TAIWAN SEMICONDUCTOR

The Smartest Choice

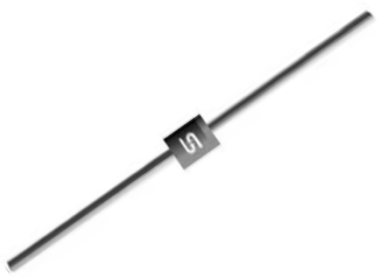
MUR160 - MUR190

1.0AMP Glass Passivated High Efficient Rectifiers

DO-15/DO-214AC

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℃ operating junction temperature
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode



AEC-Q101 Qualified

Pb-Free

RoHS COMPLIANT

Mechanical Data

- ✧ Case: 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: 260℃/10 seconds
- ✧ Weight: 0.40 grams

Ordering Information (example)

Part No.	Package	Packing	INNER TAPE	Packing code	Packing code (Green)
MUR160	DO-15	1.5K / AMMO box	52mm	A0	A0G

Maximum Ratings and Electrical Characteristics

Rating at 25 ℃ ambient temperature unless otherwise specified.

Parameter	Symbol	MUR160	MUR190	Unit
Maximum Repetitive 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	$I_{F(AV)}$	1		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 (Note 1) @ 1 A T_A=150℃ / T_A=25℃	V_F	1.05 / 1.25	1.50 / 1.70	V
Maximum Reverse Current @ Rated VR T_A=25 ℃ / T_A=125 ℃	I_R	5 / 150		uA
Maximum Reverse Recovery Time (Note 2)	Trr	50	75	nS
Typical Junction Capacitance (Note 3)	Cj	27	15	pF
Typical Thermal Resistance	$R_{\theta jA}$	50		^{O}C/W
Operating Temperature Range	T_J	- 55 to + 175		^{O}C
Storage Temperature Range	T_{STG}	- 55 to + 175		^{O}C

Note 1: Pulse Test with PW=300 usec, 1% Duty Cycle

Note 2: Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

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RATINGS AND CHARACTERISTIC CURVES (MUR160 THRU MUR190)

