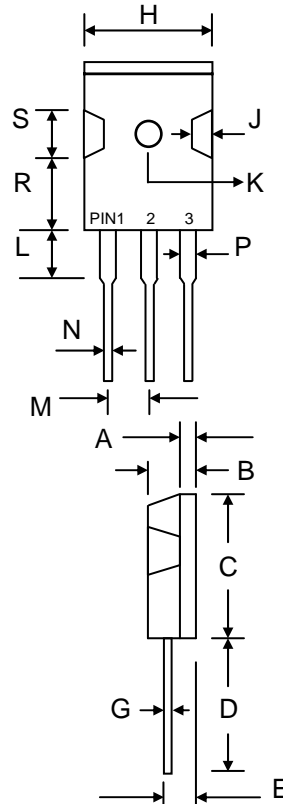


### Features

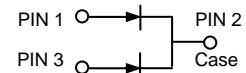
- Schottky Barrier Chip
- Guard Ring for Transient Protection
- Low Forward Voltage Drop
- Low Power Loss, High Efficiency
- High Surge Current Capability
- Epoxy Meets UL 94V-0 Classification
- Ideally Suited for Use in High Frequency SMPS, Inverters and As Free Wheeling Diodes

### Mechanical Data

- Case: TO-3P, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-750, Method 2026
- Polarity: See Diagram
- Weight: 5.6 grams (approx.)
- Mounting Position: Any
- Mounting Torque: 1.2 N.m Max.
- **Lead Free: For RoHS / Lead Free Version, Add “-LF” Suffix to Part Number, See Page 4**



TO-3P		
Dim	Min	Max
A	1.85	2.15
B	4.70	5.30
C	—	23.00
D	19.00	—
E	2.80	3.20
G	0.45	0.85
H	—	16.20
J	1.70	2.70
K	3.15 $\varnothing$	3.65 $\varnothing$
L	—	4.50
M	5.25	5.65
N	1.10	1.40
P	—	2.50
R	11.70	12.70
S	5.00	6.00
All Dimensions in mm		



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

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

Characteristic	Symbol	S20D 30C	S20D 35C	S20D 40C	S20D 45C	S20D 50C	S20D 60C	S20D 80C	S20D 100C	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	30	35	40	45	50	60	80	100	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	21	25	28	32	35	42	56	70	V
Average Rectified Output Current @T <sub>C</sub> = 100°C Total Device Per Diode	I <sub>O</sub>	20 10								A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I <sub>FSM</sub>	200								A
Forward Voltage @I <sub>F</sub> = 10A, T <sub>J</sub> = 25°C per diode @I <sub>F</sub> = 10A, T <sub>J</sub> = 125°C	V <sub>FM</sub>	0.55 0.50		0.75 0.65		0.85 0.75				V
Peak Reverse Current At Rated DC Blocking Voltage @T <sub>J</sub> = 25°C @T <sub>J</sub> = 100°C	I <sub>RM</sub>	0.5 20								mA
Typical Junction Capacitance (Note 1)	C <sub>J</sub>	650				350				pF
Thermal Resistance Junction to Ambient per diode Thermal Resistance Junction to Case per diode	R <sub>JA</sub> R <sub>JC</sub>	50 1.5								°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150								°C

