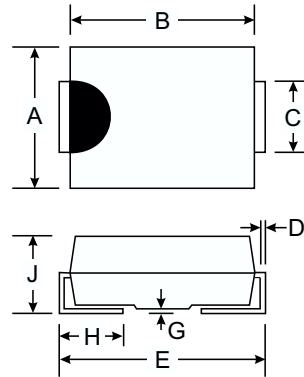


### Features

- 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
- Plastic Material: UL Flammability Classification Rating 94V-0



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		

### Mechanical Data

- Case: Molded Plastic
- Terminals: Solder Plated Terminal - Solderable per MIL-STD-202, Method 208
- Marking: U1DB
- Polarity: Cathode Band or Cathode Notch
- Weight: 0.093 grams (approx.)
- Mounting Position: Any
- Ordering Information: See Page 3

### 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	MURS120	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage @ I <sub>R</sub> = 5uA	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	200	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	141	V
Average Rectified Output Current @ T <sub>T</sub> = 155°C @ T <sub>T</sub> = 145°C	I <sub>O</sub>	1.0 2.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load (JEDEC Method)	I <sub>FSM</sub>	40	A
Forward Voltage @ I <sub>F</sub> = 1.0A, T <sub>J</sub> = 25°C @ I <sub>F</sub> = 1.0A, T <sub>J</sub> = 150°C	V <sub>FM</sub>	0.875 0.710	V
Peak Reverse Current at Rated DC Blocking Voltage @ T <sub>A</sub> = 25°C @ T <sub>A</sub> = 150°C	I <sub>RM</sub>	2.0 50	μA
Reverse Recovery Time (Note 3)	t <sub>rr</sub>	25	ns
Forward Recovery Time (Note 4)	t <sub>fr</sub>	25	ns
Typical Junction Capacitance (Note 2)	C <sub>j</sub>	60	pF
Typical Thermal Resistance, Junction to Terminal (Note 1)	R <sub>θJT</sub>	13	K/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-65 to +175	°C

- Notes:
1. Unit mounted on PC board with 5.0 mm<sup>2</sup> (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<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>rr</sub> = 0.25A. See Figure 5.
  4. Measured with I<sub>F</sub> = 1.0A, di/dt = 100A/μs, Duty Cycle ≤ 2.0%.

