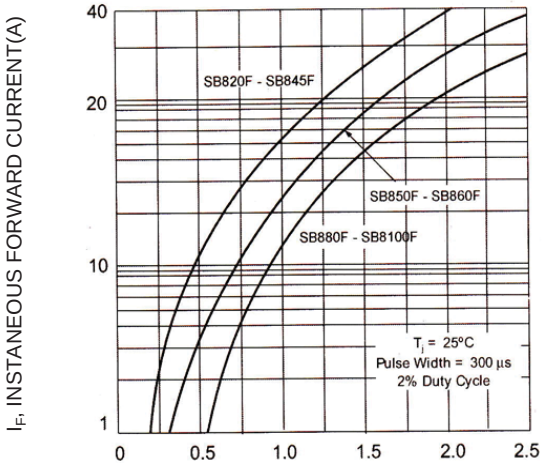

Fig-2 Typical Forward Characteristics

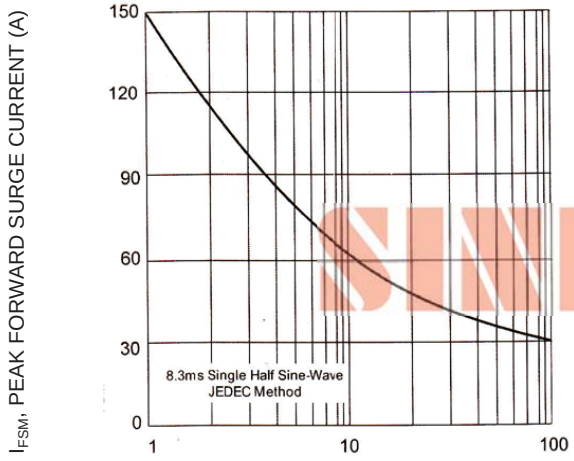

Fig-3 Maximum Non-Repetitive Paek FWD Surge Current

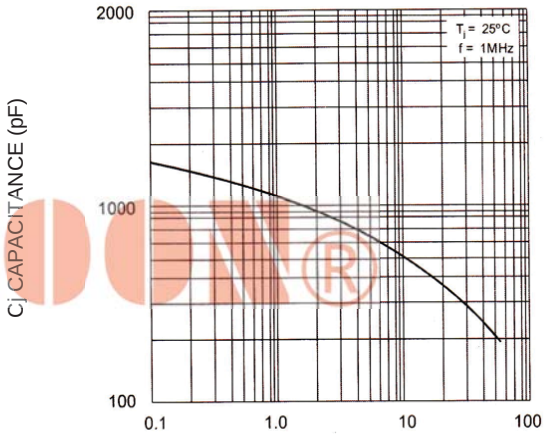

Fig-4 Typical Junction Capacitance

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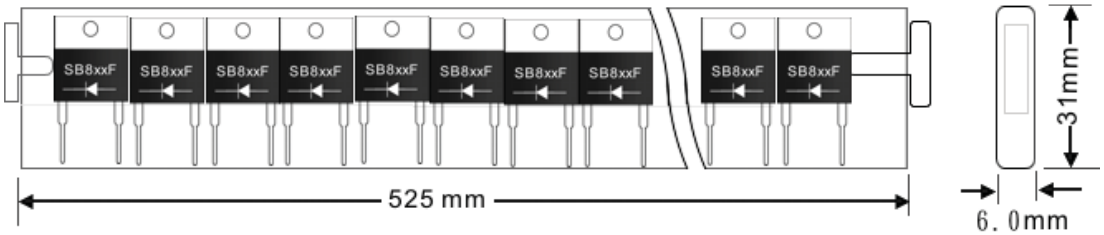
☐ Packaging Information

Tube Size LxWxH (mm)	Quantity (Pcs)	Inner Box Size LxWxH (mm)	Quantity (Pcs)	Carton Size LxWxH (mm)	Quantity (Pcs)	Gross Weight
525 x 31 x6	50	555x145x95	2000	572x306x218	8000	19.0kg

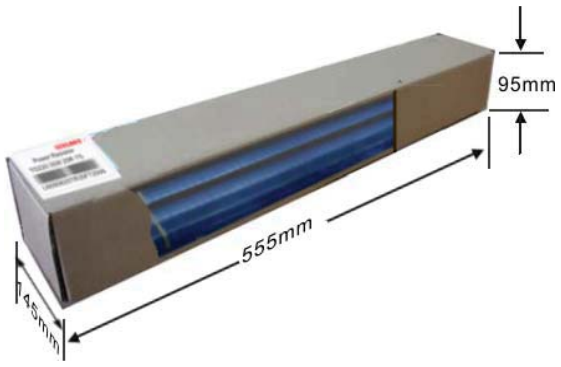
Note: Anti-static tube. Water clear color.

