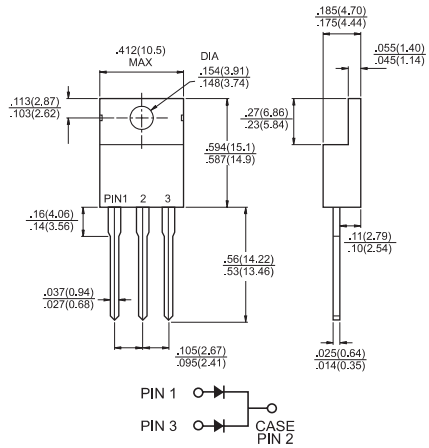
TAIWAN SEMICONDUCTOR

RoHS COMPLIANCE

MUR1620CT - MUR1660CT

16.0 AMPS. Switchmode Power Rectifiers

TO-220AB



Dimensions in inches and (millimeters)

Features

- ✧ Ultrafast 35 and 60 Nanosecond Recovery times
- ✧ 175°C operating Junction Temperature
- ✧ Popular TO-220 Package
- ✧ Epoxy meets UL94, V0 @ 1/8”
- ✧ High temperature glass passivated junction
- ✧ High voltage capability to 600 volts
- ✧ Low leakage specified @ 150°C case temperature
- ✧ Current derating @ both case and ambient temperatures

Mechanical Data

- ✧ Case: Epoxy, molded
- ✧ Terminal : Pure tin plated, lead free
- ✧ Lead temperature for soldering purposes: 260°C Max. for 10 seconds
- ✧ Finish: all external surfaces corrosion resistant and terminal leads are readily solderable
- ✧ Shipped 50 units per plastic tube
- ✧ Weight: 1.9 grams (approximately)

MAXIMUM RATINGS

Type Number	Symbol	MUR 1620CT	MUR 1640CT	MUR 1660CT	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	200	400	600	V
Average Rectified Forward Current Total Device, (Rated V_R), Tc=150°C Total Device	$I_{F(AV)}$	8.0 16			Amps
Peak Rectified Forward Current (Rated VR, Square Wave, 20 KHz), Tc=150°C Per Diode Leg	I_{FM}	16			Amps
Nonrepetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	I_{FSM}	100			Amps
Operating Junction Temperature and Storage Temperature	T_J, T_{STG}	-65 to + 175			°C
Maximum Thermal Resistance, Junction to Case	$R_{\theta JC}$	3.0	2.0		°C /W
Maximum Instantaneous Forward Voltage (Note 1) (IF=8.0 Amps, Tc=25°C) (IF=8.0 Amps, Tc=150°C)	VF	0.975 0.895	1.30 1.30	1.50 1.20	V
Maximum Instantaneous Reverse Current at Rated DC Blocking Voltage @ T_A=25°C @ T_A=125°C	IR	5.0 250	10 500		uA uA
Maximum Reverse Recovery Time (IF=1.0 Amp, di/dt = 50 Amps / us) (IF=0.5 Amp, IR=1.0 Amp, IREC=0.25 Amp)	trr	35 25	60 50		nS

Note: 1. Pulse Test: Pulse Width = 300 us, Duty Cycle ≦2.0%.

RATINGS AND CHARACTERISTIC CURVES (MUR1620CT THRU MUR1660CT)

