

MUR420 - MUR460

4.0 AMPS. Ultrafast Glass Passivated Rectifiers

DO-201AD

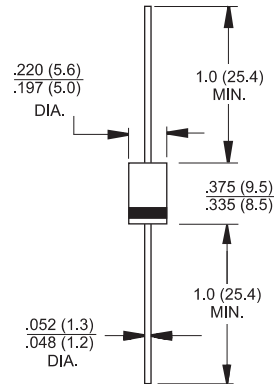


Features

- ✧ 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 °C at Rated DC Blocking Voltage @ T _C =125 °C (Note 4)	I _R	5.0 150	10 250		uA uA
Maximum Reverse Recovery Time (Note 2)	T _{rr}	25	50		nS
Typical Junction Capacitance (Note 1) T _J = 25 °C (Fig. 5)	C _j	65			pF
Maximum Forward Recovery Time T _{FR} (IF=1.0A, di/dt = 100A/us, Rev. to 1.0V)	T _{FR}	25	50		nS
Typical Thermal Resistance (Note 3)	R _{θJA}	28			°C/W
Operating Temperature Range	T _J	-65 to +150			°C
Storage Temperature Range	T _{STG}	-65 to +150			°C

- Notes:
1. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.
 2. Reverse Recovery Test Conditions: $I_F=0.5A$, $I_R=1.0A$, $I_{RR}=0.25A$
 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: $t_p = 300 \mu s$, Duty Cycle < 2%.

RATINGS AND CHARACTERISTIC CURVES (MUR420 THRU MUR460)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

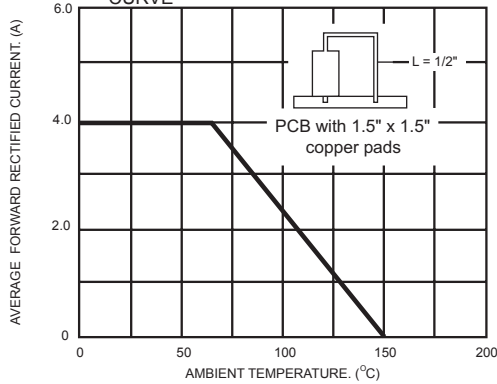


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

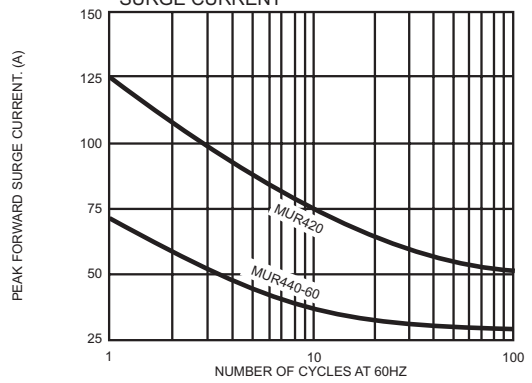


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

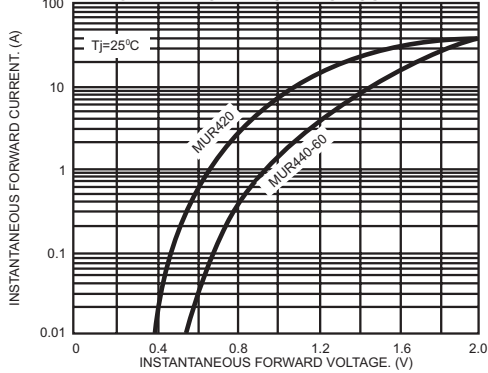


FIG.4- TYPICAL REVERSE CHARACTERISTICS

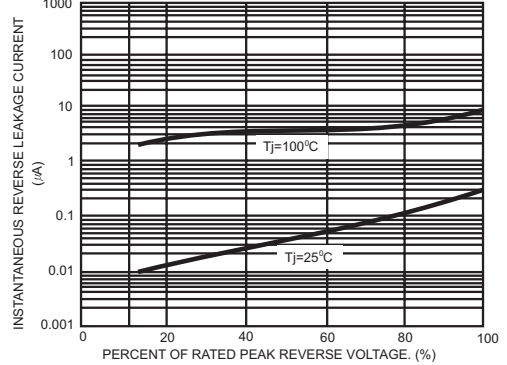


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

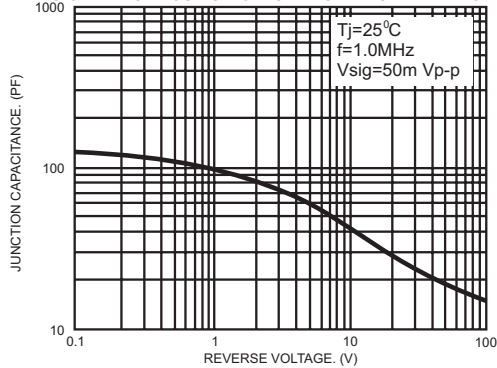


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

