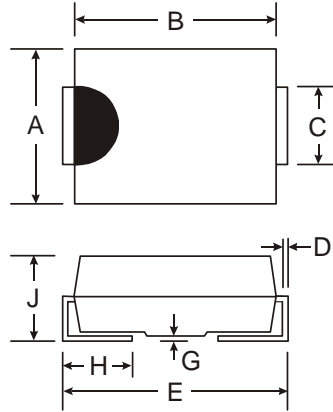


Features

- Glass Passivated Die Construction
- Super-Fast Recovery Time For High Efficiency
- Surge Overload Rating to 40A Peak
- Ideally Suited for Automated Assembly
- **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 (E3)
- Lead Free Plating (Matte Tin Finish). Please see Ordering Information, Note 7, on Page 3
- Polarity: Cathode Band or Cathode Notch
- Marking Information: See Page 3
- 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	Value	Unit
Peak Repetitive Reverse Voltage	V _{R(RM)}	200	V
Working Peak Reverse Voltage	V _{R(WM)}		
DC Blocking Voltage (Note 6) @ I _R = 5uA	V _R		
RMS Reverse Voltage	V _{R(RMS)}	141	V
Average Rectified Output Current @ T _T = 135°C	I _O	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	40	A
Forward Voltage @ I _F = 1.0A, T _J = 25°C	V _{FM}	0.875	V
@ I _F = 1.0A, T _J = 150°C		0.710	
Peak Reverse Current at Rated DC Blocking Voltage @ T _A = 25°C	I _{RM}	2.0	µA
@ T _A = 150°C		50	
Reverse Recovery Time (Note 3)	t _{rr}	25	ns
Forward Recovery Time (Note 4)	t _{fr}	25	ns
Typical Total Capacitance (Note 2)	C _T	27	pF
Typical Thermal Resistance, Junction to Terminal (Note 1)	R _{θJT}	15	°C/W
Operating Temperature Range	T _J	-55 to +150	°C
Storage Temperature Range	T _{STG}	-55 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 4V DC.
 3. Measured with I_F = 0.5A, I_R = 1.0A, I_r = 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.
 6. Short duration pulse test used to minimize self-heating effect.

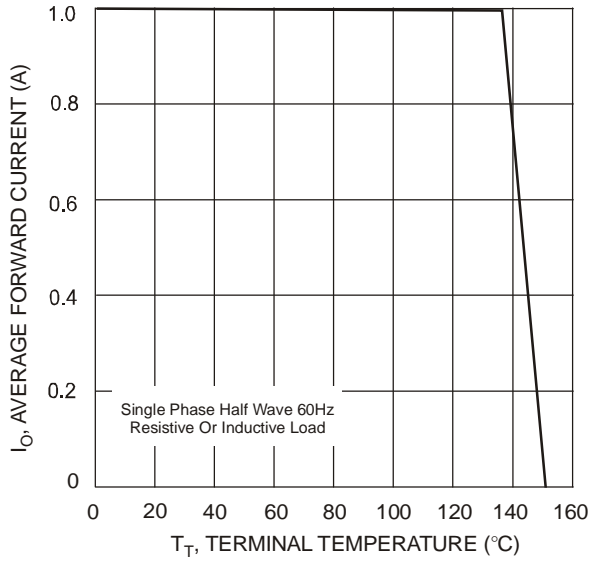


Fig. 1 Forward Current Derating Curve

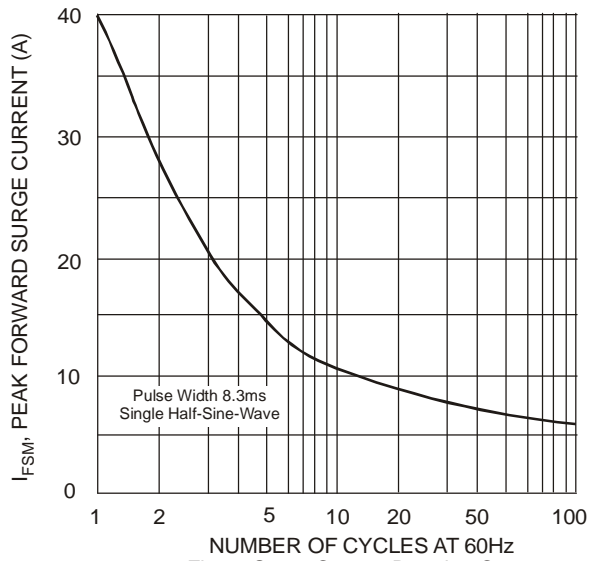
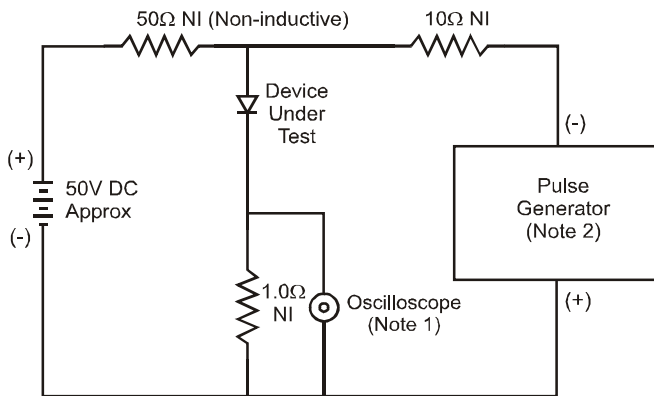


