SINLOON®

肖特基二極管

Case: TO-220

SB2020CT - SB20100CT

20A Dual Schottky Barrier Rectifier

☐ Feature

- ◆ 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

Figure

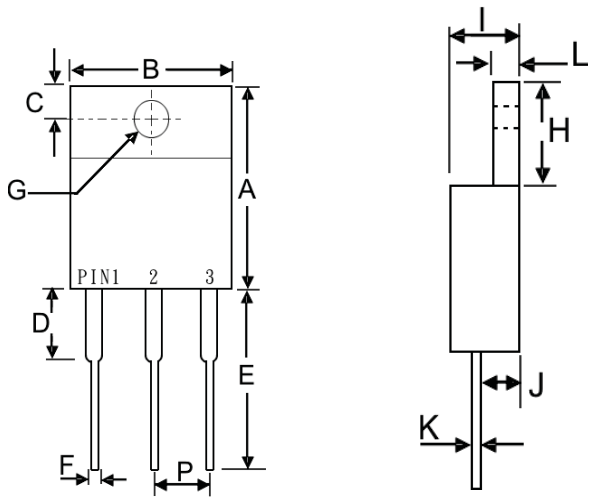
☐ Mechanical Data

- ◆ 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.

☐ Dimension

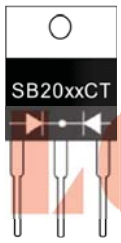
Case: TO-220 (mm)

Dim.	Min.	Max.
A	13.9	15.9
B	9.8	10.7
C	2.54	3.43
D	3.56	4.56
E	12.7	14.73
F	0.51	0.96
G (Φ)	3.55	4.09
H	5.75	6.85
I	4.16	5.0
J	2.03	2.92
K	0.3	0.65
L	1.14	1.4
P	2.29	2.79

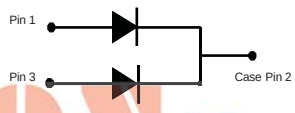


☐ Marking Information

SB20xxCT = Device Number
xx = See Page 2 SB Part
Polarity = As Marked Body



☐ Electrical Symbol



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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	SB20								Unit
		20CT	30CT	40CT	45CT	50CT	60CT	80CT	100CT	
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=95℃	I_O	20.0				20.0		20.0		A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC	I_{FSM}	200				200		200		A
Forward Voltage @I_F=10A	V_{FM}	0.55				0.75		0.85		V
Peak Reverse Current @T_A = 25℃	I_{RM}	0.5								mA
At Rated DC Blocking Vol. @T_A=100		100								
Typical Junction Capacitance (Note 1)	C_j	1100								pF
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.

