



# MURA130T3, MURA140T3

Preferred Devices

## Surface Mount Ultrafast Power Rectifiers

Ideally suited for high voltage, high frequency rectification, or as free wheeling and protection diodes in surface mount applications where compact size and weight are critical to the system.

- Small Compact Surface Mountable Package with J-Bend Leads
- Rectangular Package for Automated Handling
- High Temperature Glass Passivated Junction
- Low Forward Voltage Drop (0.8 Volts Max @ 1.0 A,  $T_J = 150^\circ\text{C}$ )

### Mechanical Characteristics:

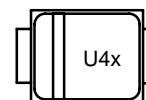
- Case: Epoxy, Molded
- Weight: 70 mg (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes:  $260^\circ\text{C}$  Max. for 10 Seconds
- Shipped in 12 mm Tape and Reel, 5000 units per reel
- Polarity: Polarity Band Indicates Cathode Lead
- ESD Protection: Human Body Model > 4000 V (Class 3)  
Machine Model > 400 V (Class C)
- Marking: U4F, U4G

**ULTRAFAST RECTIFIERS**  
**1 AMPERE**  
**300-400 VOLTS**



SMA  
CASE 403D  
PLASTIC

### MARKING DIAGRAM



x = F (130T3)  
G (140T3)

### ORDERING INFORMATION

Device	Package	Shipping
MURA130T3	SMA	5000/Tape & Reel
MURA140T3	SMA	5000/Tape & Reel

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	300	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
		400	
Average Rectified Forward Current @ $T_L = 150^\circ\text{C}$ @ $T_L = 125^\circ\text{C}$	$I_{F(AV)}$	1.0 2.0	A
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	$I_{FSM}$	35	A
Operating Junction Temperature Range	$T_J$	- 65 to +175	$^\circ\text{C}$

Preferred devices are recommended choices for future use and best overall value.

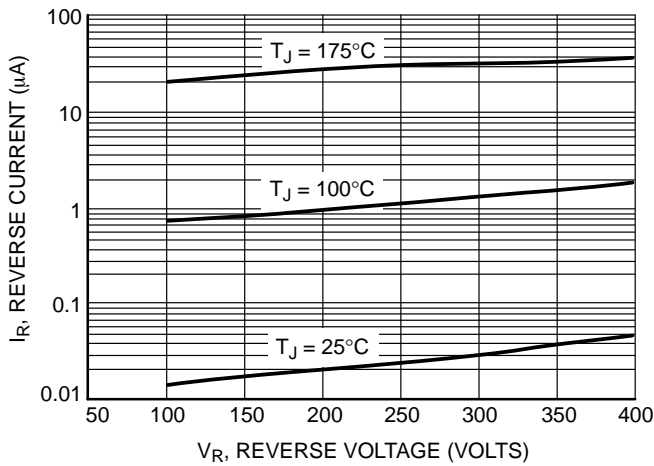
**THERMAL CHARACTERISTICS**

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Lead ( $T_L = 25^\circ\text{C}$ ) (Note 1)	$\Psi_{sJL}$ (Note 2)	24	$^\circ\text{C/W}$
Thermal Resistance, Junction to Ambient (Note 1)	$R_{\theta JA}$	216	

