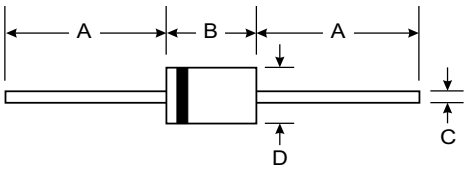
MUR120

1.0A SUPER-FAST RECTIFIER

ADVANCE INFORMATION

Features

- Glass Passivated Die Construction
- Super-Fast Recovery Time For High Efficiency
- Low Forward Voltage Drop and High Current Capability
- Surge Overload Rating to 35A Peak
- Ideally Suited for Automated Assembly
- Plastic Material: UL Flammability Classification Rating 94V-0



DO-41 Plastic		
Dim	**Min**	**Max**
A	25.40	—
B	4.06	5.21
C	0.71	0.864
D	2.00	2.72
All Dimensions in mm		

Mechanical Data

- Case: Molded Plastic
- Terminals: Solder Plated Terminal - Solderable per MIL-STD-202, Method 208
- Marking: R120
- Polarity: Cathode Band
- Weight: 0.35 grams (approx.)
- Mounting Position: Any

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	MUR120	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	200	V
RMS Reverse Voltage	$V_{R(RMS)}$	141	V
Average Rectified Output Current @ T_T = 130°C	I_O	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	35	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 2)	t_{rr}	25	ns
Forward Recovery Time (Note 3)	t_{fr}	25	ns
Typical Junction Capacitance (Note 1)	C_j	45	pF
Typical Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	72	K/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +175	°C

Notes:
1. Measured at 1.0MHz and applied reverse voltage of 0V DC.
2. Measured with I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A. See Figure 5.
3. Measured with I_F = 1.0A, di/dt = 100A/μs, Duty Cycle ≤ 2.0%.

