

# MURF2010CT - MURF2060CT

## 20 Amps Super Fast Recovery

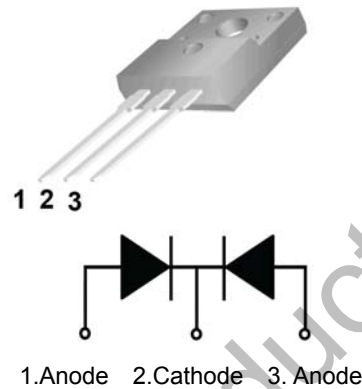


### MURF2010CT - MURF2060CT

#### Features:

- High surge capacity
- Low Forward Voltage Drop.
- High Current Capability.
- Super Fast Switching Speed For High Efficiency

TO-220F



#### Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	MUR F2010 CT	MUR F2015 CT	MUR F2020 CT	MUR F2040 CT	MUR F2060 CT	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	100	150	200	400	600	V
Working Peak Reverse Voltage	$V_{RWM}$	100	150	200	400	600	V
DC Blocking Voltage	$V_{R(DC)}$	100	150	200	400	600	V
Average Rectified Forward Current Total Device, (Rated $V_R$ ), $T_C = 150^\circ\text{C}$	$I_{F(AV)}$	Per Leg Total Device		10 20			A
Peak Rectified Forward Current Per Diode Leg (Rated $V_R$ , Square Wave, 20 kHz), $T_C = 150^\circ\text{C}$	$I_{FM}$			20			A
Nonrepetitive Peak Surge Current(Surge applied at rated load conditions half wave, single phase, 60 Hz)	$I_{FSM}$			120			A
Operating Junction Temperature and Storage Temperature	$T_J, T_{stg}$			-65 to +175			°C
Maximum Thermal Resistance, Junction-to-Case(Per Leg)	$R_{\theta JC}$	3.0		2.0			°C/W

#### ELECTRICAL CHARACTERISTICS (Per Diode Leg)

Parameter	Symbol	MUR F2010 CT	MUR F2015 CT	MUR F2020 CT	MUR F2040 CT	MUR F2060 CT	Unit
Forward Voltage (Note 1)( $I_F = 10\text{ A}$ , $T_C = 25^\circ\text{C}$ ) ( $I_F = 10\text{ A}$ , $T_C = 150^\circ\text{C}$ )	$V_F$	0.975 0.895		1.50 1.20		1.80 1.50	V
Maximum Instantaneous Reverse Current (Note 1) (Rated DC Voltage, $T_C = 25^\circ\text{C}$ ) (Rated DC Voltage, $T_C = 150^\circ\text{C}$ )	$I_R$	5 250		10 500			$\mu\text{A}$
Maximum Reverse Recovery Time ( $I_F = 1.0\text{ A}$ , $di/dt = 50\text{ A}/\mu\text{s}$ ) ( $I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $I_{REC} = 0.25\text{ A}$ )	$T_{RR}$	35 25		35 30			ns

Note 1.Pulse Test: Pulse Width = 300  $\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$