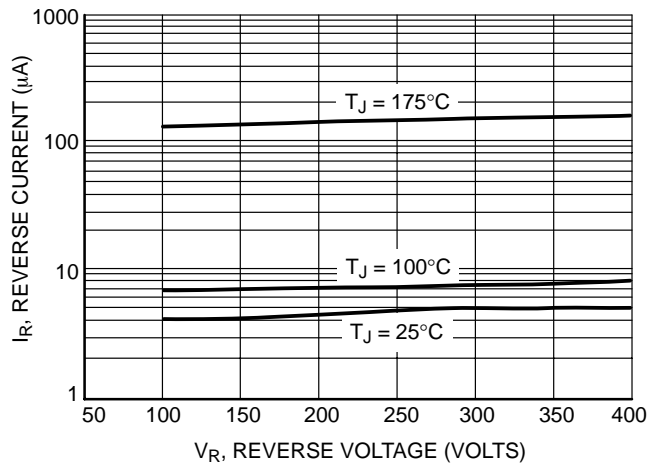
**ELECTRICAL CHARACTERISTICS**

Maximum Instantaneous Forward Voltage (Note 3) ( $i_F = 1.0\text{ A}$ , $T_J = 25^\circ\text{C}$ ) ( $i_F = 1.0\text{ A}$ , $T_J = 150^\circ\text{C}$ )	$V_F$	1.1 0.8	Volts
Maximum Instantaneous Reverse Current (Note 3) (Rated dc Voltage, $T_J = 25^\circ\text{C}$ ) (Rated dc Voltage, $T_J = 150^\circ\text{C}$ )	$i_R$	5.0 150	$\mu\text{A}$
Maximum Reverse Recovery Time ( $i_F = 1.0\text{ A}$ , $di/dt = 50\text{ A}/\mu\text{s}$ )	$t_{rr}$	65	ns

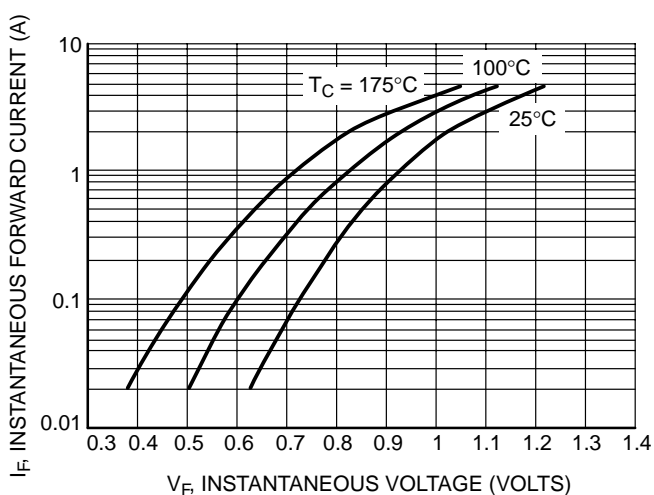
1. Rating applies when surface mounted on the minimum pad size recommended, PC Board FR-4.
2. In compliance with JEDEC 51, these values (historically represented by  $R_{\theta JL}$ ) are now referenced as  $\Psi_{sJL}$ .
3. Pulse Test: Pulse Width = 300  $\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$ .



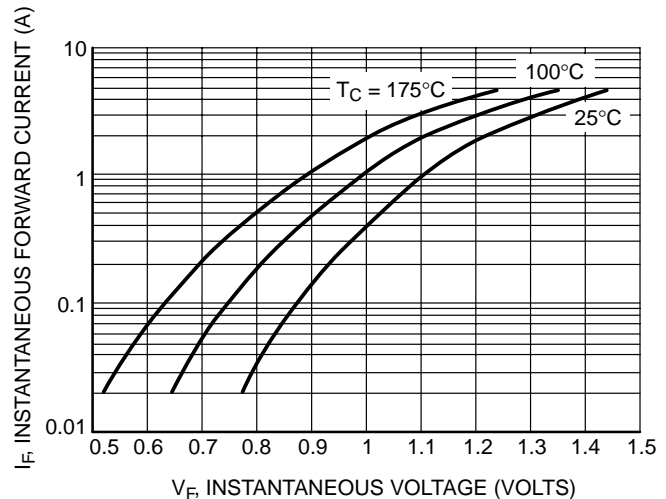
**Figure 1. Typical Reverse Current**



**Figure 2. Maximum Reverse Current**



**Figure 3. Typical Forward Voltage**



**Figure 4. Maximum Forward Voltage**