



# MURA160T3

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 (1.05 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: U4J

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	600	V
Average Rectified Forward Current @ $T_L = 145^\circ\text{C}$ @ $T_L = 110^\circ\text{C}$	$I_{F(AV)}$	1.0 2.0	A
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	$I_{FSM}$	30	A
Operating Junction Temperature Range	$T_J$	- 65 to +175	$^\circ\text{C}$

Preferred Device

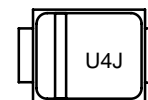
# Surface Mount Ultrafast Power Rectifier

**ULTRAFAST RECTIFIER**  
**1 AMPERE**  
**600 VOLTS**



SMA  
CASE 403D  
PLASTIC

### MARKING DIAGRAM



U4J = Device Code

### ORDERING INFORMATION

Device	Package	Shipping
MURA160T3	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)	$\Psi_{jL}$ (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) ( $i_F = 1.0\text{ A}$ , $T_J = 25^\circ\text{C}$ ) ( $i_F = 1.0\text{ A}$ , $T_J = 150^\circ\text{C}$ )	$V_F$	1.25 1.05	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 ( $i_F = 1.0\text{ A}$ , $di/dt = 50\text{ A}/\mu\text{s}$ )	$t_{rr}$	75	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  $\Psi_{jL}$ .
3. Pulse Test: Pulse Width = 300  $\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$ .

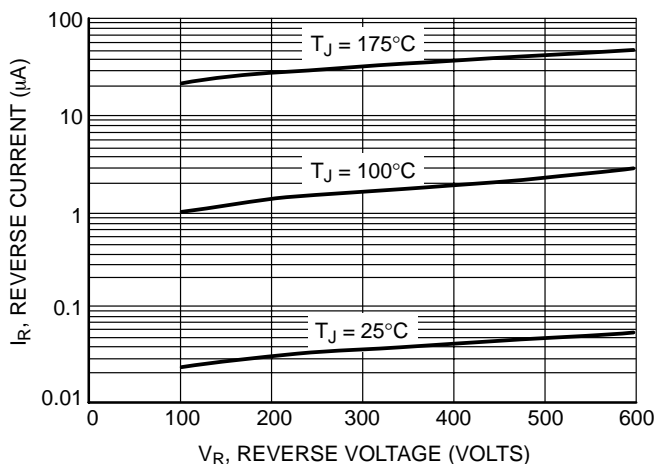


Figure 1. Typical Reverse Current

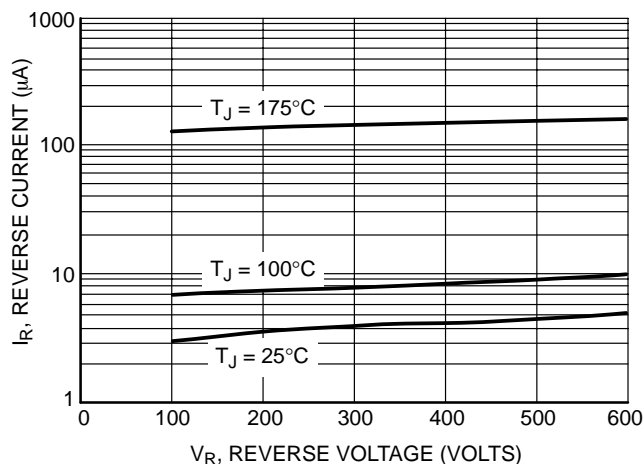


Figure 2. Maximum Reverse Current

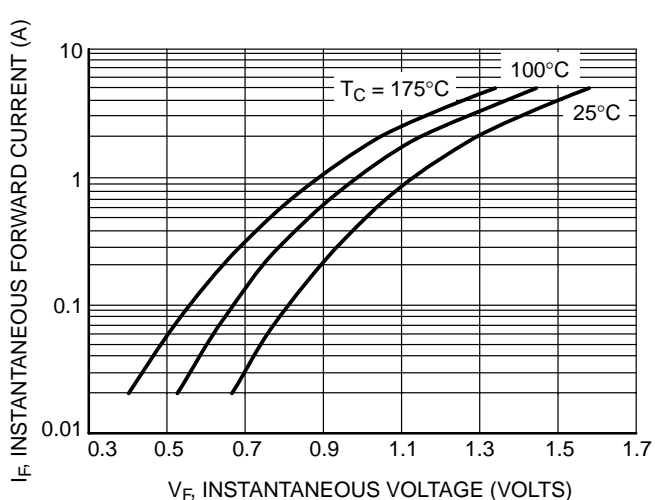


Figure 3. Typical Forward Voltage

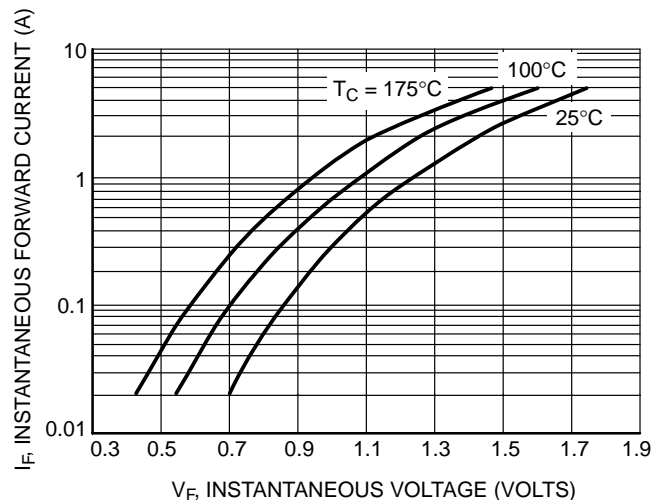


Figure 4. Maximum Forward Voltage