

# MUR420 - MUR460

4.0 AMPS. Ultrafast Glass Passivated Rectifiers

**DO-201AD**

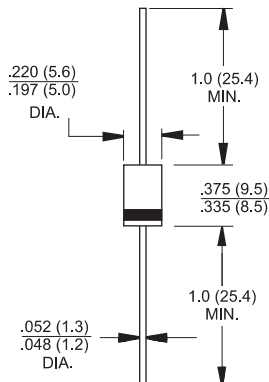
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## Features

- ✦ 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

## 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: 1.2 grams, 0.045oz.



Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

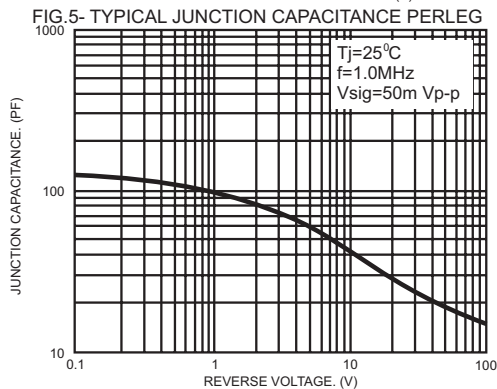
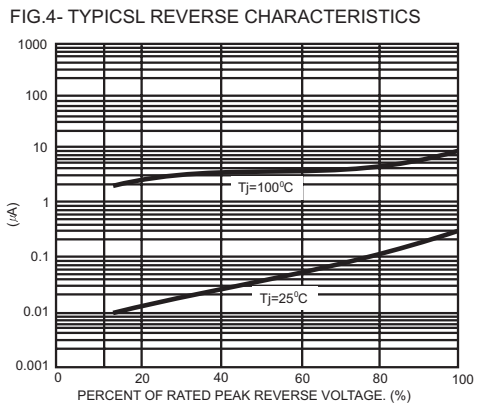
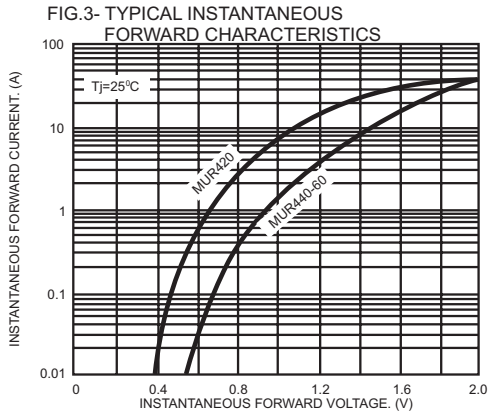
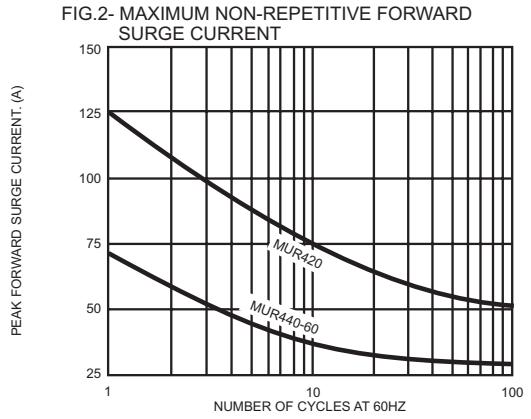
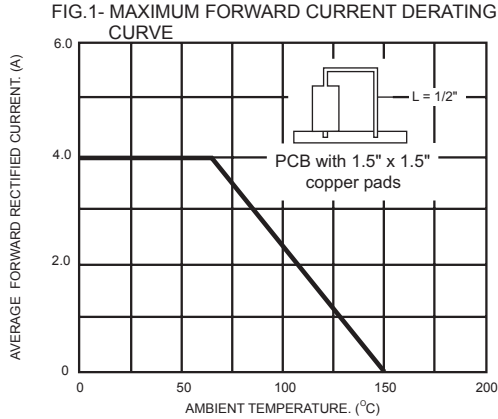
Single phase, half wave, 60 Hz, resistive or inductive load.

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)	$I_{(AV)}$	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 @ $T_C=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_C=125^\circ\text{C}$ (Note 4)	$I_R$	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 1 ) $T_J = 25^\circ\text{C}$ (Fig. 5)	$C_j$	65			pF
Maximum Forward Recovery Time TFR ( $I_F=1.0\text{A}$ , $di/dt = 100\text{A}/\mu\text{s}$ , Rev. to 1.0V)	$T_{FR}$	25	50		nS
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	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. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.
  2. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$
  3. Thermal Resistance from Junction to Ambient, Lead Length = 1/2" on P.C. Board with 1.5" x 1.5" Copper Surface.
  4. Pulse test:  $t_p = 300 \mu\text{s}$ , Duty Cycle < 2%.

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



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

