



YEA SHIN TECHNOLOGY CO., LTD

MUR120 THRU MUR160

ULTRA FAST RECOVERY RECTIFIER

VOLTAGE- 200 to 600 Volts CURRENT - 1.0 Amperes



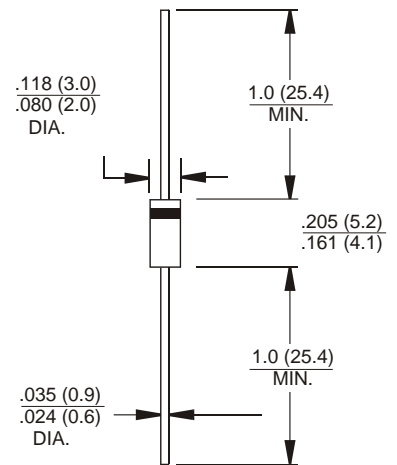
FEATURES

- Ultrafast 50 and 75 ns Recovery Times
- 150°C Operating Junction Temperature
- Low Forward Voltage
- Low Leakage Current
- High Temperature Glass Passivated Junction
- Reverse Voltage to 600 Volts
- High temperature soldering : 260 °C / 10 seconds at terminals
- Pb free product at available : 99% Sn above meet RoHS environment substance directive request

Mechanical Characteristics:

- Case: Epoxy, Molded
- Weight: 0.4 gram (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes: 220°C Max. for 10 Seconds
- Polarity: Cathode Indicated by Polarity Band
- Making: MUR120, MUR140, MUR160

DO-41 Unit:inch (mm)



MAXIMUM RATINGS

Rating	Symbol	MUR			Unit
		120	140	160	
Peak Repetitive Reverse Voltage	VRRM				V
Working Peak Reverse Voltage	VRWM	200	400	600	
DC Blocking Voltage	VR				
Average Rectified Forward Current	IF(AV)	1.0			A
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions, halfwave, single phase, 60 Hz)	IFSM	30			A
Operating Junction Temperature and Storage Temperature	TJ, Tstg	-55 to +150			°C

THERMAL CHARACTERISTICS (Note 3)

Maximum Thermal Resistance, Junction to Ambient	R JA	50	°C/W
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ELECTRICAL CHARACTERISTICS

Parameter	Symbol	120	140	160	Unit
Maximum Instantaneous Forward Voltage (Note 1) (IF = 1.0 A, TJ = 25°C) (IF = 1.0 A, TJ = 150°C)	VF	0.875 1.00	0.875 1.00	1.00 1.30	V
Maximum Instantaneous Reverse Current (Note 1) (Rated dc Voltage, TJ = 25°C) (Rated dc Voltage, TJ = 150°C)	IR	5 50	5 150	5 150	uA
Maximum Reverse Recovery Time (IF = 0.5 A, IR = 1.0 A, Irr = 0.25 A)	trr	50	50	75	ns
Typical Junction Capacitance (Note 2)	CJ	20			pF

- (1) Pulse Test: Pulse Width = 300 us, Duty Cycle 2.0%.
- (2) Measured at 1.0 MHZ and applied reverse voltage of 4.0V DC.
- (3) Leads maintained at ambient temperature at a distance of 9.5mm from the case.