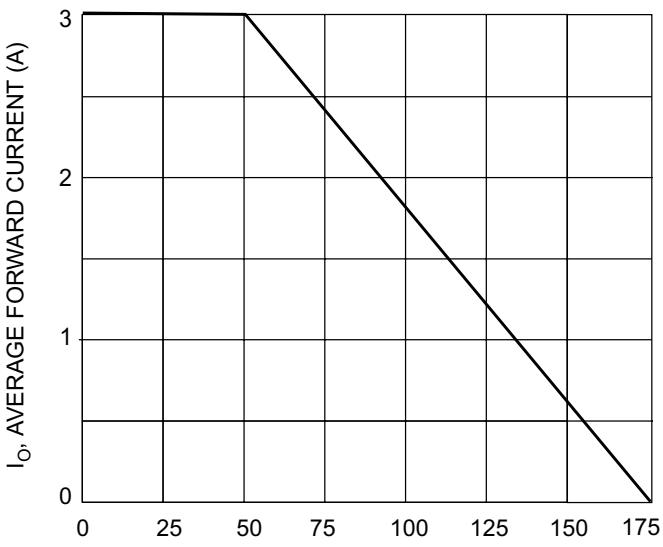


Fig. 1 Forward Current Derating Curve

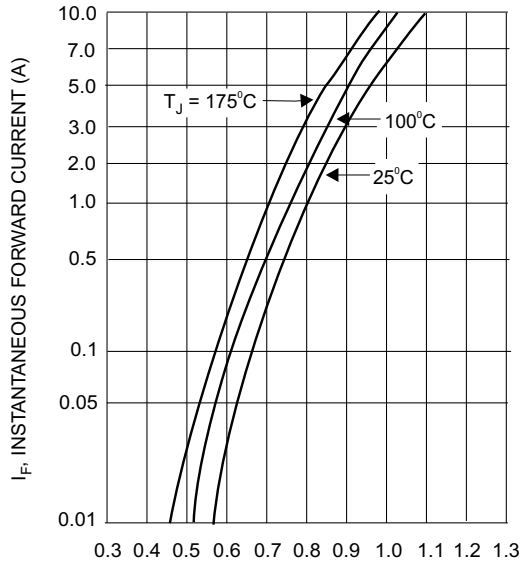


Fig. 2 Typical Forward Characteristics

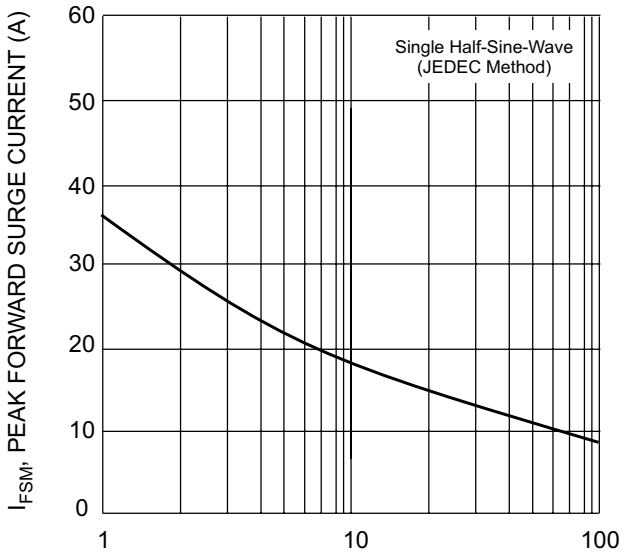


Fig. 3 Surge Current Derating Curve

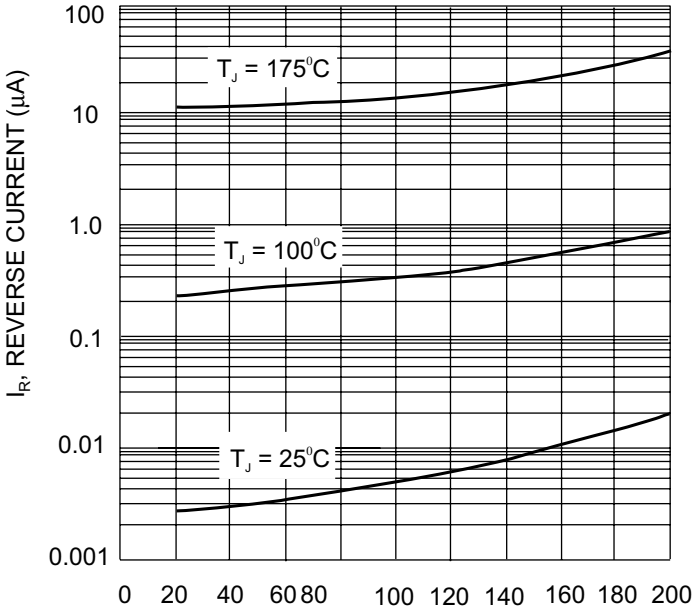
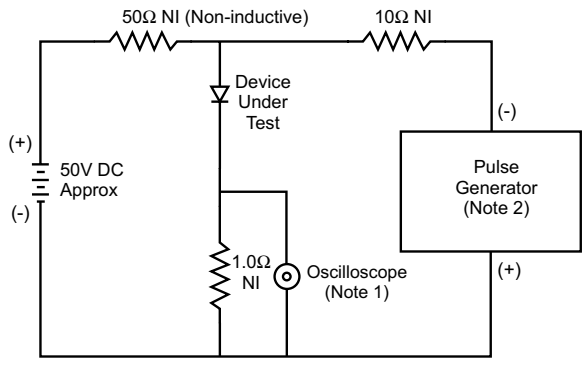
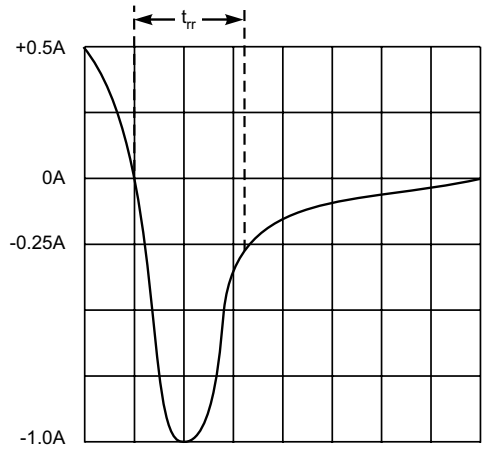


Fig. 4 Typical Reverse Characteristics



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