

MUR160 - MUR190

1.0 AMPS. Glass Passivated High Efficient Rectifiers

DO-15/DO-204AC

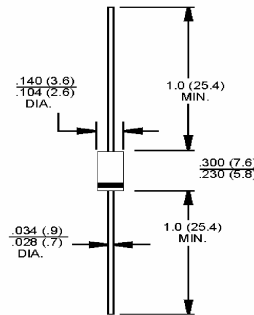


Features

- ✧ Designed for use in switching power supplies, inverters and as free wheeling diodes
- ✧ High efficiency, low VF
- ✧ High reliability
- ✧ Ultrafast recovery time for high efficiency
- ✧ 175°C operating junction temperature
- ✧ Green compound with suffix "G" on packing code & marking

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
- ✧ Weight: 0.34 grams



Dimensions in inches and (millimeters)



MUR1XX= Specific Device Code
 G = Green Compound
 Y = Year
 WW = Work Week

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	MUR160	MUR190	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	600	900	V
Maximum RMS Voltage	V_{RMS}	420	630	V
Maximum DC Blocking Voltage	V_{DC}	600	900	V
Maximum Average Forward Rectified Current (Square Wave Note 4) @ $T_A=80^\circ\text{C}$	$I_{(AV)}$	1.0		A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	35		A
Maximum Instantaneous Forward Voltage @ 1.0A $T_j=150^\circ\text{C}$ $T_j=25^\circ\text{C}$	V_F	1.05 1.25	1.5 1.7	V
Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=125^\circ\text{C}$	I_R	5.0 150		μA μA
Maximum Reverse Recovery Time (Note 2)	T_{rr}	50	75	nS
Typical Junction Capacitance (Note 1)	C_j	27	15	pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	50		$^\circ\text{C/W}$
Operating Temperature Range	T_J	-65 to +175		$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to +175		$^\circ\text{C}$

- 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, with units Mounted on P.C. Board with 0.4" x 0.4" Copper Surface.
 4. Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$.

RATINGS AND CHARACTERISTIC CURVES (MUR160 THRU MUR190)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

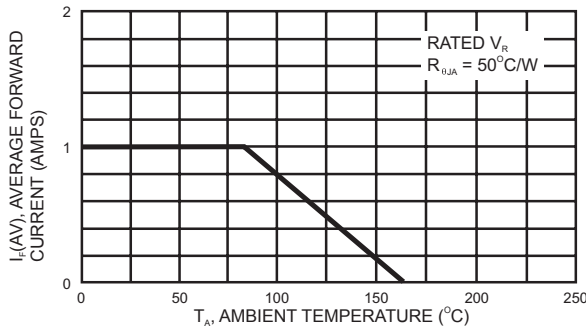


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

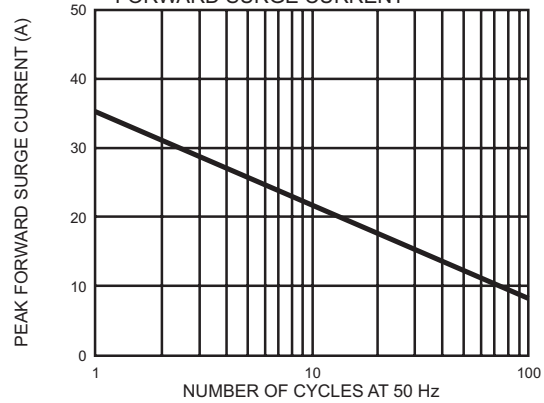


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

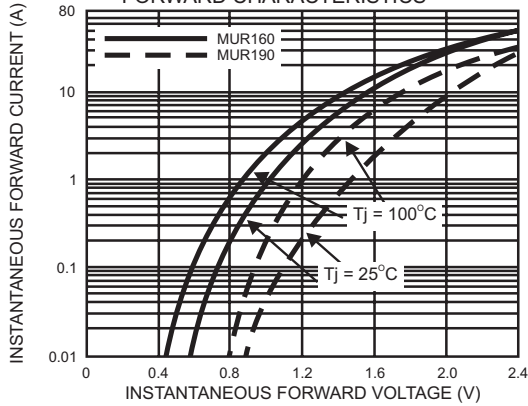


FIG.4- TYPICAL TYPICAL REVERSE LEAKAGE CHARACTERISTICS

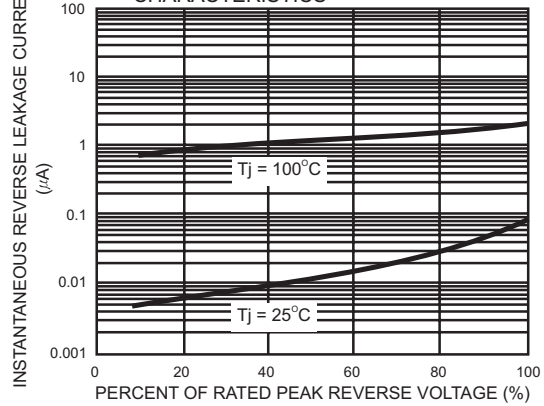


FIG.5- TYPICAL JUNCTION CAPACITANCE

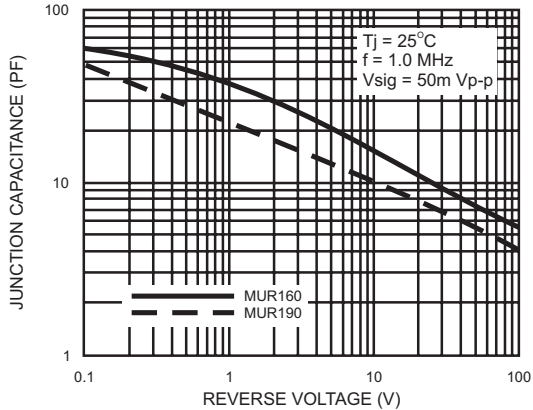
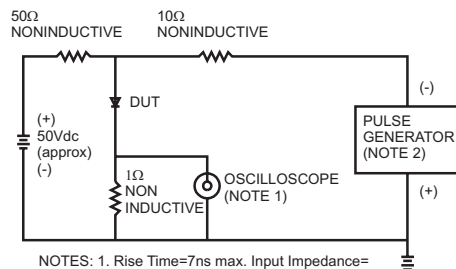
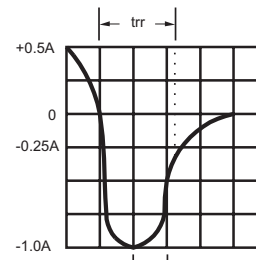


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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



SET TIME BASE FOR 5/ 10ns/cm

Version: C08