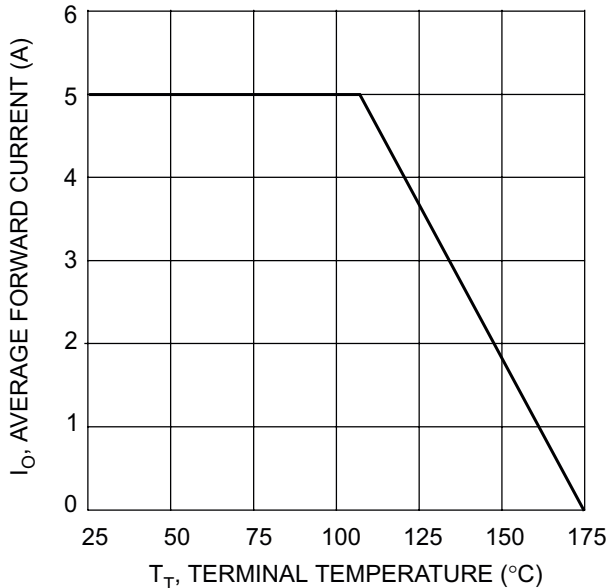


Fig. 1 Forward Current Derating Curve

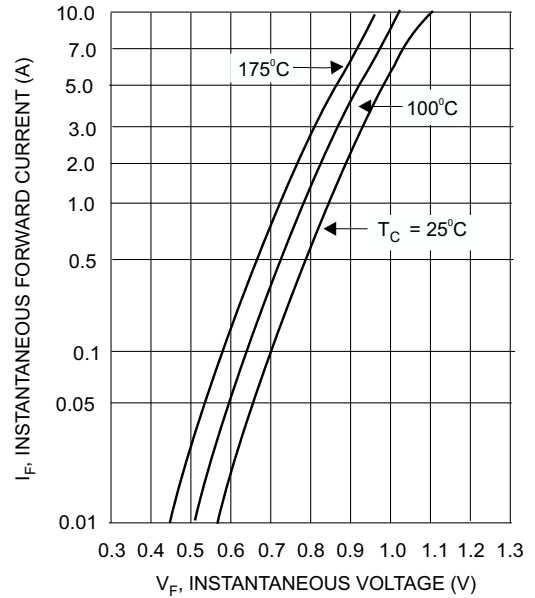


Fig. 2 Typical Forward Current

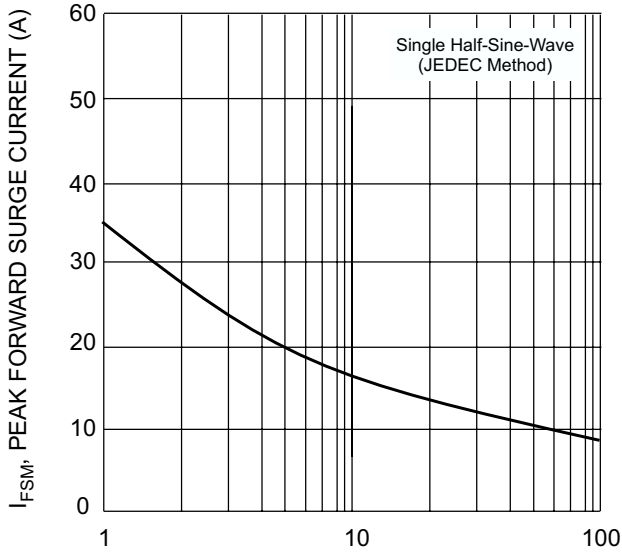


Fig. 3 Surge Current Derating Curve

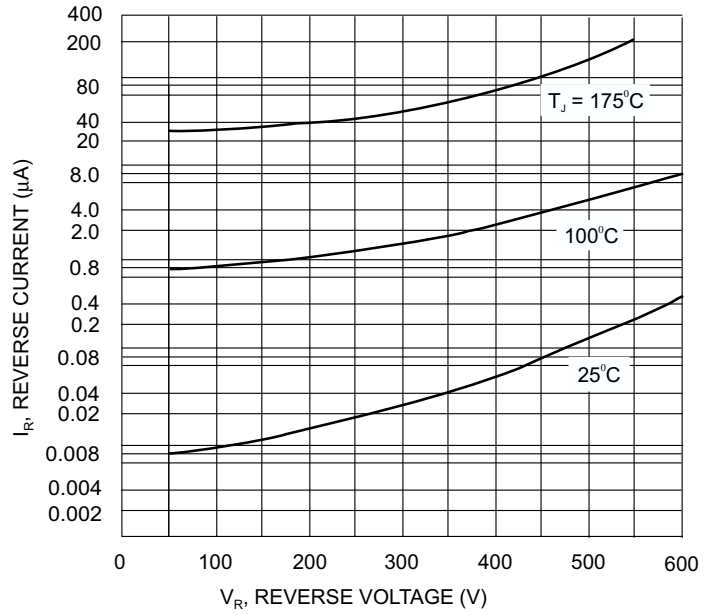
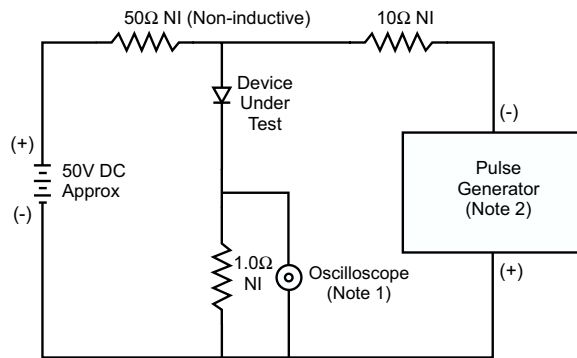
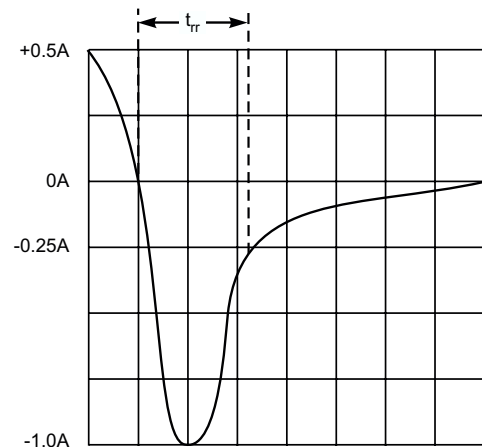


Fig. 4 Typical Reverse Current



- 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

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**Ordering Information** (Note 5)

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

Notes: 5. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

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**Marking Information**

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XXX = 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