



# MURA115T3, MURA120T3

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 (0.71 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: U4C, U4D

**MAXIMUM RATINGS**

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	150 200	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
	MURA115T3		
	MURA120T3		
Average Rectified Forward Current @ $T_L = 155^\circ\text{C}$ @ $T_L = 135^\circ\text{C}$	$I_{F(AV)}$	1.0 2.0	A
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	$I_{FSM}$	40	A
Operating Junction Temperature Range	$T_J$	- 65 to +175	$^\circ\text{C}$

Preferred Devices

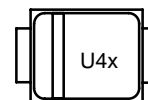
## Surface Mount Ultrafast Power Rectifiers

**ULTRAFAST RECTIFIERS  
1 AMPERE  
100-200 VOLTS**



SMA  
CASE 403D  
PLASTIC

**MARKING  
DIAGRAM**



x = C (115T3)  
D (120T3)

**ORDERING INFORMATION**

Device	Package	Shipping
MURA115T3	SMA	5000/Tape & Reel
MURA120T3	SMA	5000/Tape & Reel

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

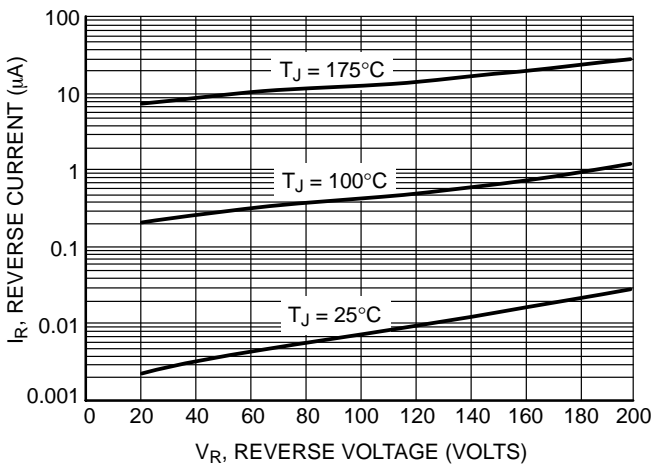
**THERMAL CHARACTERISTICS**

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	

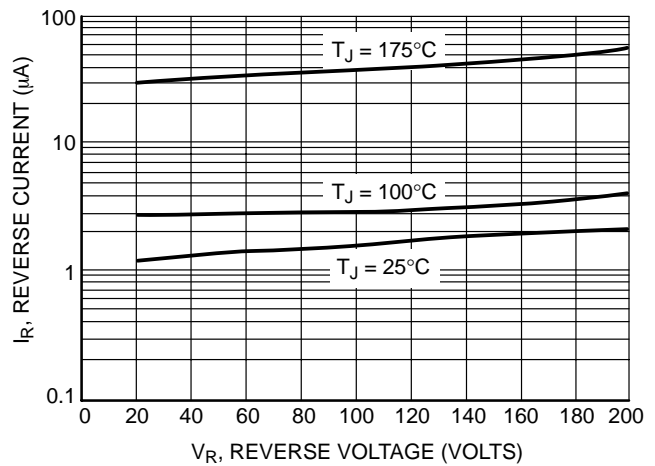
**ELECTRICAL CHARACTERISTICS**

Maximum Instantaneous Forward Voltage (Note 3) ( $i_F = 1.0\text{ A}$ , $T_J = 25^\circ\text{C}$ ) ( $i_F = 1.0\text{ A}$ , $T_J = 150^\circ\text{C}$ )	$V_F$	0.875 0.71	Volts
Maximum Instantaneous Reverse Current (Note 3) (Rated dc Voltage, $T_J = 25^\circ\text{C}$ ) (Rated dc Voltage, $T_J = 150^\circ\text{C}$ )	$i_R$	2.0 50	$\mu\text{A}$
Maximum Reverse Recovery Time ( $i_F = 1.0\text{ A}$ , $di/dt = 50\text{ A}/\mu\text{s}$ )	$t_{rr}$	35	ns

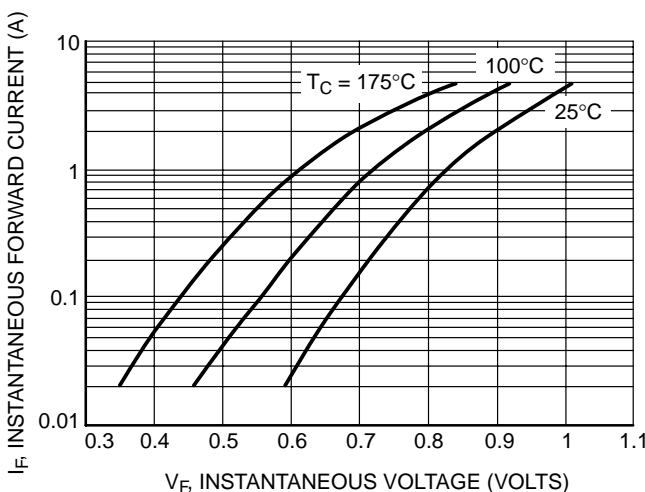
1. Rating applies when surface mounted on the minimum pad size recommended, PC Board FR-4.
2. In compliance with JEDEC 51, these values (historically represented by  $R_{\theta JL}$ ) are now referenced as  $\Psi_{sJL}$ .
3. Pulse Test: Pulse Width = 300  $\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$ .



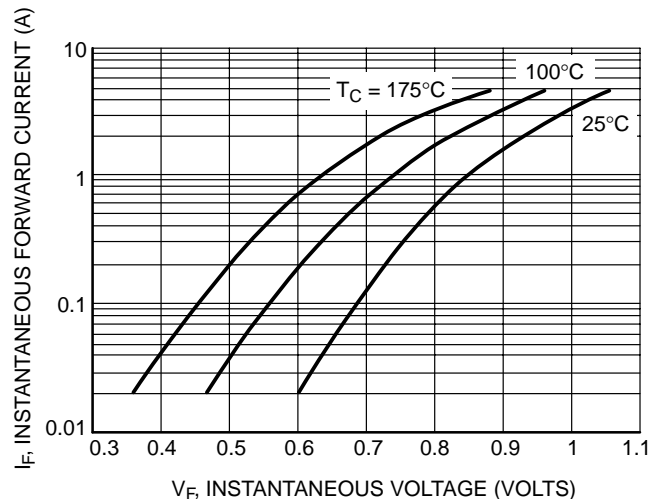
**Figure 1. Typical Reverse Current**



**Figure 2. Maximum Reverse Current**



**Figure 3. Typical Forward Voltage**



**Figure 4. Maximum Forward Voltage**