FIG.1 FORWARD CURRENT DERATING CURVE

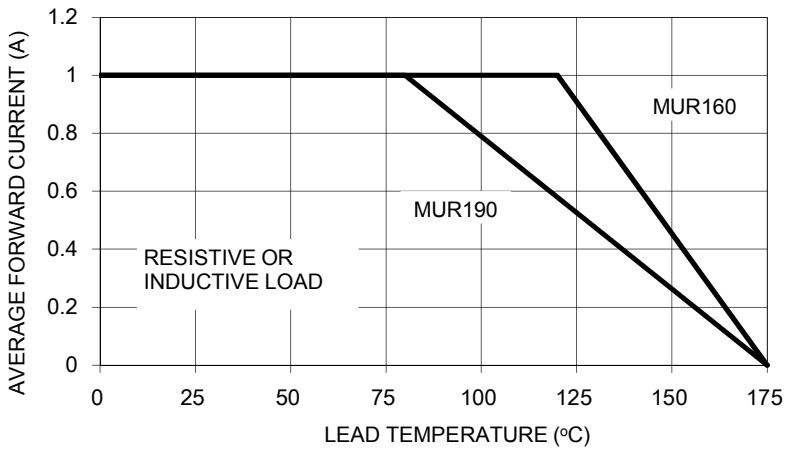


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

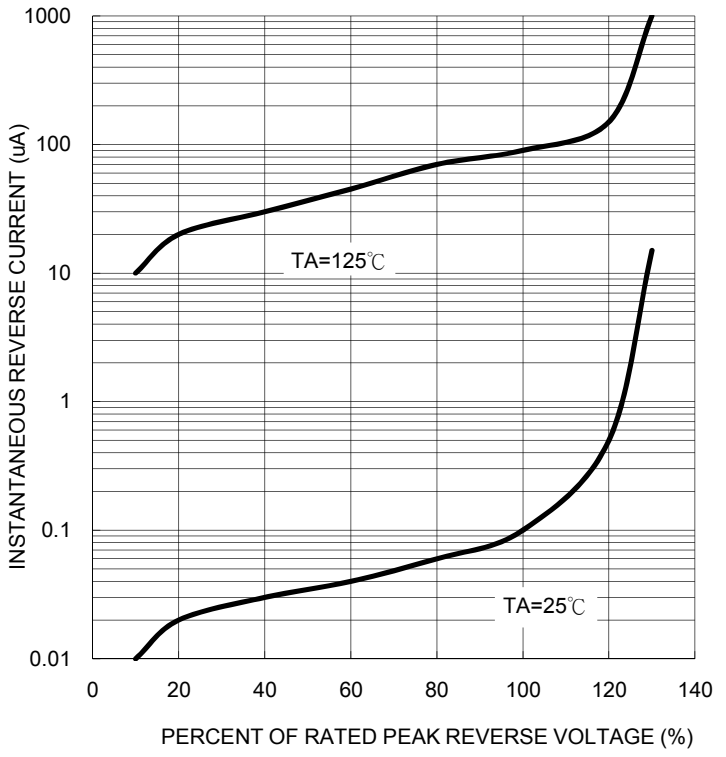


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

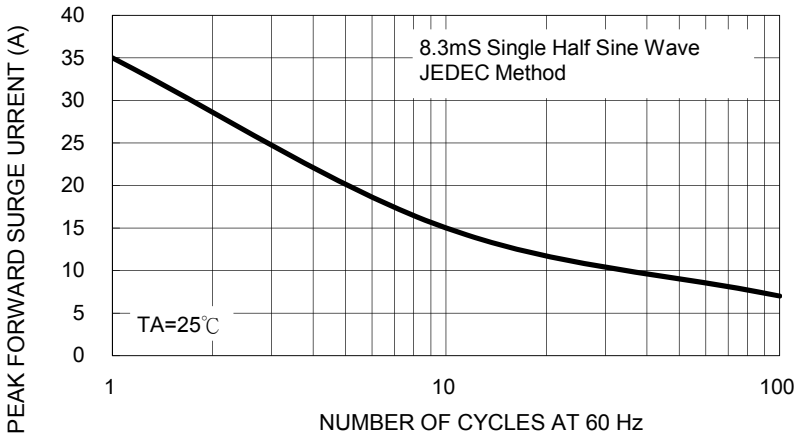


