TAIWAN SEMICONDUCTOR

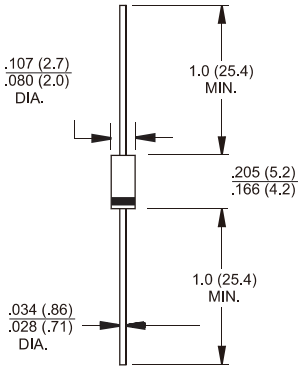
MUR160A - MUR190A

1.0 AMP. Glass Passivated High Efficient Rectifiers

DO-41

Pb RoHS COMPLIANCE





Dimensions in inches and (millimeters)

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

Marking Diagram



MUR1XXA = 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	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 @ T_A=80 °C	$I_{F(AV)}$	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 Tj=150 °C Tj=25 °C	V_F	1.05 1.25	1.5 1.7	V
Maximum DC Reverse Current at @ T_A=25 °C Rated DC Blocking Voltage(Note 1) @ T_A=125 °C	I_R	5.0 150		uA uA
Maximum Reverse Recovery Time (Note 2)	Trr	50	75	nS
Typical Junction Capacitance (Note 4)	Cj	27	15	pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	50		°C/W
Operating Temperature Range	T_J	-65 to +175		°C
Storage Temperature Range	T_{STG}	-65 to +175		°C

Notes: 1. Pulse Test: Pulse Width = 300uS, Duty Cycle ≤1.0%.
2. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A
3. Mounted on P.C. Board with 0.2” x 0.2” Copper Surface.
4. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.

RATINGS AND CHARACTERISTIC CURVES (MUR160A THRU MUR190A)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

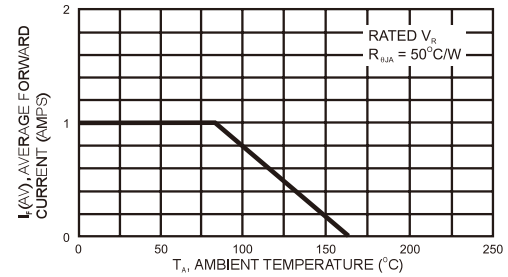


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

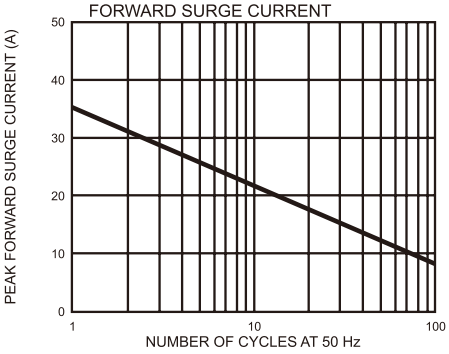


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

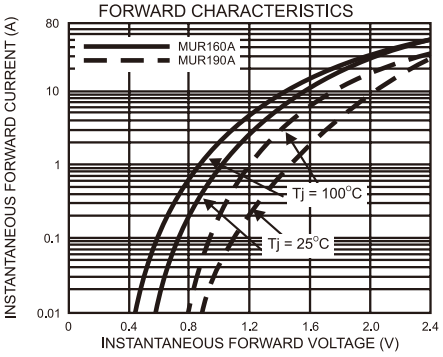


FIG.4- TYPICAL TYPICAL REVERSE LEAKAGE CHARACTERISTICS

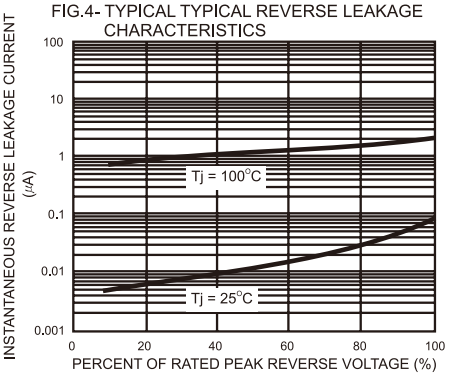


FIG.5- TYPICAL JUNCTION CAPACITANCE

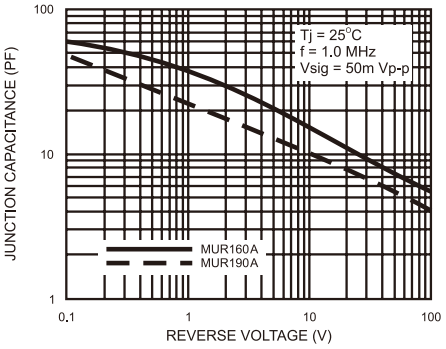
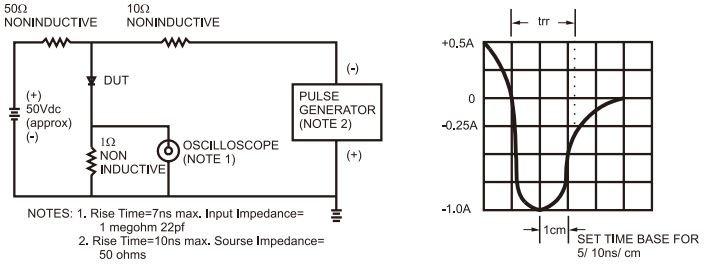


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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