Anti-static tube:

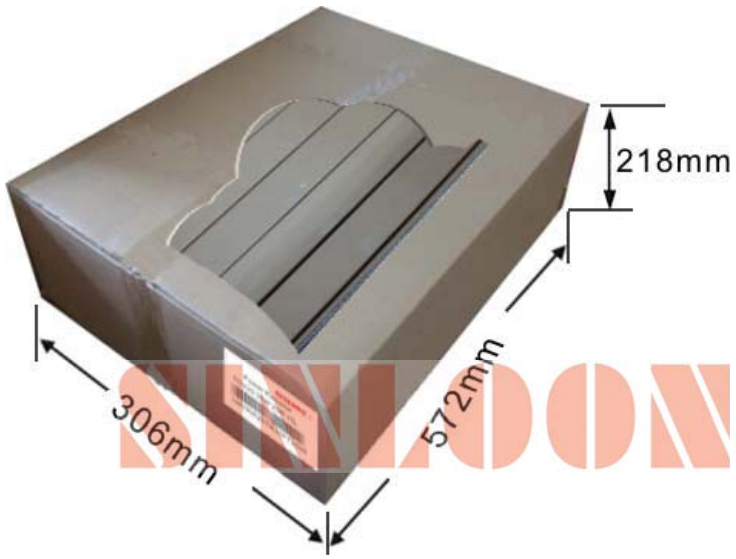


Bulk package: Anti-static tube, water clear color.

Inner Box :



Carton Package:



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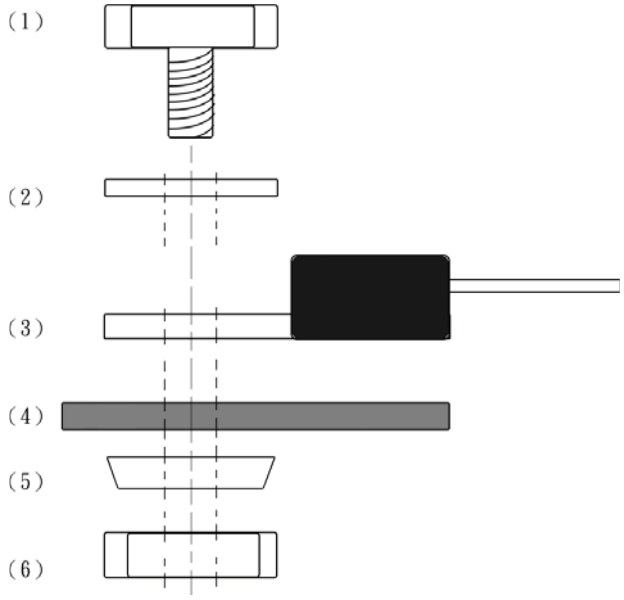
☐ Package Mounting Guide

It is important that the packages are correctly mounted if full functionality is to be achieved. Mounting of the package to a heat sink must be done such that there is sufficient pressure from the mounting screws to insure good contact with the heat sink for efficient heat flow. Incorrect mounting may lead to both thermal and mechanical problems. Over tightening the mounting screws will cause the package to warp reducing the contact area with the heat sink and increasing the thermal resistance from the package case to the heat sink, resulting in higher operating die temperatures. Extreme over tightening of the mounting screws beyond the recommended torque force will cause severe physical stress resulting in cracked die and catastrophic IC failure. Though the reliability of the package is excellent, the use of inappropriate techniques or unsuitable tools during the mounting process can affect the long term reliability of the device and even damage it.

☐ Recommended Screw Mount Arrangement



(1) 6-32 HEX Head Screw

(2) Plain Washer

(3) Rectifier

(4) Heat sink

(5) Conical Washer

(6) 6-32 HEX Nut

◆ The full molded plastic package affords a major reduction of hardware as compared to a standard TO-220 package. However, precaution 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 toque 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.