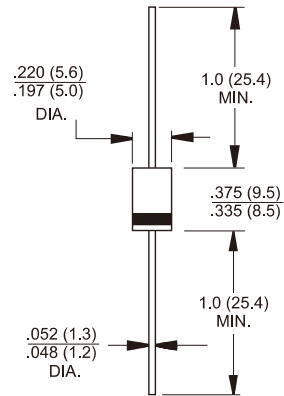


# MUR420 - MUR460

## 4.0 AMPS. Ultrafast Glass Passivated Rectifiers

### DO-201AD



Dimensions in inches and (millimeters)

### Marking Diagram



MUR4XX = Specific Device Code  
 G = Green Compound  
 Y = Year  
 WW = Work Week

## Features

- ✧ Ideally suited for use in very high frequency switching power supplies, inverters and as free wheeling diodes
- ✧ Ultrafast recovery time for high efficiency
- ✧ Excellent high temperature switching
- ✧ Glass passivated junction
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode.

## Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Lead: Pure tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode
- ✧ High temperature soldering guaranteed: 260°C/10 seconds/.375" (9.5mm) lead lengths at 5 lbs. (2.3kg) tension
- ✧ Mounting position: Any
- ✧ Weight: 1.20 grams

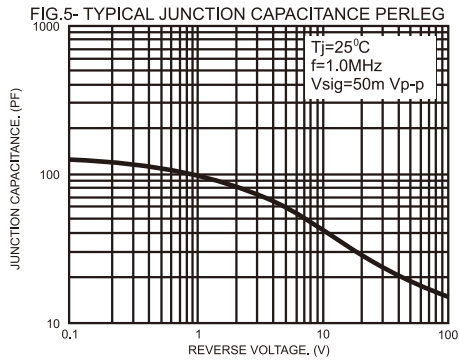
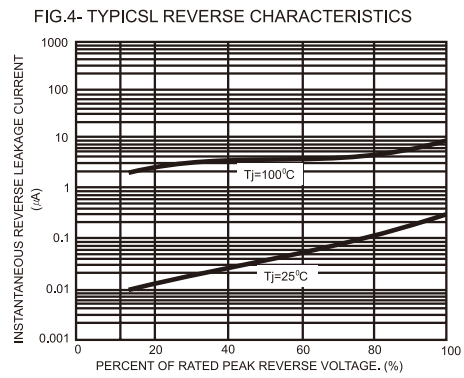
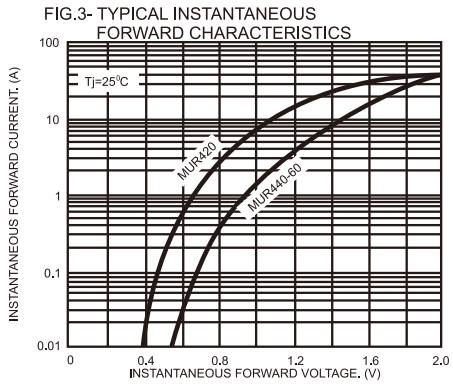
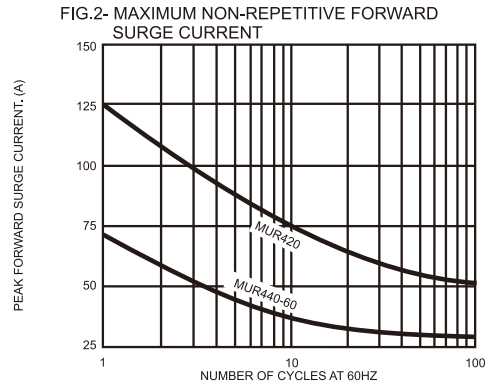
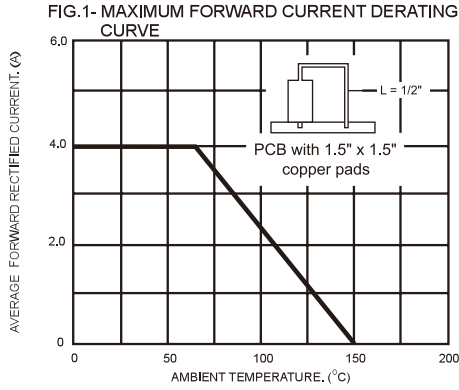
## Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.  
 Single phase, half wave, 60 Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%

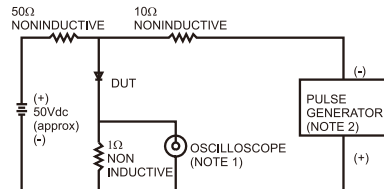
Type Number	Symbol	MUR420	MUR440	MUR460	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	200	400	600	V
Maximum RMS Voltage	$V_{RMS}$	140	280	420	V
Maximum DC Blocking Voltage	$V_{DC}$	200	400	600	V
Maximum Average Forward Rectified Current .375" (9.5mm) Lead Length (See Fig. 1)	$I_{F(AV)}$	4.0			A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	125	70		A
Maximum Instantaneous Forward Voltage @ 4.0A	$V_F$	0.89	1.28		V
Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=125^\circ\text{C}$ (Note 1)	$I_R$	5.0 150	10 250		$\mu\text{A}$ $\mu\text{A}$
Maximum Reverse Recovery Time (Note 2)	$T_{rr}$	25	50		nS
Typical Junction Capacitance (Note 3) $T_J = 25^\circ\text{C}$ (Fig. 5)	$C_j$	65			pF
Maximum Forward Recovery Time $T_{fr}$ ( $I_F=1.0\text{A}$ , $di/dt = 100\text{A}/\mu\text{s}$ , Rev. to 1.0V)	$T_{fr}$	25	50		nS
Typical Thermal Resistance (Note 4)	$R_{\theta JA}$	28			$^\circ\text{C}/\text{W}$
Operating Temperature Range	$T_J$	-65 to +150			$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +150			$^\circ\text{C}$

- Notes: 1. Pulse test:  $t_p = 300 \mu\text{s}$ , Duty Cycle < 1%.  
 2. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$   
 3. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.  
 4. Thermal Resistance from Junction to Ambient, Lead Length = 1/2" on P.C. Board with 0.6" x 0.6" Copper Surface.

### RATINGS AND CHARACTERISTIC CURVES (MUR420 THRU MUR460)



**FIG. 6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



- NOTES: 1. Rise Time=7ns max. Input Impedance=1 megohm 22pf  
 2. Rise Time=10ns max. Source Impedance=50 ohms

