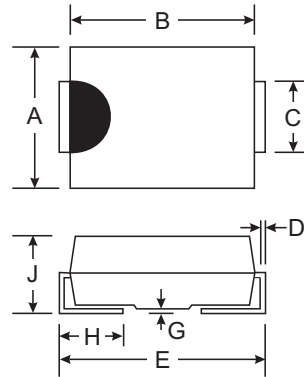


Features

- Glass Passivated Die Construction
- Super-Fast Recovery Time For High Efficiency
- Low Forward Voltage Drop and High Current Capability
- Surge Overload Rating to 75A Peak
- Ideally Suited for Automated Assembly
- Available in Lead Free Finish/RoHS Compliant Version (Note 4)

Mechanical Data

- Case: SMC
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solder Plated Terminal - Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish). Please see Ordering Information, Note 6, on Page 3
- Marking: U3D
- Polarity: Cathode Band or Cathode Notch
- Weight: 0.21 grams (approximate)



SMC		
Dim	Min	Max
A	5.59	6.22
B	6.60	7.11
C	2.75	3.18
D	0.15	0.31
E	7.75	8.13
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics @ T_A = 25°C unless otherwise specified

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

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	200	V
RMS Reverse Voltage	V _{R(RMS)}	140	V
Average Rectified Output Current @ T _L = 140°C	I _O	3.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	75	A
Forward Voltage @ I _F = 3.0A, T _J = 25°C	V _{FM}	0.9	V
Peak Reverse Current @ T _J = 25°C at Rated DC Blocking Voltage @ T _J = 150°C	I _{RM}	5.0 100	μA
Reverse Recovery Time (Note 3)	t _{rr}	25	ns
Typical Total Capacitance (Note 2)	C _T	45	pF
Typical Thermal Resistance, Junction to Terminal (Note 1)	R _{θJT}	11	°C/W
Operating and Storage Temperature Range	T _j , T _{STG}	-55 to +150	°C

- Notes:
1. Unit mounted on PC board with 5.0 mm² (0.013 mm thick) copper pads as heat sink.
 2. Measured at 1.0MHz and applied reverse voltage of 0V DC.
 3. Measured with I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A. See Figure 5.
 4. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see *EU Directive Annex Notes 5 and 7*.