DEVICE CHARACTERISTICS

MUR120 THRU MUR160

FIG.1 – TYPICAL FORWARD CHARACTERISTICS

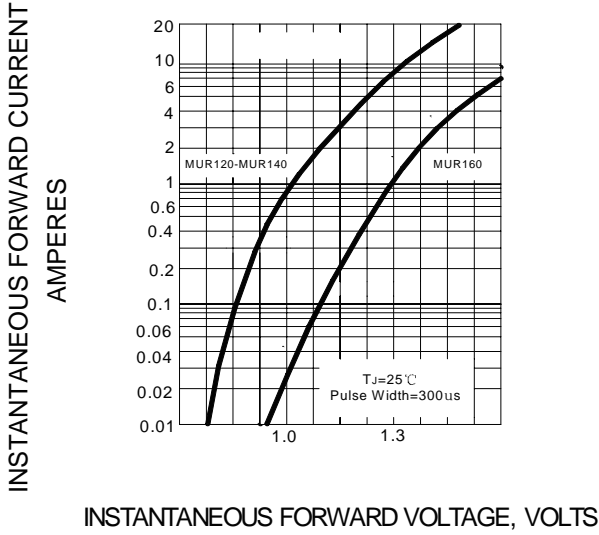


FIG.2 – FORWARD DRATING CURVE

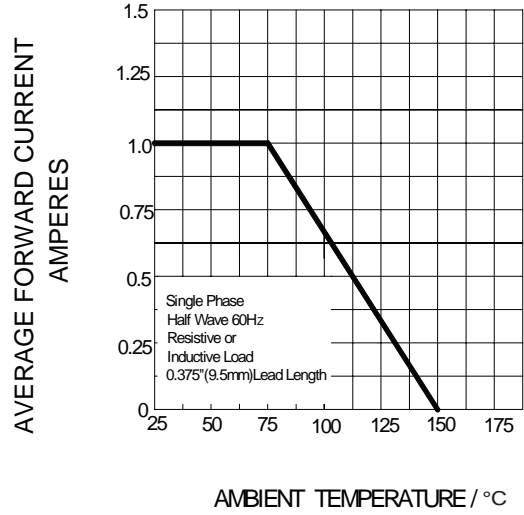
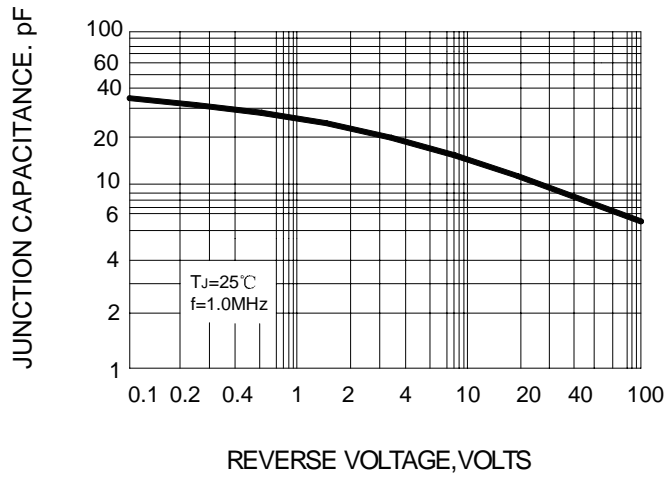


FIG.3 – TYPICAL JUNCTION CAPACITANCE



DEVICE CHARACTERISTICS

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INSTANTANEOUS REVERSE LEAKAGE CURRENT

FIG.4 – TYPICAL REVERSE CHARACTERISTICS

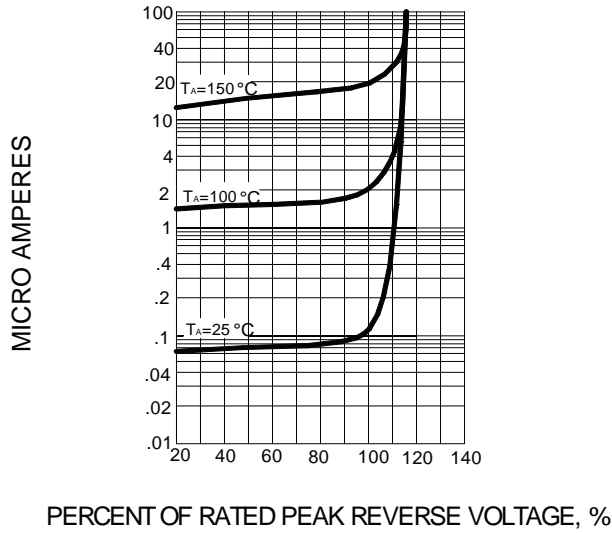


FIG.5 – PEAK FORWARD SURGE CURRENT

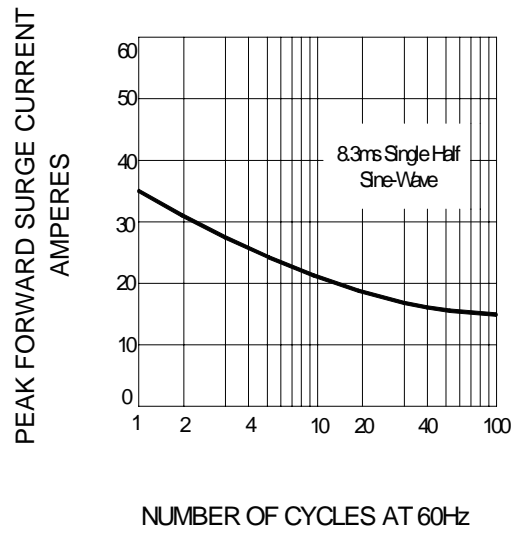
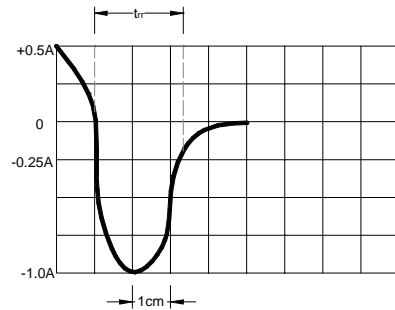
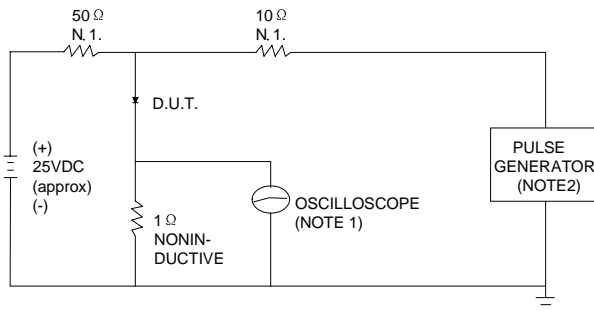


FIG.6 – TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES: 1. RISE TIME = 7ns MAX INPUT IMPEDANCE = 1MΩ. 22pF.
 2. RISE TIME = 10ns MAX SOURCE IMPEDANCE = 50Ω.

SET TIME BASE FOR 10/20 ns/cm