

# MUR12400CT

## ULTRAFAST RECOVERY RECTIFIERS

**VOLTAGE** 400Volts      **CURRENT** 12 Amperes

**T0-220AB**

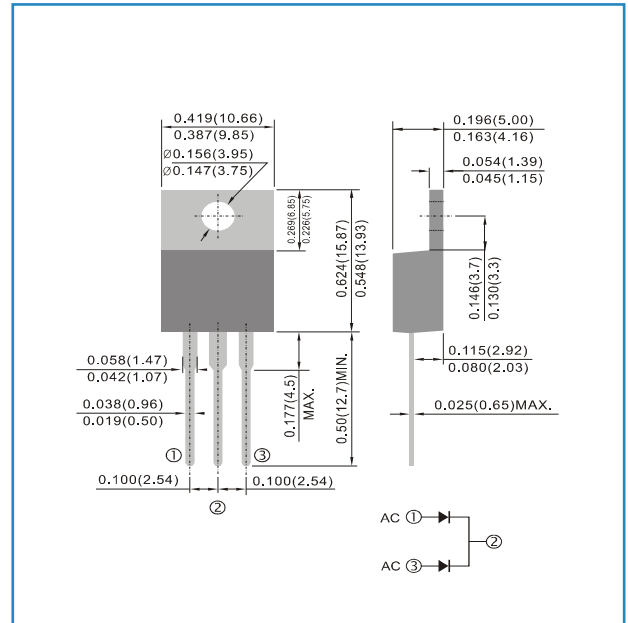
Unit : inch(mm)

### Features

- ✦ High efficiency, low VF
- ✦ High current capability
- ✦ High reliability
- ✦ High surge current capability
- ✦ Low power loss.
- ✦ For use in low voltage, high frequency inverter, free wheeling, and polarity protection application

### Mechanical Data

- ✦ Case: TO-220AB Molded plastic
- ✦ Epoxy: UL 94V-0 rate flame retardant
- ✦ Terminals: Pure tin plated, lead free. solderable per MIL-STD-202, Method 208 guaranteed
- ✦ Polarity: As marked
- ✦ High temperature soldering guaranteed: 260°C/10 seconds .16",(4.06mm) from case.
- ✦ Weight: 2.24 grams



## 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	MUR12400CT	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	400	V
Maximum RMS Voltage	$V_{RMS}$	280	V
Maximum DC Blocking Voltage	$V_{DC}$	400	V
Maximum Average Forward Rectified Current .375 (9.5mm) Lead Length @ $T_C = 100^\circ C$	$I_{(AV)}$	12	A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )	$I_{FSM}$	125	A
Maximum Instantaneous Forward Voltage @ 5.0A	$V_F$	1.3	V
Maximum DC Reverse Current @ $T_A=25^\circ C$ at Rated DC Blocking Voltage @ $T_A=100^\circ C$	$I_R$	1.0 400	 uA uA
Maximum Reverse Recovery Time (Note 1)	$T_{rr}$	50	nS
Typical Junction Capacitance (Note 2)	$C_j$	60	pF
Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	1.5	°C/W
Operating Temperature Range	$T_J$	-65 to +150	°C
Storage Temperature Range	$T_{STG}$	-65 to +150	°C

Notes: 1. Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$   
 2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.  
 3. Mounted on Heatsink Size of 2" x 3" x 0.25" Al-plate.

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## RATING AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

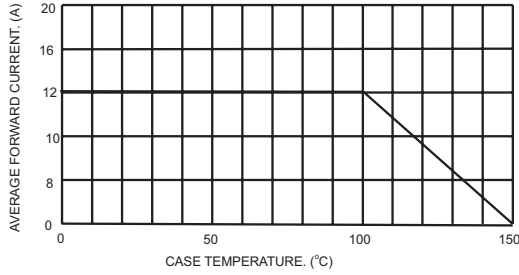


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

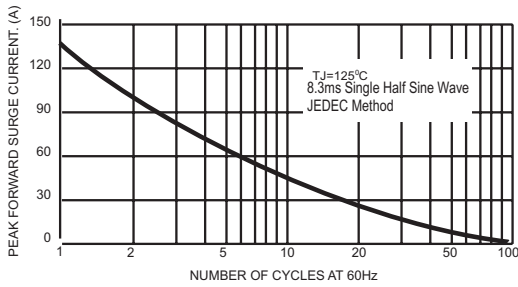


FIG.4- TYPICAL JUNCTION CAPACITANCE PER LEG

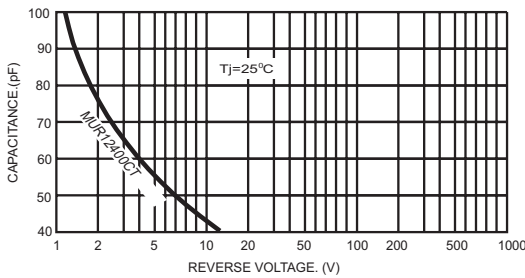


FIG.2-TYPICAL REVERSE CHARACTERISTICS

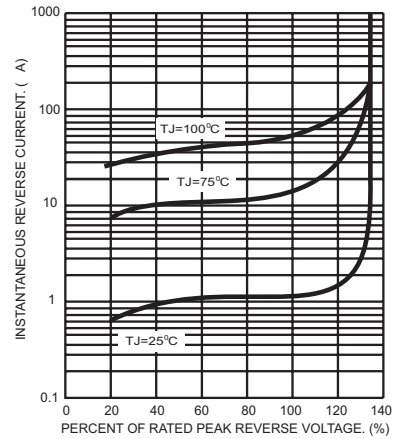


FIG.5- TYPICAL FORWARD CHARACTERISTICS PER LEG

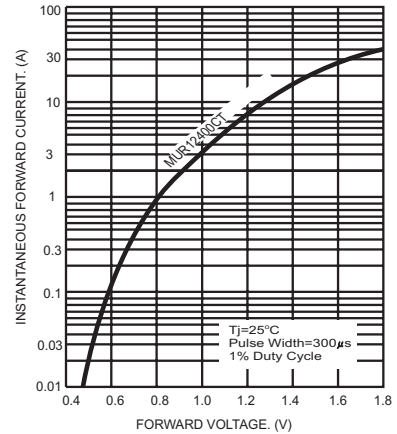


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

