



# MURF3005PT THRU MURF3060PT

## SUPER FAST RECOVERY SILICON RECTIFIER

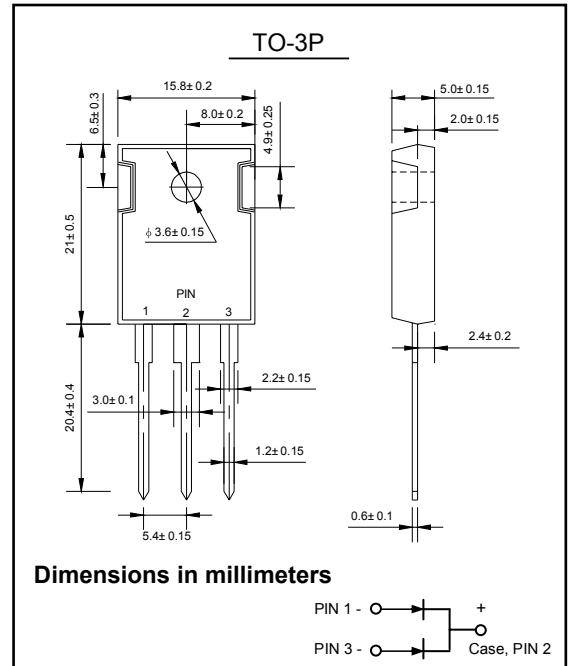
Reverse Voltage - 50 to 600 Volts      Forward Current - 30.0 Ampere

### FEATURES

- Glass Passivated Die Construction
- Super-Fast Switching
- Low Forward Voltage Drop
- Low Reverse Leakage Current
- High Surge Current Capability
- Plastic Material has UL Flammability Classification 94V-O

### MECHANICAL DATA

- Case: TO-3P, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-750, Method 2026
- Polarity: See Diagram
- Weight: 5.6 grams (approx.)
- Mounting Position: Any
- Mounting Torque: 11.5 cm-kg (10 in-lbs) Max.



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.  
 Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Characteristic	Symbol	MURF 3005PT	MURF 3010PT	MURF 3015PT	MURF 3020PT	MURF 3030PT	MURF 3040PT	MURF 3060PT	Unit	
Peak Repetitive Reverse Voltage	$V_{RRM}$									
Working Peak Reverse Voltage	$V_{RWM}$	50	100	150	200	300	400	600	V	
DC Blocking Voltage	$V_R$									
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	105	140	210	280	420	V	
Average Rectified Output Current @ $T_C = 100^\circ\text{C}$	$I_O$	30							A	
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	300							A	
Forward Voltage @ $I_F = 15.0\text{A}$	$V_{FM}$	0.975			1.3		1.7		V	
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$	$I_{RM}$	10 500							$\mu\text{A}$	
Reverse Recovery Time (Note 1)	$t_{rr}$	35				50				nS
Typical Junction Capacitance (Note 2)	$C_j$	150				120				pF
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150								$^\circ\text{C}$

Note: 1. Measured with  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $IRR = 0.25\text{A}$ . See figure 5.  
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.



