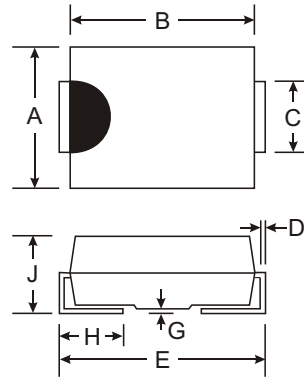


Features

- Glass Passivated Die Construction
- Super-Fast Recovery Time For High Efficiency
- Low Forward Voltage Drop and High Current Capability
- Surge Overload Rating to 40A Peak
- Ideally Suited for Automated Assembly
- Available in Lead Free Finish/RoHS Compliant Version (Note 5)

Mechanical Data

- Case: SMB
- 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 7, on Page 3
- Marking: U1DB
- Polarity: Cathode Band or Cathode Notch
- Ordering Information: See Page 3
- Weight: 0.093 grams (approximate)



SMB		
Dim	Min	Max
A	3.30	3.94
B	4.06	4.57
C	1.96	2.21
D	0.15	0.31
E	5.00	5.59
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	MURS120	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage @ I _R = 5uA	V _{RRM} V _{RWM} V _R	200	V
RMS Reverse Voltage	V _{R(RMS)}	141	V
Average Rectified Output Current @ T _T = 155°C @ T _T = 145°C	I _O	1.0 2.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	40	A
Forward Voltage @ I _F = 1.0A, T _J = 25°C @ I _F = 1.0A, T _J = 150°C	V _{FM}	0.875 0.710	V
Peak Reverse Current @ T _A = 25°C at Rated DC Blocking Voltage @ T _A = 150°C	I _{RM}	2.0 50	μA
Reverse Recovery Time (Note 3)	t _{rr}	25	ns
Forward Recovery Time (Note 4)	t _{fr}	25	ns
Typical Junction Capacitance (Note 2)	C _j	60	pF
Typical Thermal Resistance, Junction to Terminal (Note 1)	R _{θJT}	13	K/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +175	°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. Measured with I_F = 1.0A, di/dt = 100A/μs, Duty Cycle ≤ 2.0%.
 5. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.

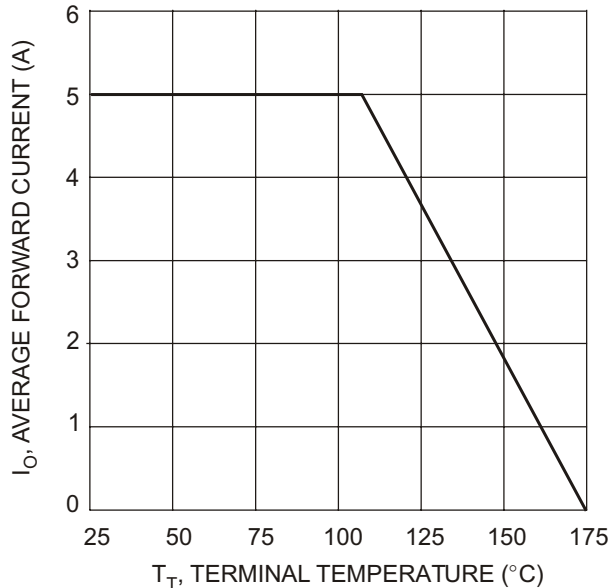


Fig. 1 Forward Current Derating Curve

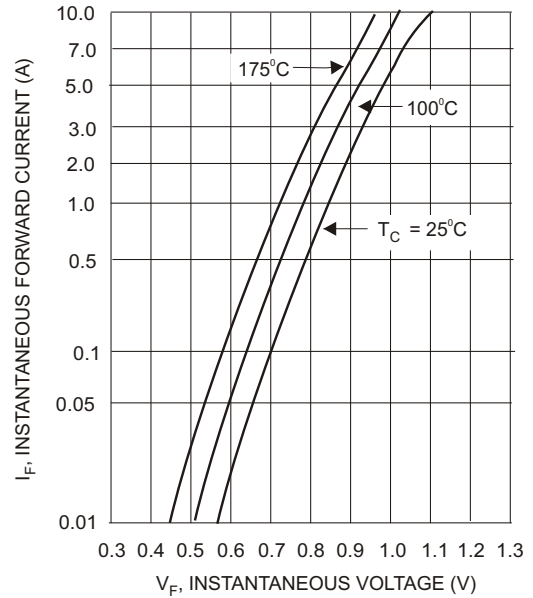


Fig. 2 Typical Forward Current

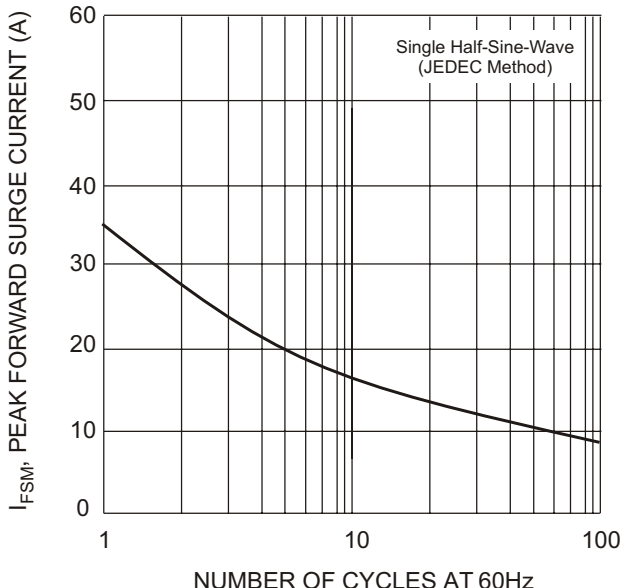


Fig. 3 Surge Current Derating Curve

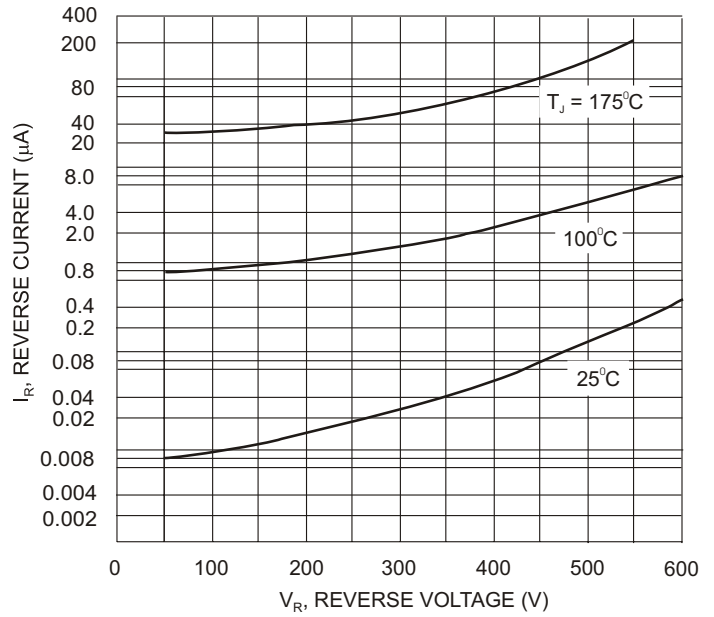
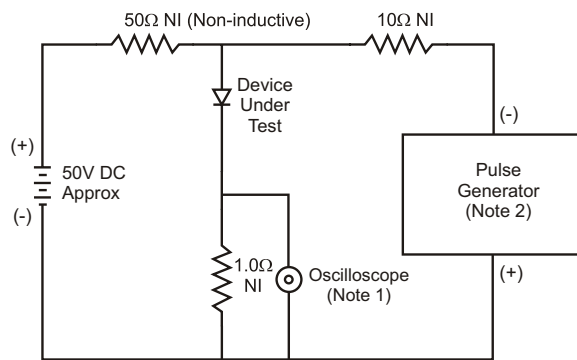
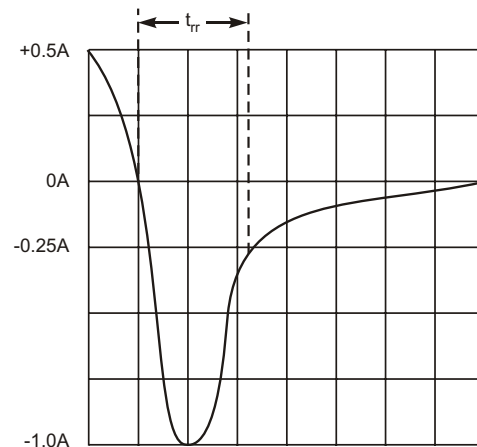


Fig. 4 Typical Reverse Current



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



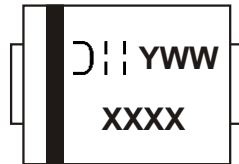
Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

Ordering Information (Note 6)

Device	Packaging	Shipping
MURS120-13	SMB	5000/Tape & Reel

- Notes: 6. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
7. For Lead Free Finish/RoHS Compliant version part number, please add "-F" suffix to the part number above. Example: MURS120-13-F.

Marking Information

XXXX = Product type marking code (See Page 1)
D|| = Manufacturers' code marking
YWW = Date code marking
Y = Last digit of year ex: 2 for 2002
WW = Week code 01 to 52