FIG. 5 TYPICAL FORWARD CHARACTERISTICS

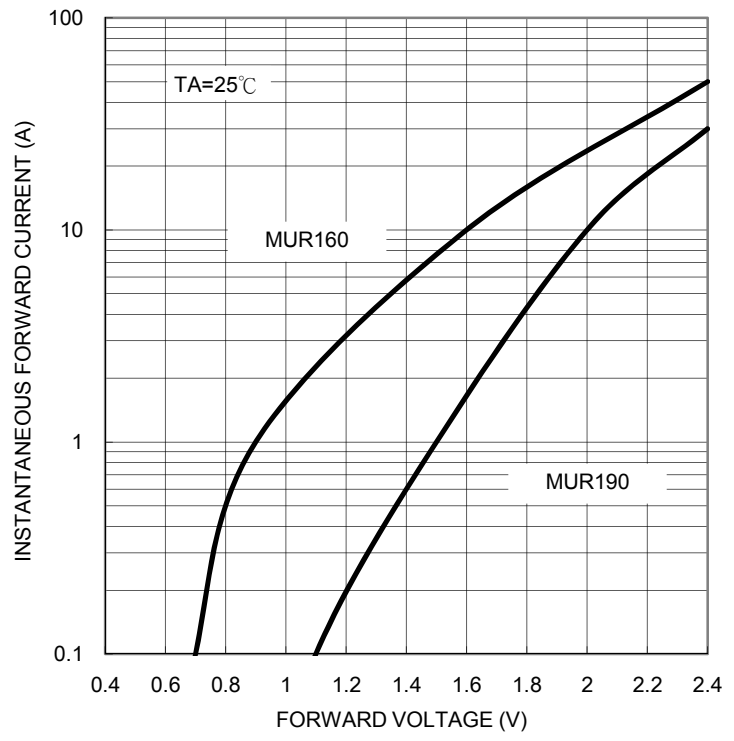


FIG. 4 TYPICAL JUNCTION CAPACITANCE

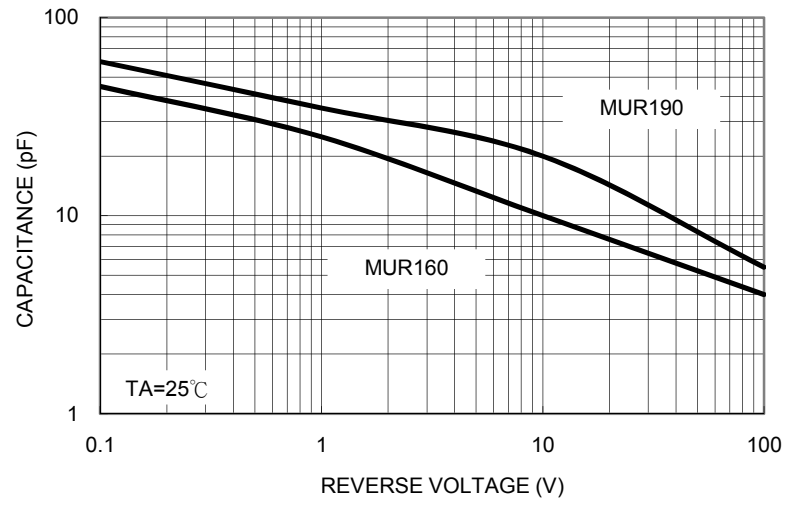
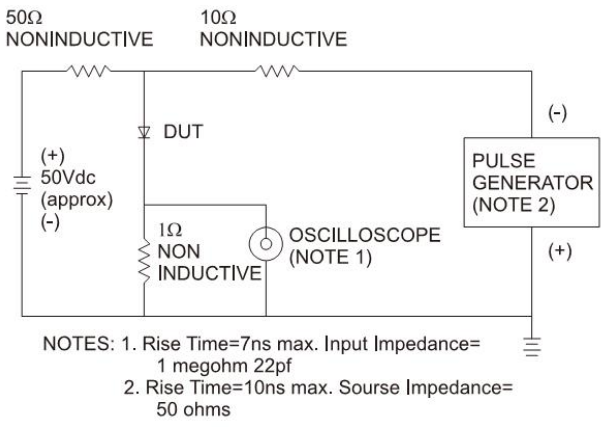
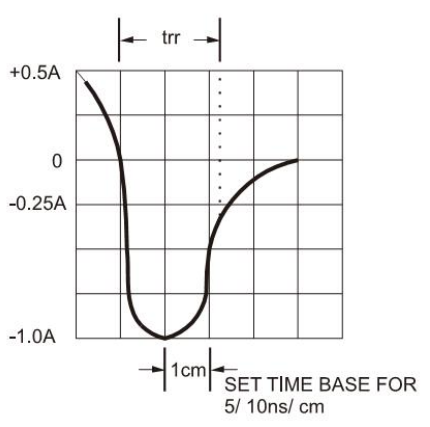