# MURF3005PT THRU MURF3060PT

## RATINGS AND CHARACTERISTIC CURVES

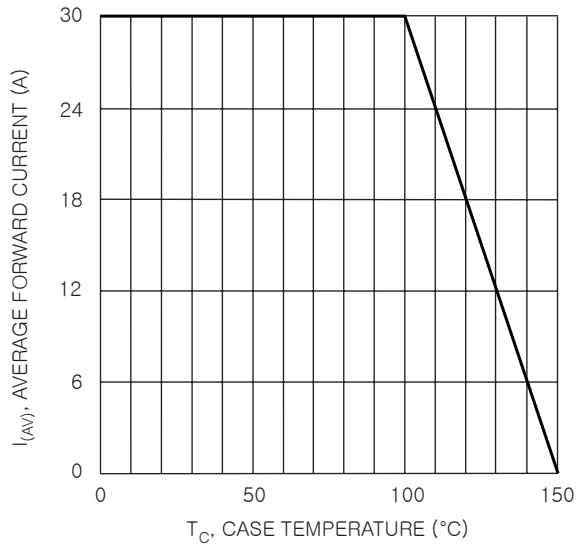


Fig. 1 Forward Current Derating Curve

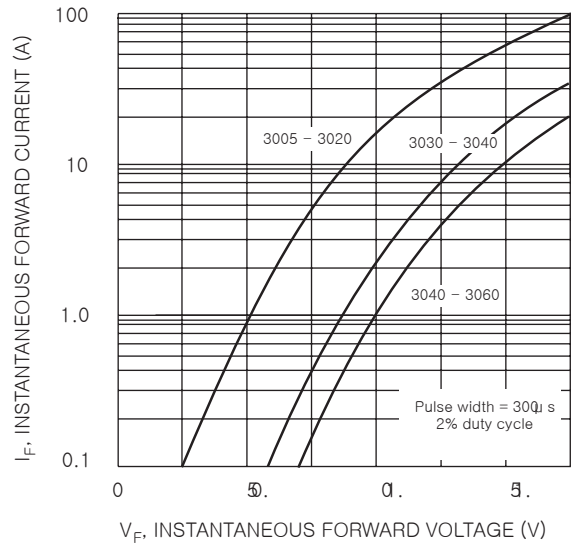


Fig. 2 Typical Forward Characteristics

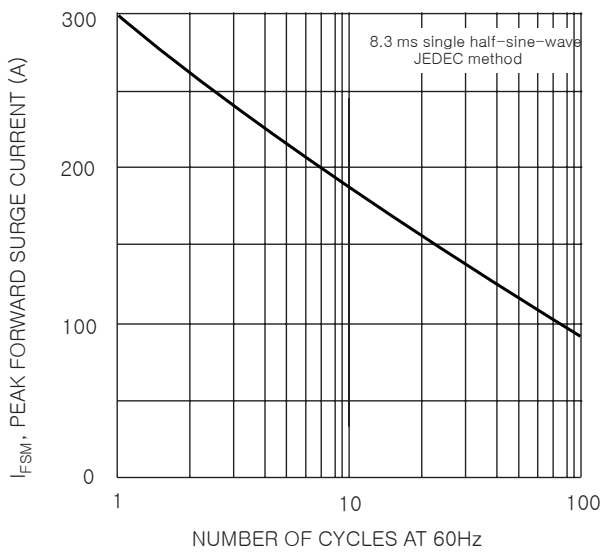


Fig. 3 Maximum Non-Repetitive Surge Current

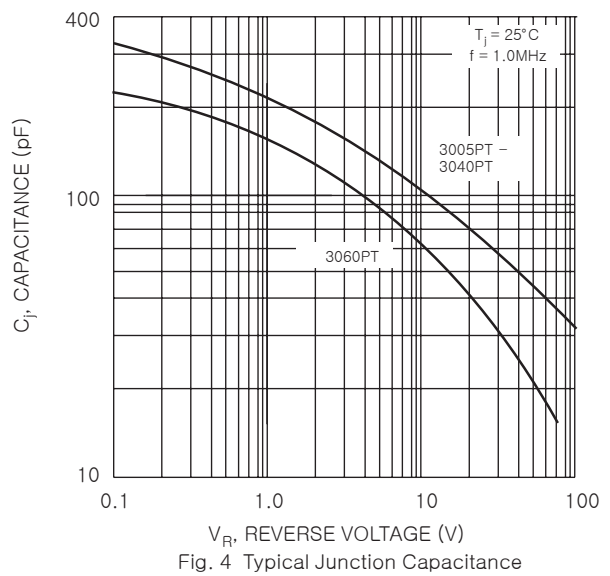
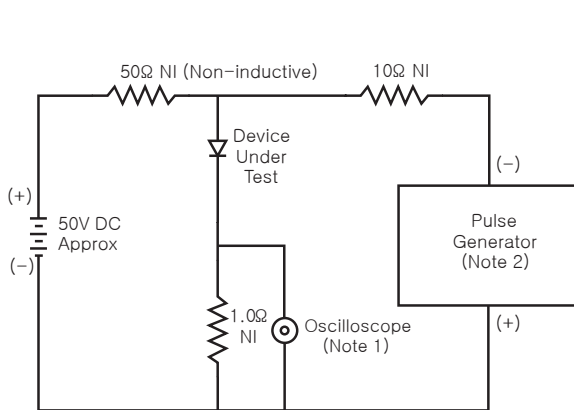


Fig. 4 Typical Junction Capacitance



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0M $\Omega$ , 22pF.
  2. Rise Time = 10ns max. Input Impedance = 50 $\Omega$ .

Set time base for 5/10ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit