

DO-201AD

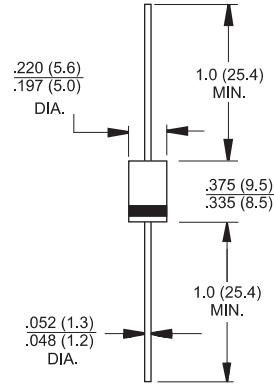


Features

- ✦ 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
- ✦ 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,



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 @ $T_C=25^\circ C$ at Rated DC Blocking Voltage @ $T_C=125^\circ C$ (Note 4)	I_R	5.0 150	10 250		μA μA
Maximum Reverse Recovery Time (Note 2)	T_{rr}	25	50		nS
Typical Junction Capacitance (Note 1) $T_J = 25^\circ C$ (Fig. 5)	C_j	65			pF
Maximum Forward Recovery Time TFR ($I_F=1.0A$, $di/dt = 100A/\mu s$, Rev. to 1.0V)	T_{FR}	25	50		nS
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	28			$^\circ C/W$
Operating Temperature Range	T_J	-65 to +150			$^\circ C$
Storage Temperature Range	T_{STG}	-65 to +150			$^\circ C$

- 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 lest: $t_p = 300 \mu s$, Duty Cycle < 2%.

RATINGS AND CHARACTERISTIC CURVES (MUR420 THRU MUR460)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

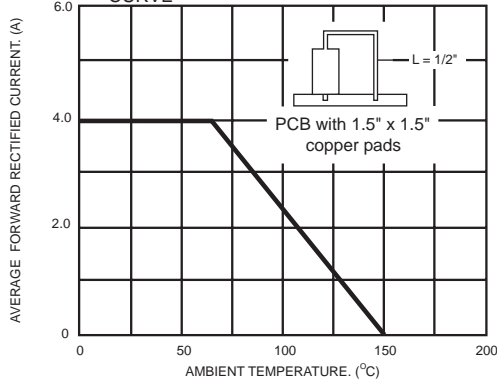


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

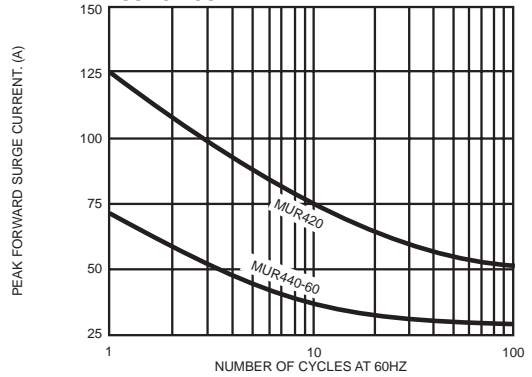


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

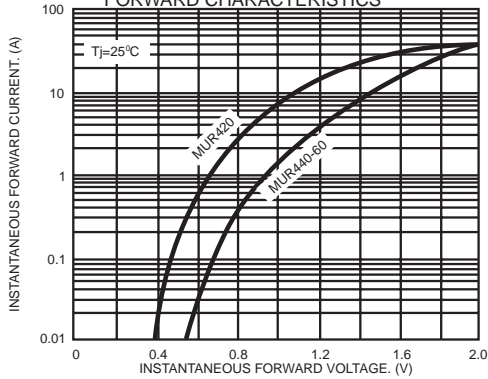


FIG.4- TYPICAL REVERSE CHARACTERISTICS

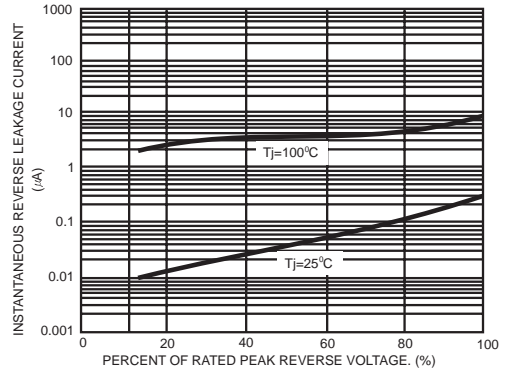


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

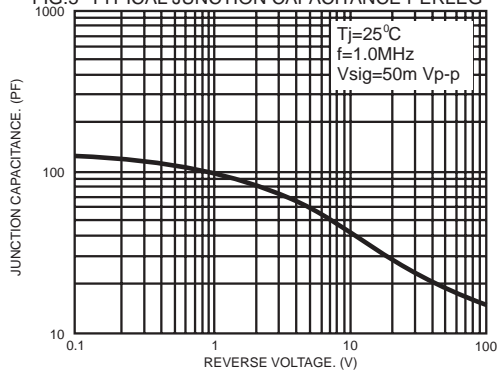
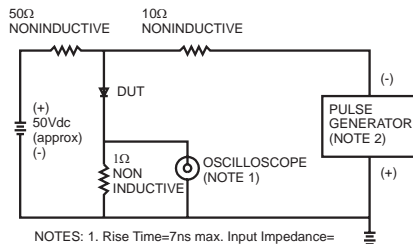


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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

