



# MUR120

Reverse Voltage 200 Volts    Forward Current 1.0 Ampere

Ultrafast Plastic Rectifier

## Features

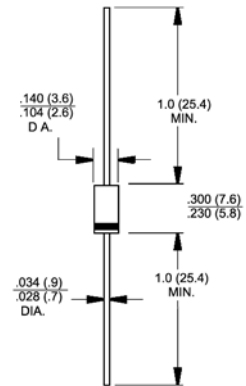
- ◆ Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- ◆ Ideally suited for use in very high frequency switching power supplies, inverters and as a free wheeling diode
- ◆ Ultrafast recovery time for high efficiency
- ◆ Excellent high temperature switching
- ◆ Glass passivated junction



DO-204AC (DO-15)

## Mechanical Data

- ◆ Cases: JEDEC DO-204AC(DO-15), molded plastic body over passivated chip
- ◆ Terminals: Axial leads, solderable per MIL-STD-750, Method 2026  
High temperature soldering guaranteed:  
250°C/10Seconds, 0.375" (9.5mm) lead length at 5 lbs. (2.3Kg) tension
- ◆ Polarity: Color band denotes cathode end
- ◆ Mounting position: Any
- ◆ Weight: 0.015 ounce, 0.4 gram



Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

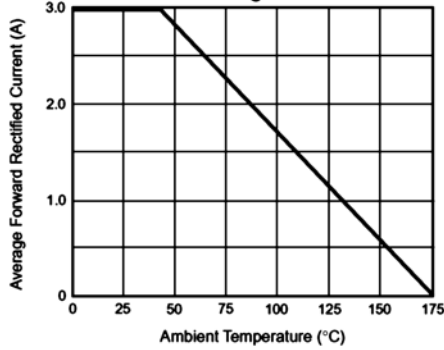
Parameter	Symbols	MUR120	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	200	Volts
Working peak reverse voltage	$V_{RWM}$	200	Volts
Maximum DC blocking voltage	$V_{DC}$	200	Volts
Maximum average forward rectified current at $T_A=130^\circ\text{C}$	$I_{F(AV)}$	1.0	Amp
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	35.0	Amps
Maximum instantaneous forward voltage (Note 1) at $1.0\text{A}, T_J=25^\circ\text{C}$ at $1.0\text{A}, T_J=150^\circ\text{C}$	$V_F$	0.875 0.710	Volts
Maximum instantaneous reverse current at rated DC blocking voltage (Note 1) $T_J=25^\circ\text{C}$ $T_J=150^\circ\text{C}$	$I_R$	2.0 50	$\mu\text{A}$ $\mu\text{A}$
Maximum reverse recovery time at $I_F=0.5\text{A}, I_R=1.0\text{A}, I_T=0.25\text{A}$	$t_{rr}$	25	nS
Maximum reverse recovery time at $I_F=1.0\text{A}, di/dt=50\text{A}/\mu\text{s}, V_R=30\text{V}, I_T=10\% I_{RM}$	$t_{rr}$	35	nS
Maximum forward recovery time at $I_F=1.0\text{A}, di/dt=100\text{A}/\mu\text{s}, I_{TC}$ to 1.0V	$t_{fr}$	25	nS
Typical thermal resistance junction to ambient (Note 2)	$R_{\theta JA}$	27	$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +175	$^\circ\text{C}$

- Notes:**
1. Pulse test:  $t_p=300\mu\text{s}$ , duty cycle < 2%
  2. Lead length = 3/8" on P.C. Board with 1.5" x 1.5" copper surface

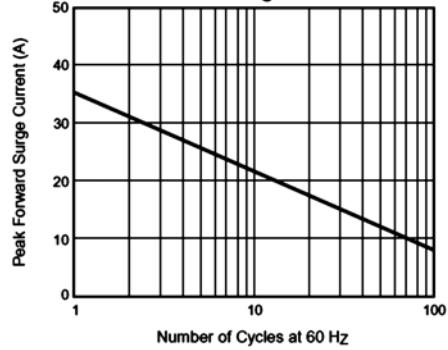
# RATINGS AND CHARACTERISTIC CURVES

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

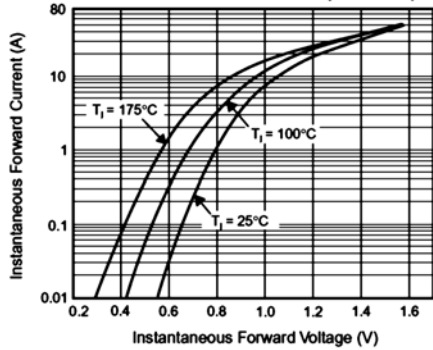
**Fig. 1 – Forward Current Derating Curve**



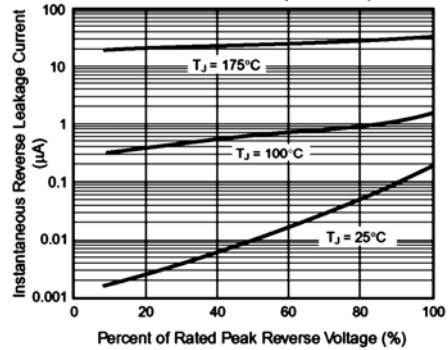
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



**Fig. 3 – Typical Instantaneous Forward Characteristics (MUR120)**



**Fig. 4 – Typical Reverse Leakage Characteristics (MUR120)**



**Fig. 5 – Typical Junction Capacitance**