Typical Characteristics

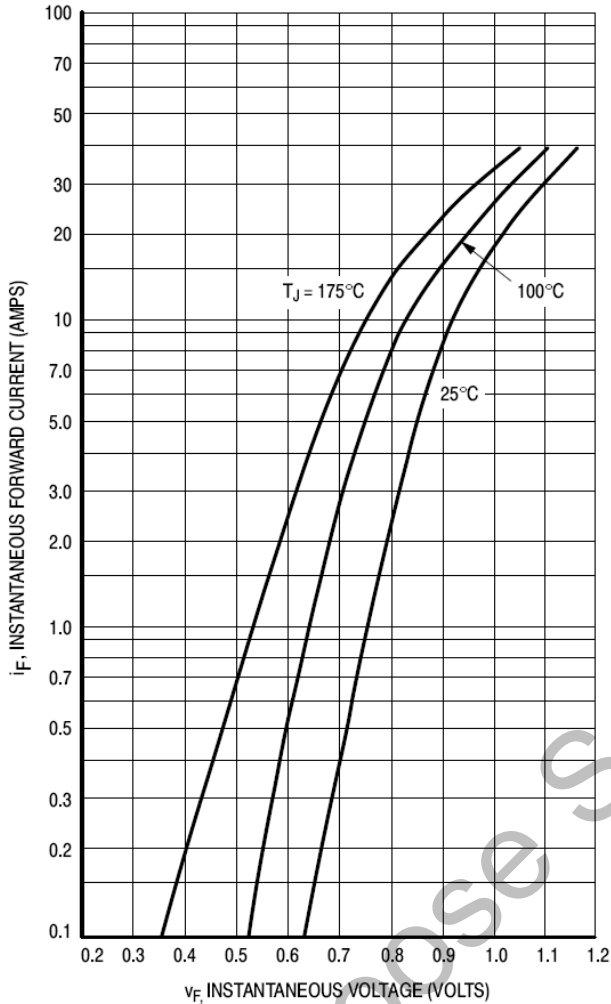


Figure 1. Typical Forward Voltage, Per Leg

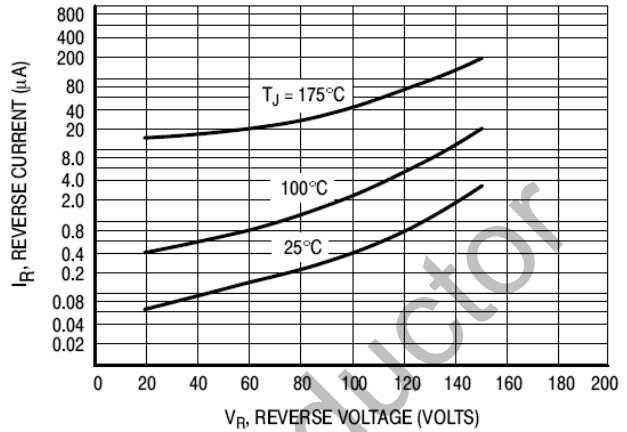


Figure 2. Typical Reverse Current, Per Leg\*

\* The curves shown are typical for the highest voltage device in the voltage grouping. Typical reverse current for lower voltage selections can be estimated from these same curves if  $V_R$  is sufficiently below rated  $V_R$ .

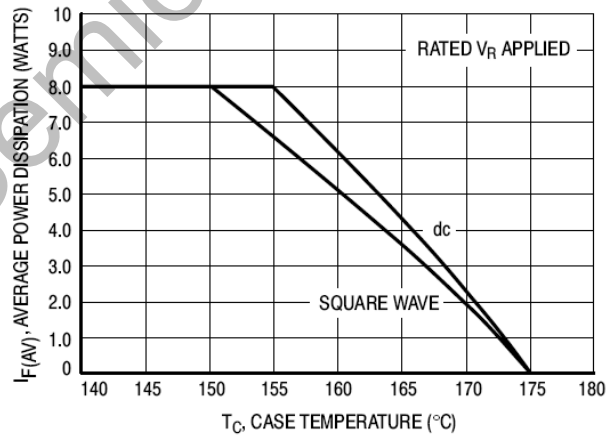


Figure 3. Current Derating, Case, Per Leg

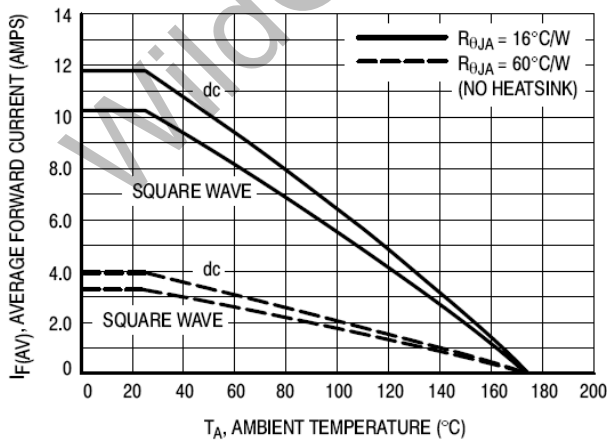


Figure 4. Current Derating, Ambient, Per Leg

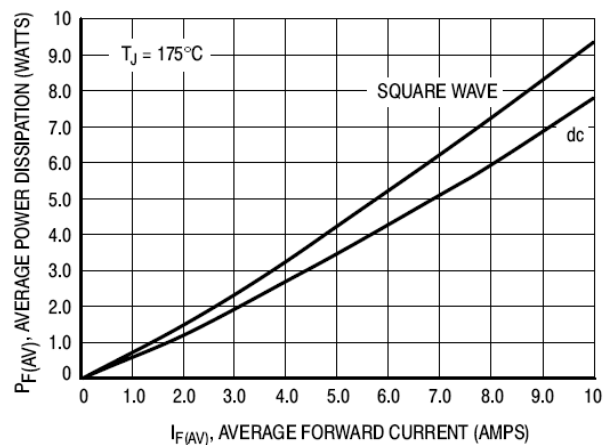


Figure 5. Power Dissipation, Per Leg



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