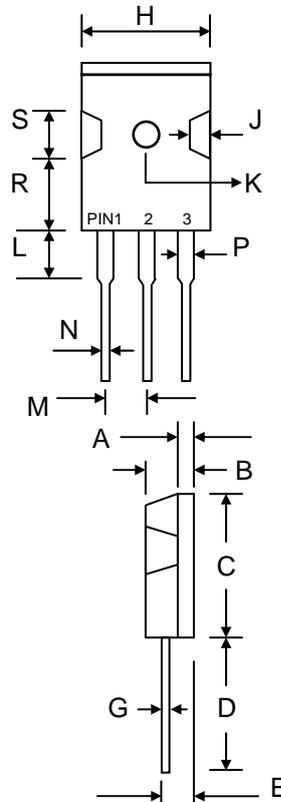


### Features

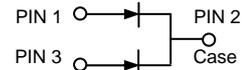
- Glass Passivated Die Construction
- Superfast 35nS and 50nS Recovery Time
- Low Forward Voltage Drop
- Low Reverse Leakage Current
- High Surge Current Capability
- Epoxy Meets UL 94V-0 Classification
- Ideally Suited for Use in High Frequency SMPS, Inverters and As Free Wheeling Diodes

### 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 Ø	3.65 Ø
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	U20D 05C	U20D 10C	U20D 15C	U20D 20C	U20D 30C	U20D 40C	U20D 50D	U20D 60C	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	300	400	500	600	V
Working Peak Reverse Voltage	V <sub>RWM</sub>									
DC Blocking Voltage	V <sub>R</sub>									
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	105	140	210	280	350	420	V
Average Rectified Output Current @T <sub>C</sub> = 100°C	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 per diode @I <sub>F</sub> = 10A	V <sub>FM</sub>	0.975			1.3		1.7			V
Peak Reverse Current At Rated DC Blocking Voltage	I <sub>RM</sub>					10 500				µA
Reverse Recovery Time (Note 1)	t <sub>rr</sub>	35			50					nS
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	120						70		pF
Thermal Resistance Junction to Ambient per diode	R <sub>JA</sub>					40				°C/W
Thermal Resistance Junction to Case per diode	R <sub>JC</sub>					1.5				
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150								°C

Note: 1. Measured with I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>RR</sub> = 0.25A.  
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