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM





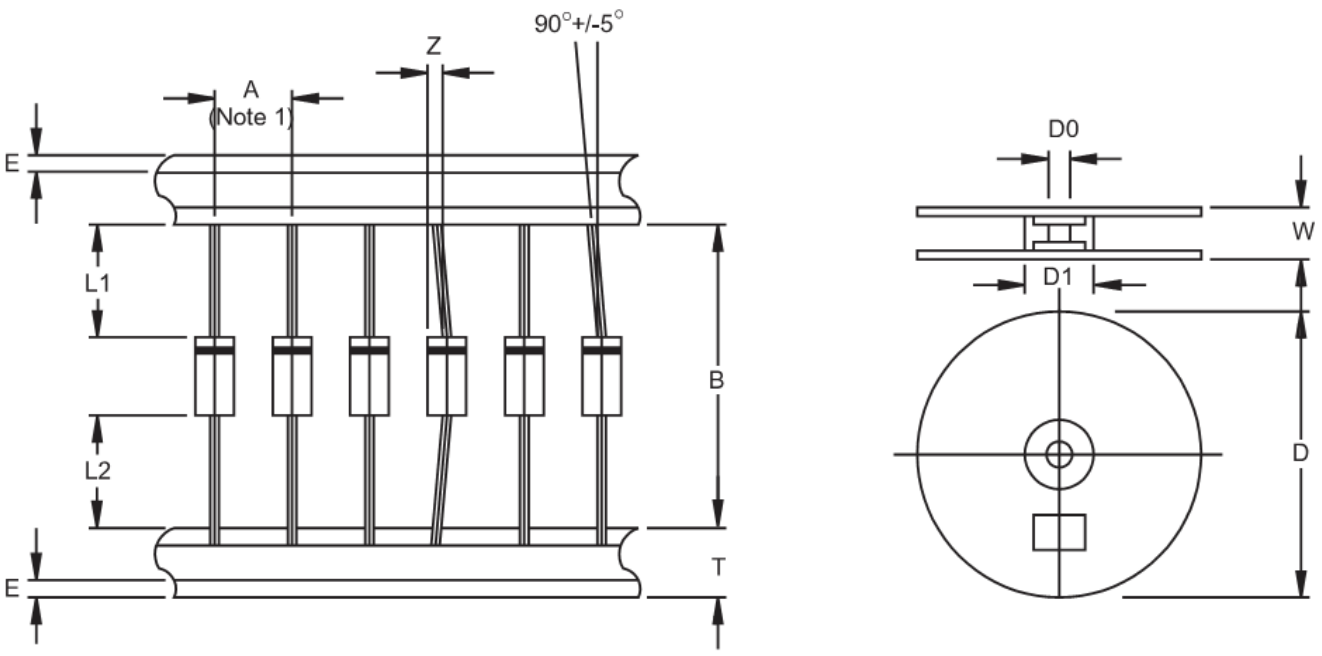
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Ordering information

Part No.	Package	Packing	INNER TAPE	Packing code	Packing code (Green)
MUR1xx (Note)	DO-15	1.5K / AMMO box	52mm	A0	A0G
	DO-15	3.5K / 13" Reel	52mm	R0	R0G
	DO-15	1K / Bulk packing		B0	B0G

Note: "xx" is Device Code from "60" thru "90".

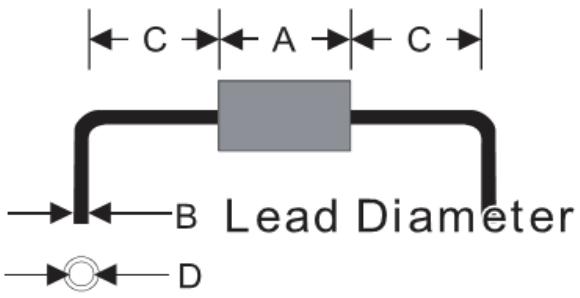
AXIAL LEAD TAPING SPECIFICATIONS



Outline	A	B	Z	T	E	L1-L2	D	D1	D0	W
	±0.5	±1.5	MAX	±0.4	MAX	MAX		±0.3	±0.4	±1.0
DO-15	5	52.4	1.2	6	0.8	1	330	85.7	16.6	76

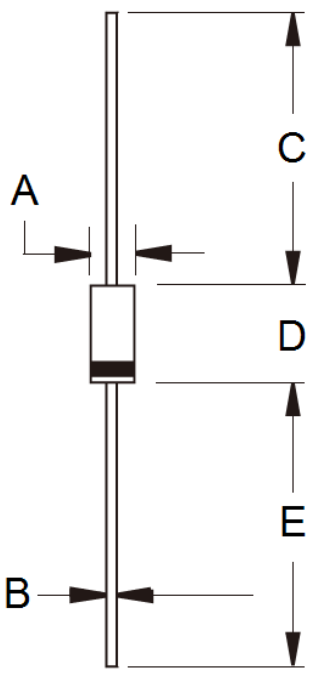
Unit (mm)

Suggested Mounting Hole Rule



Symbol	Unit(mm)
A	6.4
B	0.8
C	3.0
D	1.2

Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	2.60	3.60	0.102	0.142
B	0.70	0.90	0.028	0.035
C	25.40	-	1.000	-
D	5.80	7.60	0.228	0.299
E	25.40	-	1.000	-

Marking Diagram



P/N	= Specific Device Code
G	= Green Compound
YWW	= Date Code
F	= Factory Code