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

# S20D30C – S20D100C

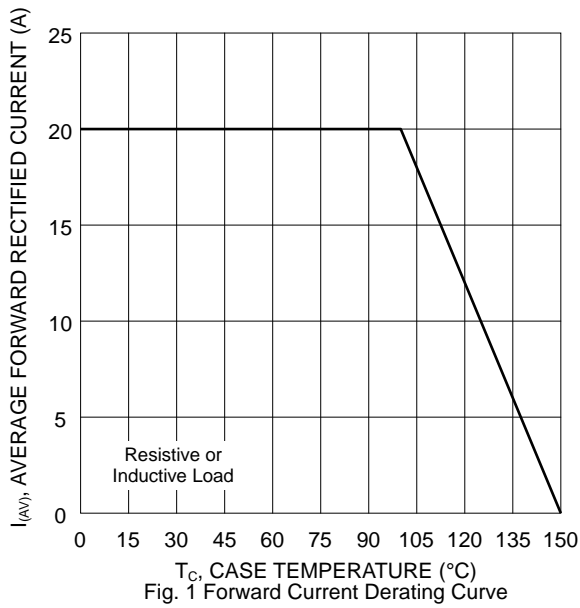


Fig. 1 Forward Current Derating Curve

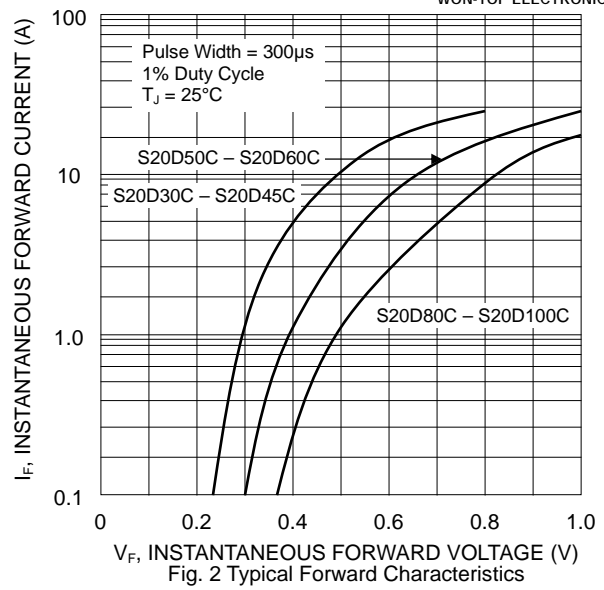


Fig. 2 Typical Forward Characteristics

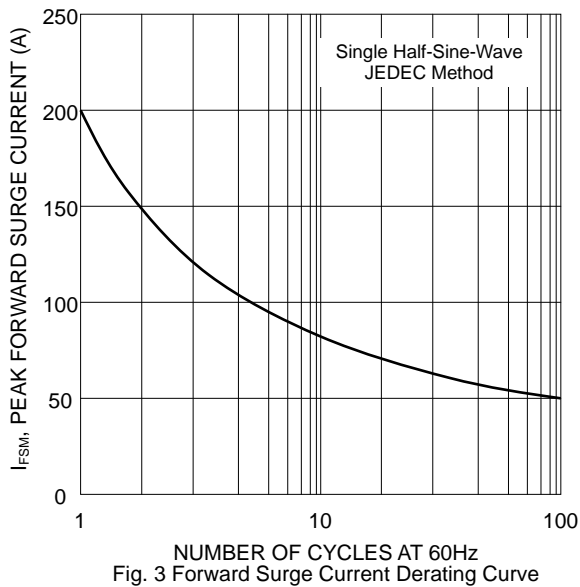


Fig. 3 Forward Surge Current Derating Curve

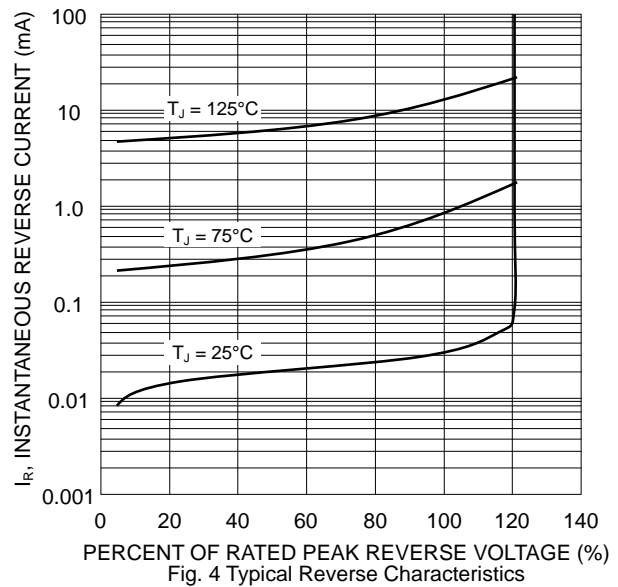


Fig. 4 Typical Reverse Characteristics

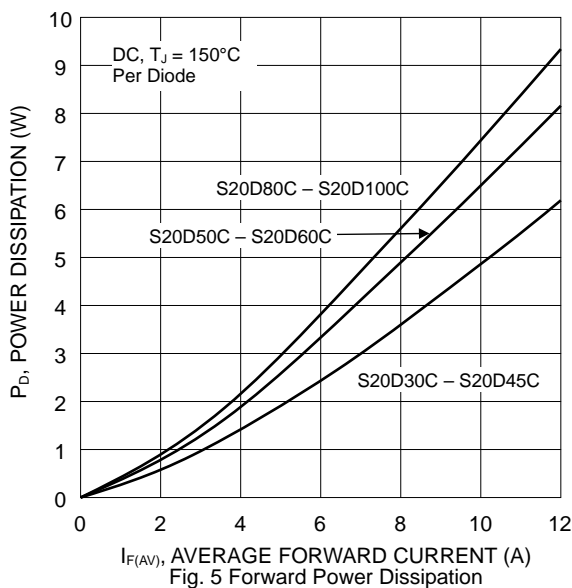


Fig. 5 Forward Power Dissipation

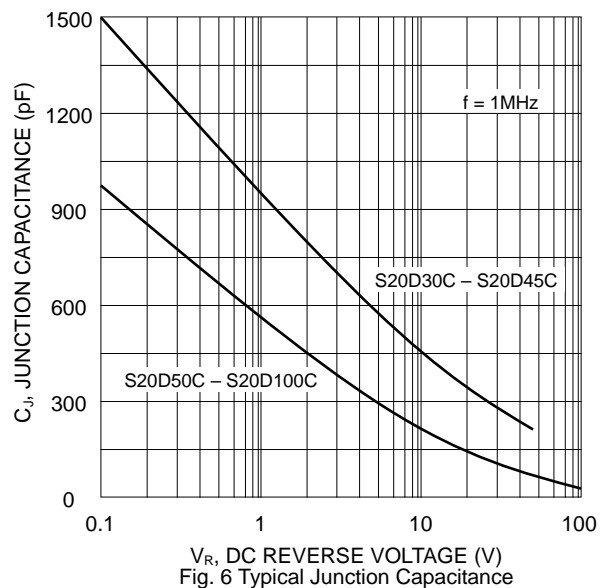
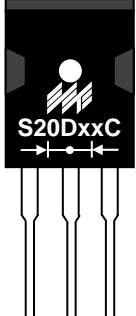


Fig. 6 Typical Junction Capacitance

## MARKING INFORMATION



S20DxxC = Device Number  
xx = 30, 35, 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)
505 x 46 x 6.5	30	520 x 145 x 95	1,200	540 x 306 x 115	2,400	18.0

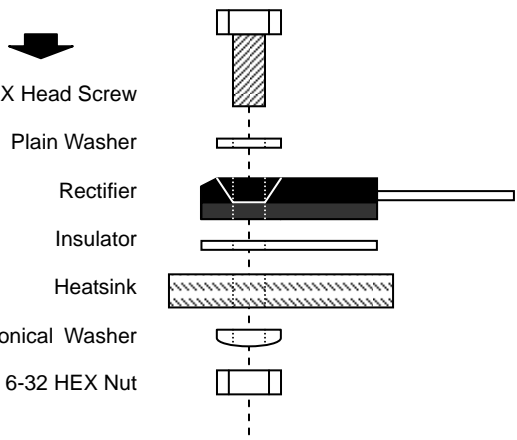
**Note:** 1. Anti-static tube, water clear color.

## RECOMMENDED SCREW MOUNTING ARRANGEMENT

Recommended isolated mounting when screw is at heatsink potential. 6-32 hardware is used.

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 high impact on device package.

The interface should apply a layer of thermal grease or a highly conductive thermal pad for better heat dissipation.



6-32 HEX Head Screw  
Plain Washer  
Rectifier  
Insulator  
Heatsink  
Conical Washer  
6-32 HEX Nut

## ORDERING INFORMATION

Product No.	Package Type	Shipping Quantity
S20D30C	TO-3P	30 Units/Tube
S20D35C	TO-3P	30 Units/Tube
S20D40C	TO-3P	30 Units/Tube
S20D45C	TO-3P	30 Units/Tube
S20D50C	TO-3P	30 Units/Tube
S20D60C	TO-3P	30 Units/Tube
S20D80C	TO-3P	30 Units/Tube
S20D100C	TO-3P	30 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, S20D30C-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.

**Won-Top Electronics Co., Ltd.**  
No. 44 Yu Kang North 3rd Road,  
Chine Chen Dist., Kaohsiung 806, Taiwan  
**Phone:** 886-7-822-5408 or 886-7-822-5410  
**Fax:** 886-7-822-5417  
**Email:** sales@wontop.com  
**Internet:** http://www.wontop.com

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