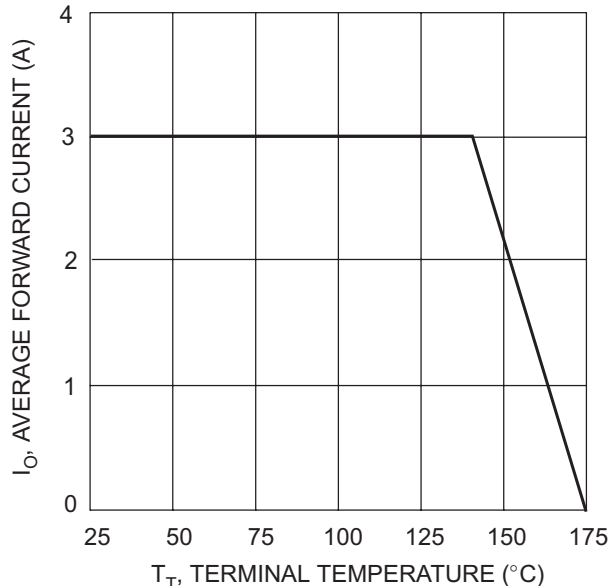


Fig. 1 Forward Current Derating Curve

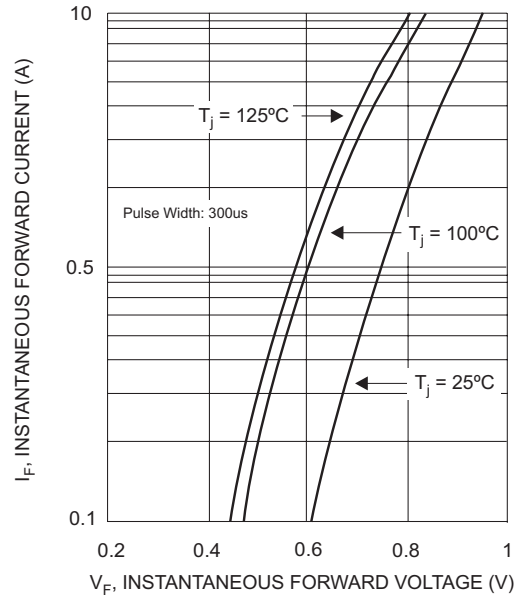


Fig. 2 Typical Forward Characteristics

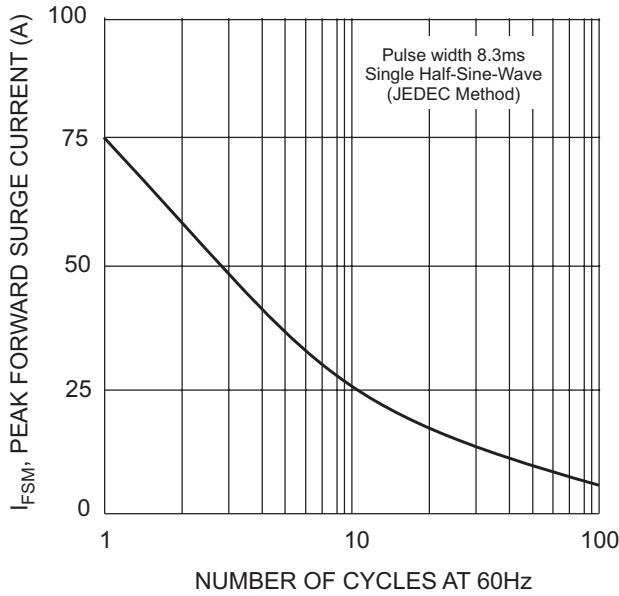


Fig. 3 Surge Current Derating Curve

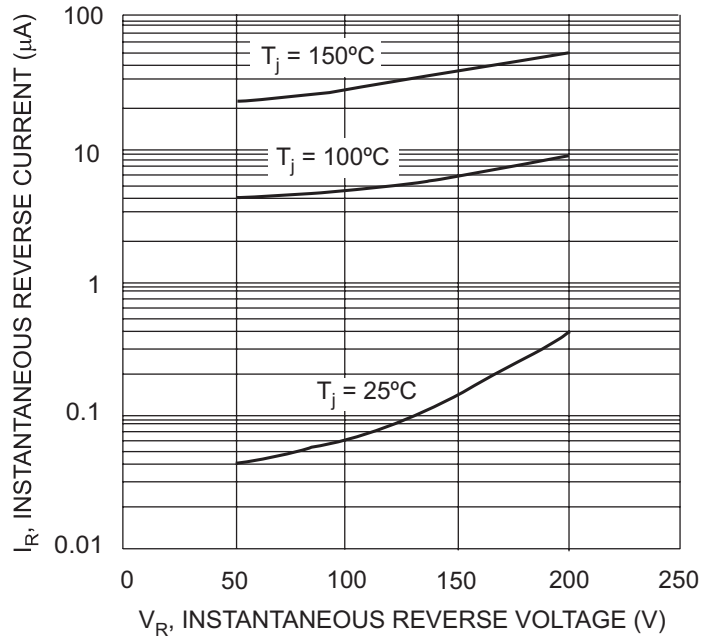
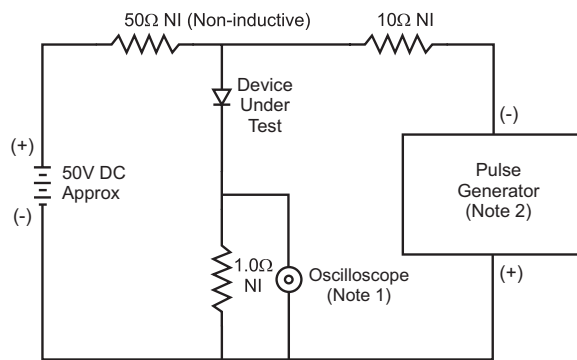
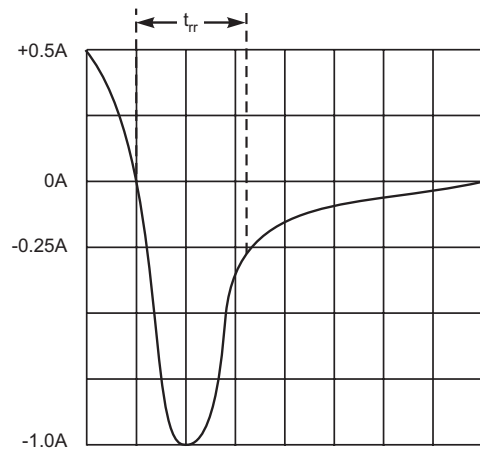


Fig. 4 Typical Reverse Characteristics



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
 2. Rise Time = 10ns max. Input Impedance = 50Ω.



Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

Ordering Information (Note 5)

Device	Packaging	Shipping
MURS320-13	SMC	3K/Tape & Reel, 13-inch

- Notes:
5. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02007.pdf>
 6. For Lead Free Finish/RoHS Compliant part number, please add "-F" suffix to the part number above.
Example: MURS320-13-F.