

# MUR160A - MUR190A

## 1.0 AMPS. Glass Passivated High Efficient Rectifiers

### DO-41

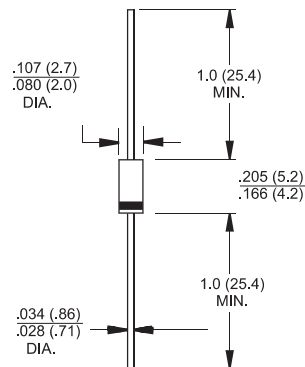


## Features

- 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
- 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
- Weight: 0.34 grams



Dimensions in inches and (millimeters)

Marking Diagram



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	MUR160A	MUR190A	Units
Maximum Recurrent Peak Reverse Voltage	VRRM	600	900	V
Maximum RMS Voltage	VRMS	420	630	V
Maximum DC Blocking Voltage	VDC	600	900	V
Maximum Average Forward Rectified Current (Square Wave Note 4) @ TA=80 °C	I(AV)	1.0		A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )	IFSM	35		A
Maximum Instantaneous Forward Voltage @ 1.0A Tj=150 °C Tj=25 °C	VF	1.05 1.25	1.5 1.7	V
Maximum DC Reverse Current @ TA=25 °C at Rated DC Blocking Voltage @ TA=125 °C	IR	5.0 150		uA uA
Maximum Reverse Recovery Time ( Note 2 )	Trr	50	75	nS
Typical Junction Capacitance ( Note 1 )	Cj	27	15	pF
Typical Thermal Resistance (Note 3)	RθJA	50		°C/W
Operating Temperature Range	Tj	-65 to +175		°C
Storage Temperature Range	TSTG	-65 to +175		°C

- Notes:
- Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.
  - Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$
  - Thermal Resistance from Junction to Ambient, with units Mounted on P.C. Board with 0.2" x 0.2" Copper Surface.
  - Pulse Test: Pulse Width = 300uS, Duty Cycle ≤2.0%.

## RATINGS AND CHARACTERISTIC CURVES (MUR160A THRU MUR190A)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

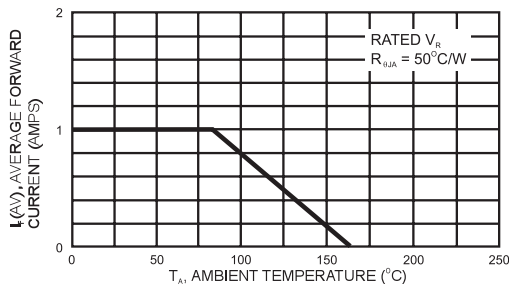


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

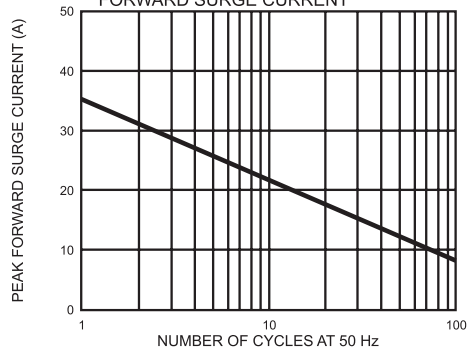


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

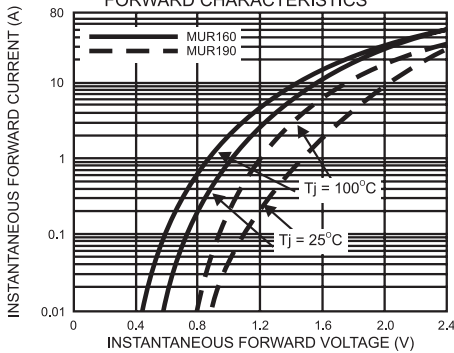


FIG.4- TYPICAL REVERSE LEAKAGE CHARACTERISTICS

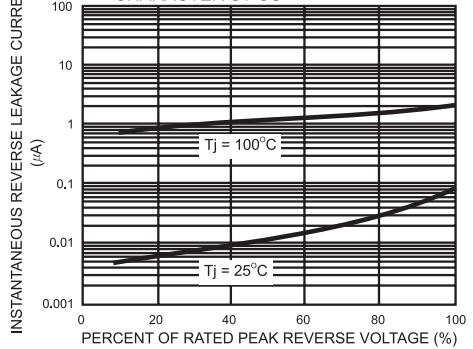


FIG.5- TYPICAL JUNCTION CAPACITANCE

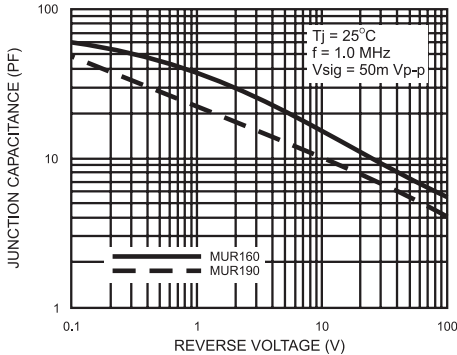
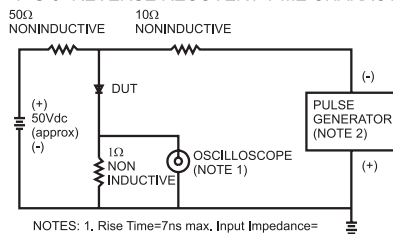


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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