Fig. 3 Surge Current Derating Curve



Notes:

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

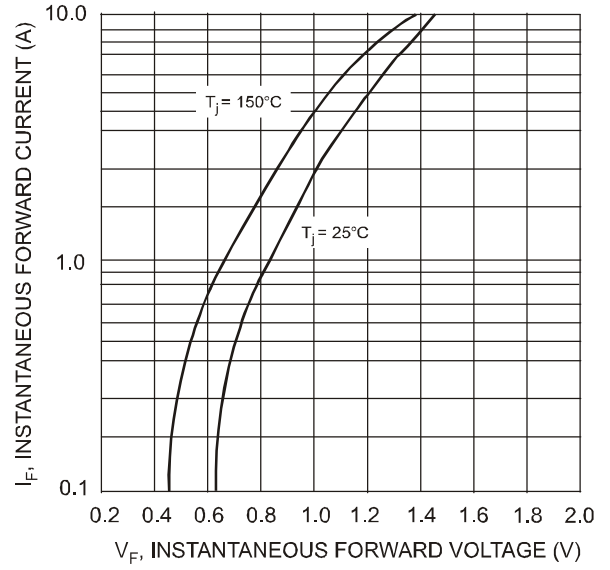


Fig. 2 Typical Forward Characteristics

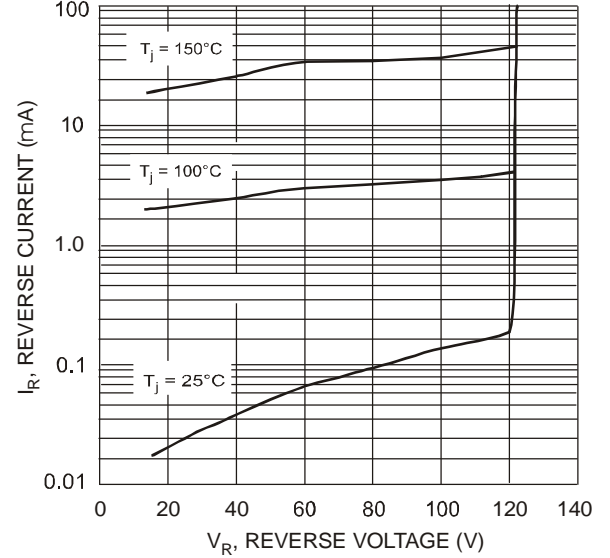
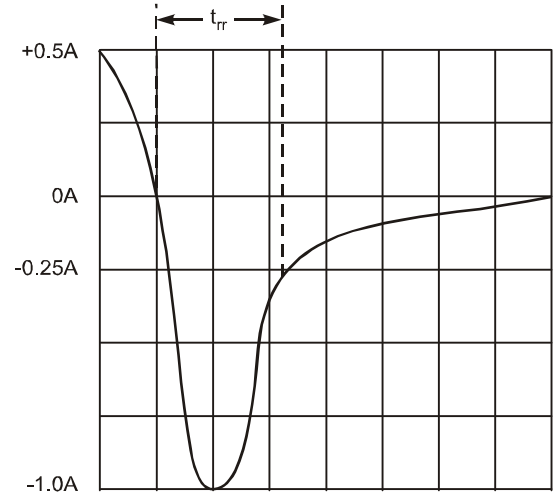


Fig. 4 Typical Reverse Characteristics



Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

Ordering Information (Note 7)

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

Notes: 7. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



U1DB = Product type marking code
 D||| = Manufacturers' code marking
 YWW = Date code marking
 Y = Last digit of year ex: 2 for 2002
 WW = Week code 01 to 52

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