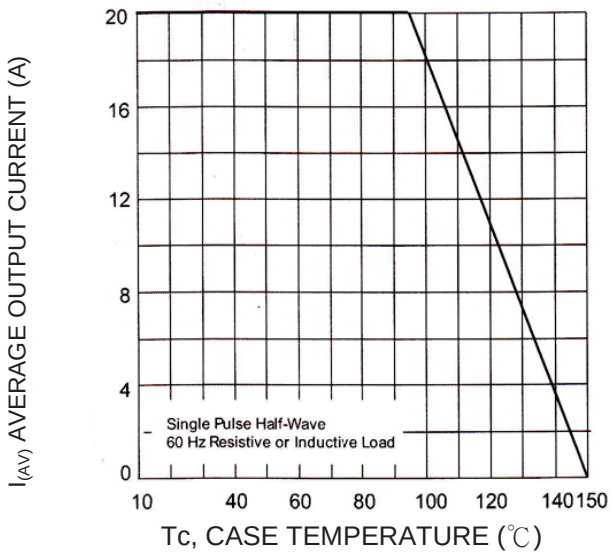

Fig-1 Forward and Current Derating Curve

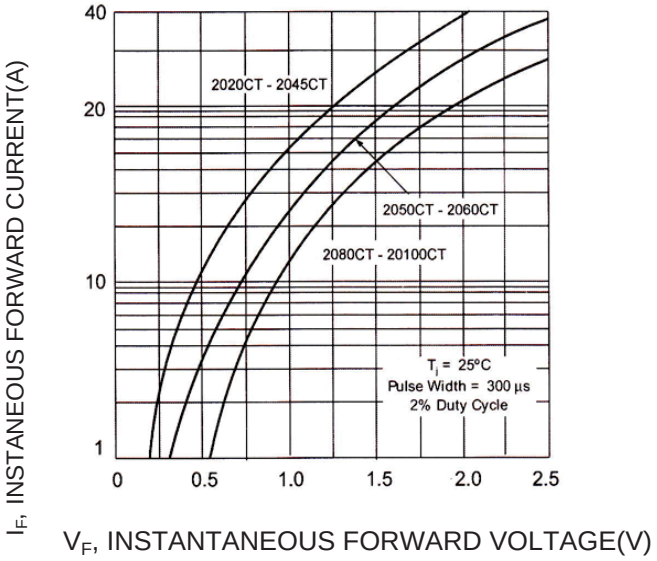

Fig-2 Typical Forward Characteristics

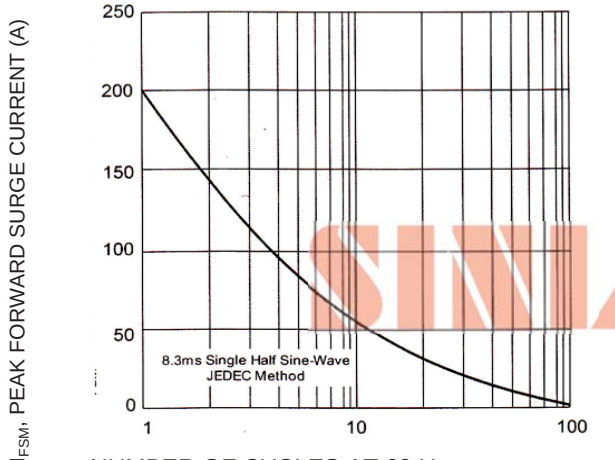

Fig-3 Maximum Non-Repetitive Paek FWD Surge Current

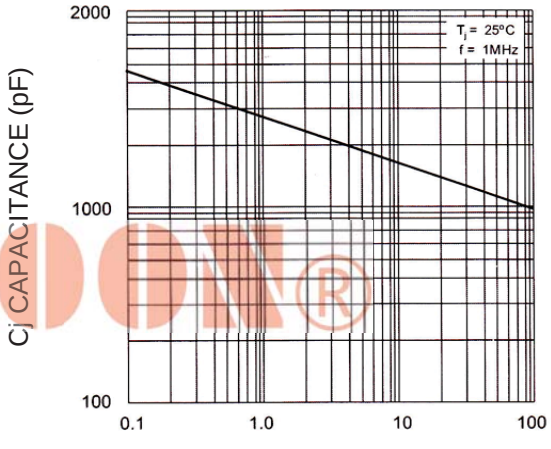

Fig-4 Typical Junction Capacitanc

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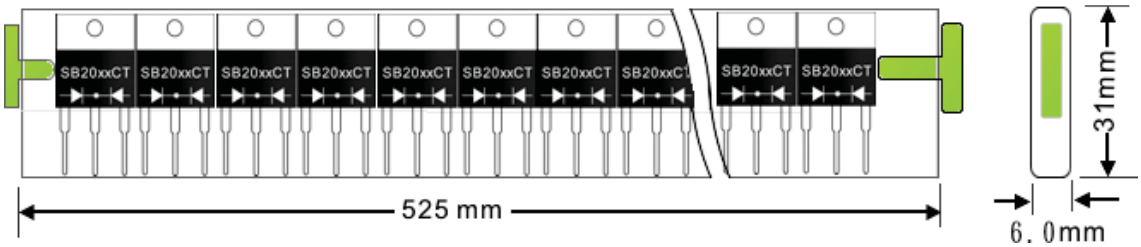
☐ Packaging Information

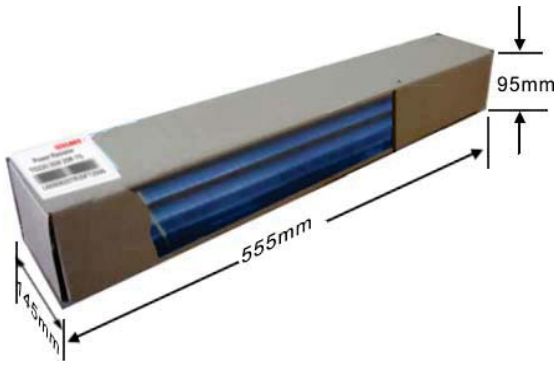
Tube Size LxWxH (mm)	Quantity (Pcs)	Inner Box Size LxWxH (mm)	Quantity (Pcs)	Carton Size LxWxH (mm)	Quantity (Pcs)	Gross Weight
525 x 31 x6	50	555x145x95	2000	572x306x218	8000	19.0kg

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

Anti-static tube: Quantity: 50 Pcs



Inner Box : Quantity: 2000 Pcs



Carton Package: Quantity: 8000 Pcs

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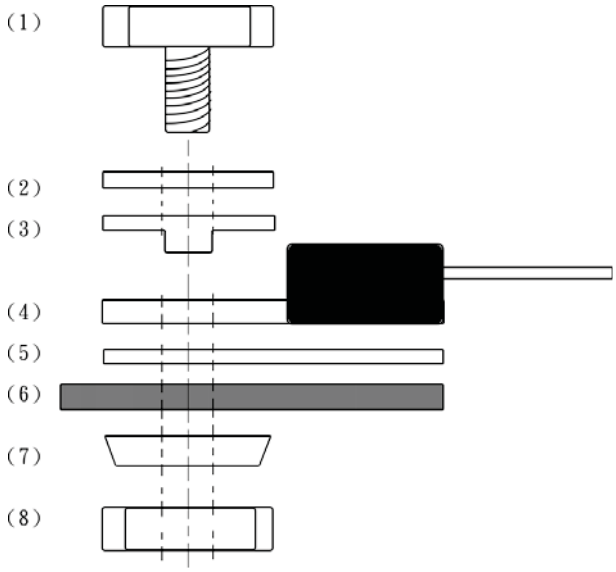
☐ Package Mounting Guide

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) 4-40 Pan or HEX Head Screw

(2) Plain Washer
(3) Insulating Bushing

(4) Rectifier
(5) Insulator
(6) Heat sink

(7) Compression Washer

(8) 4-40 HEX Nut

◆ Recommended isolated mounting when screw is at heat sink 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