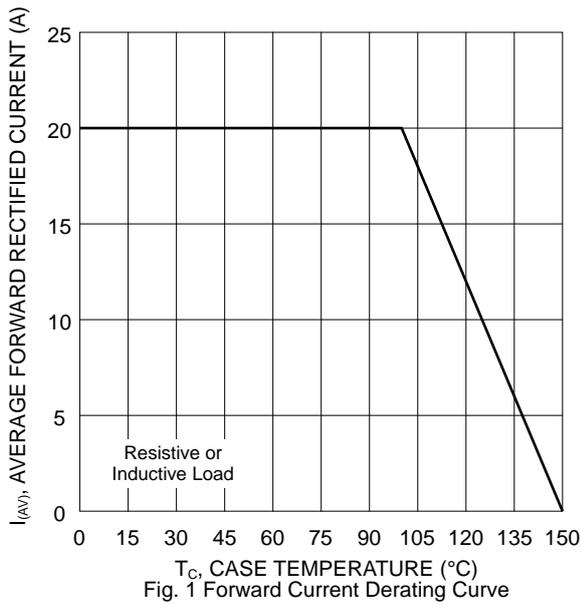


Fig. 1 Forward Current Derating Curve

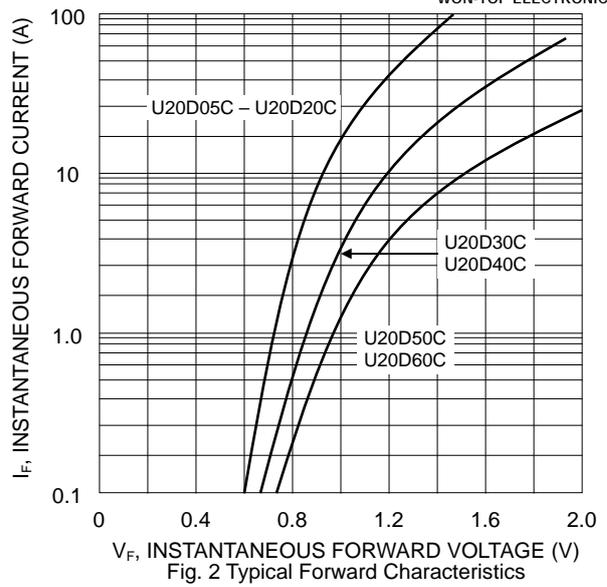


Fig. 2 Typical Forward Characteristics

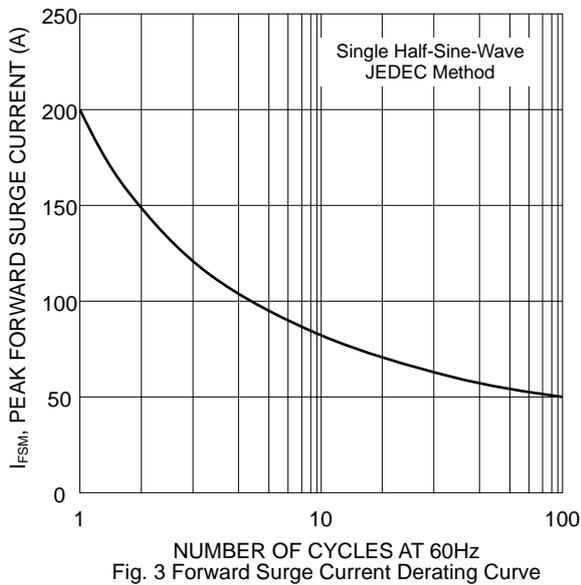


Fig. 3 Forward Surge Current Derating Curve

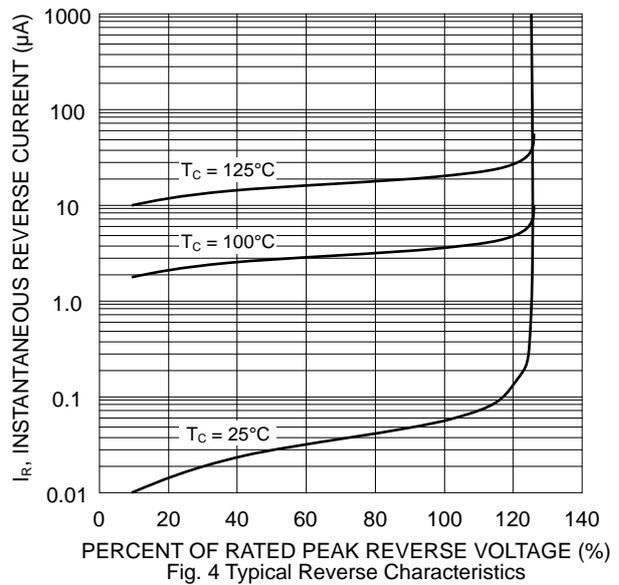


Fig. 4 Typical Reverse Characteristics

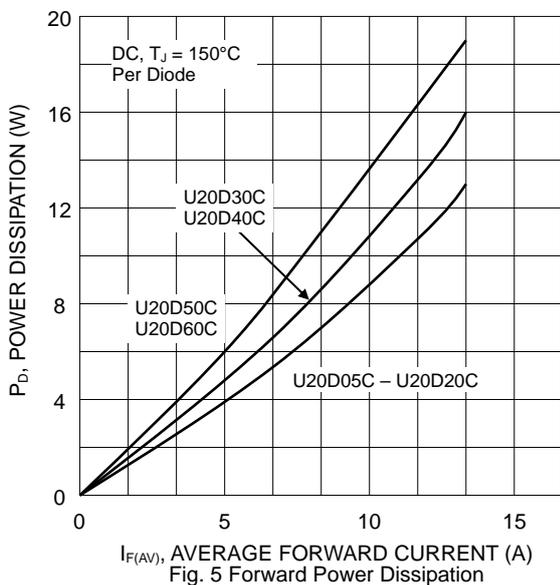


Fig. 5 Forward Power Dissipation

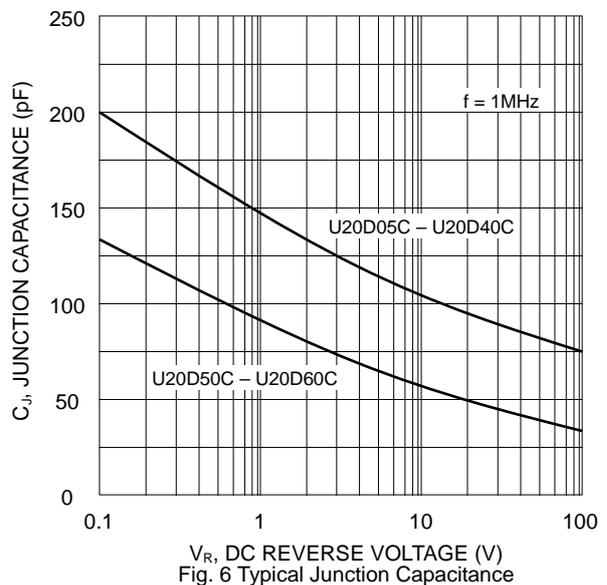
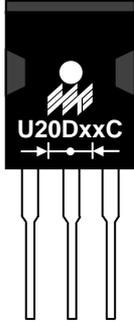


Fig. 6 Typical Junction Capacitance

## MARKING INFORMATION



U20DxxC = Device Number  
xx = 05, 10, 15, 20, 30, 40, 50 or 60  
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

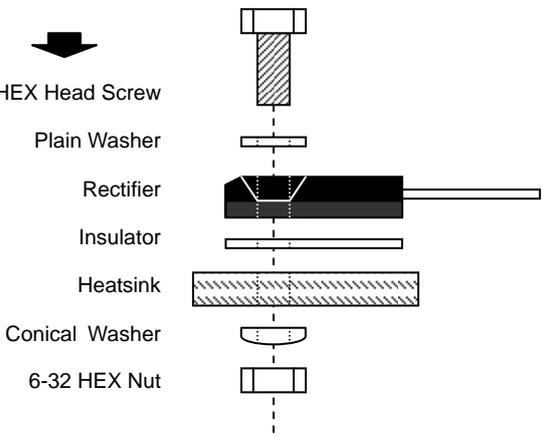
**Note:** 1. Anti-static tube, water clear color.

## 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
U20D05C	TO-3P	30 Units/Tube
U20D10C	TO-3P	30 Units/Tube
U20D15C	TO-3P	30 Units/Tube
U20D20C	TO-3P	30 Units/Tube
U20D30C	TO-3P	30 Units/Tube
U20D40C	TO-3P	30 Units/Tube
U20D50C	TO-3P	30 Units/Tube
U20D60C	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, U20D05C-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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