FIG.1- CURRENT DERATING, CASE

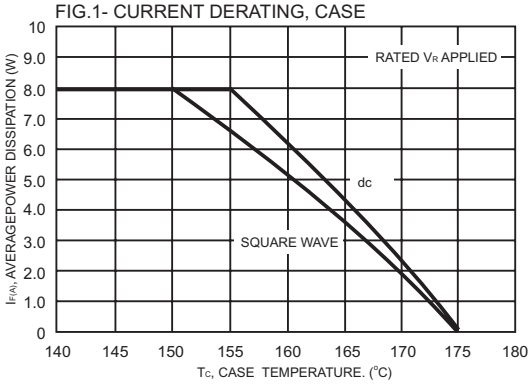


FIG.2- TYPICAL REVERSE CURRENT

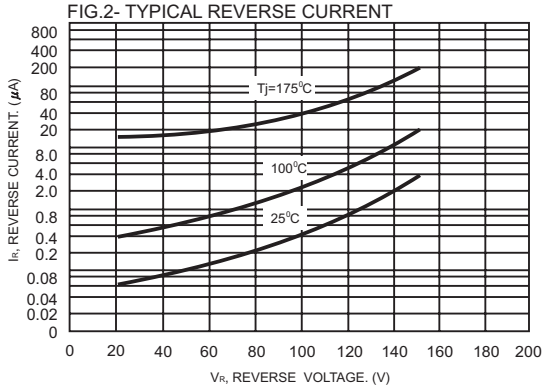


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

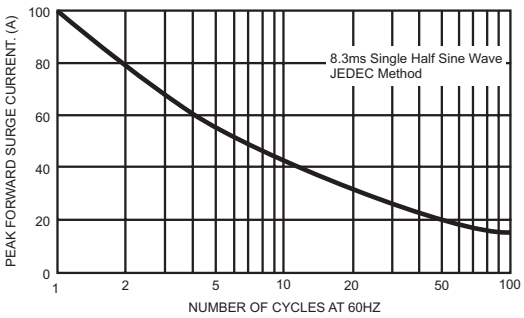


FIG.4- TYPICAL CAPACITANCE

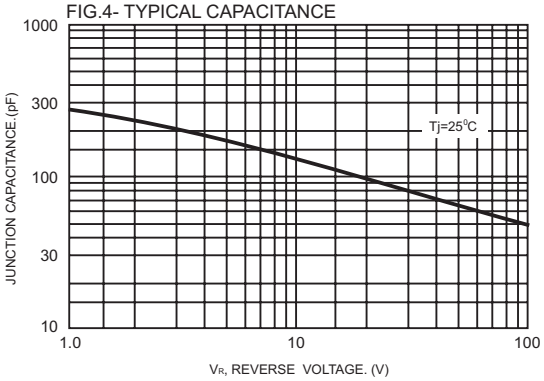


FIG.5- TYPICAL FORWARD VOLTAGE

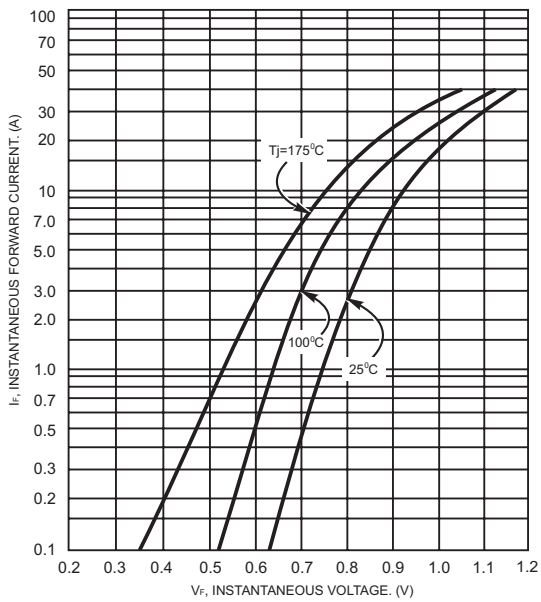
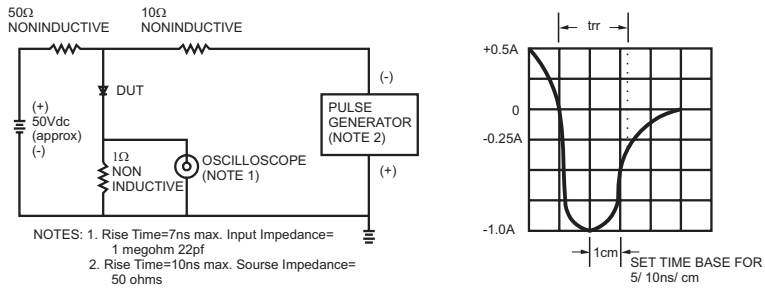


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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