

MURS220T3

Preferred Device

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 (0.77 Volts Max @ 2.0 A, $T_J = 150^\circ\text{C}$)

Mechanical Characteristics:

- Case: Epoxy, Molded
- Weight: 95 mg (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped in 12 mm Tape and Reel, 2500 units per reel
- Polarity: Polarity Band Indicates Cathode Lead
- Marking: U2D

MAXIMUM RATINGS

Symbol	Rating	Value	Unit
V_{RRM} V_{RWM} V_R	Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	200	Volts
$I_{F(AV)}$	Average Rectified Forward Current	2.0 @ $T_L = 145^\circ\text{C}$	Amps
I_{FSM}	Non-Repetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	40	Amps
T_J	Operating Junction Temperature	-65 to +175	$^\circ\text{C}$



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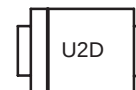
<http://onsemi.com>

ULTRAFAST RECTIFIERS 2 AMPERES 200 VOLTS



SMB
CASE 403A

MARKING DIAGRAM



ORDERING INFORMATION

Device	Package	Shipping
MURS220T3	SMB	2500 Tape & Reel

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

MURS220T3

THERMAL CHARACTERISTICS

Symbol	Characteristic	Value	Unit
$R_{\theta JL}$	Thermal Resistance, Junction to Lead ($T_L = 25^\circ\text{C}$)	13	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS

Symbol	Characteristic	Value	Unit
V_F	Maximum Instantaneous Forward Voltage (Note NO TAG) ($I_F = 2.0\text{ A}$, $T_J = 25^\circ\text{C}$) ($I_F = 2.0\text{ A}$, $T_J = 150^\circ\text{C}$)	0.95 0.77	Volts
I_R	Maximum Instantaneous Reverse Current (Note NO TAG) (Rated dc Voltage, $T_J = 25^\circ\text{C}$) (Rated dc Voltage, $T_J = 150^\circ\text{C}$)	2.0 50	μA
t_{rr}	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_R to 0.25 A)	35 25	ns
t_{fr}	Maximum Forward Recovery Time ($I_F = 1.0\text{ A}$, $di/dt = 100\text{ A}/\mu\text{s}$, Rec. to 1.0 V)	25	ns

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

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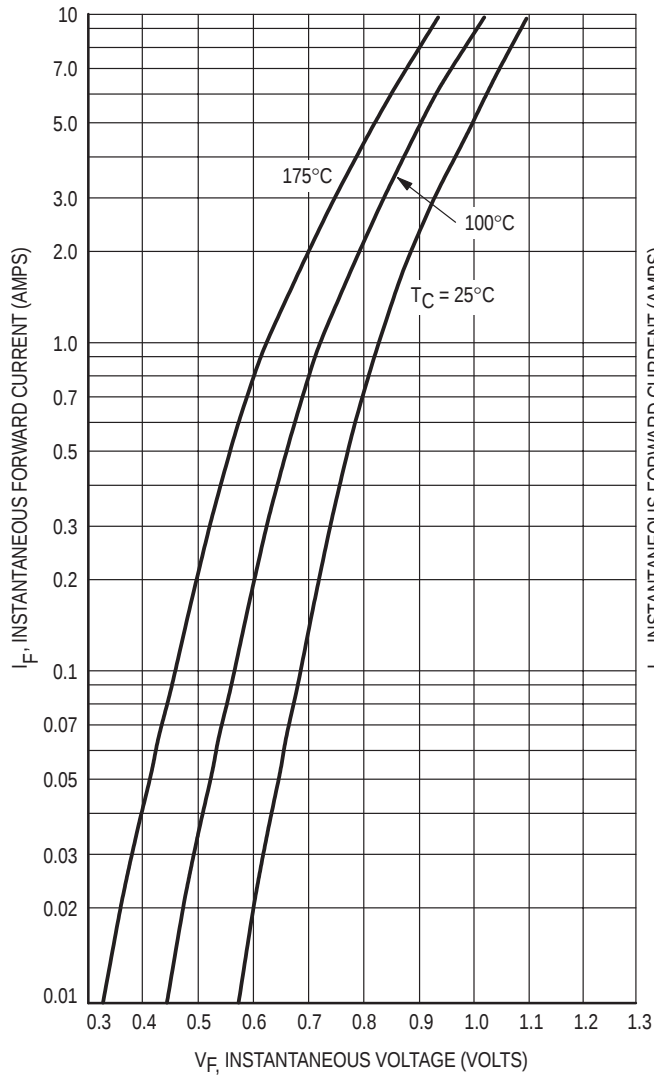


Figure 1. Typical Forward Voltage

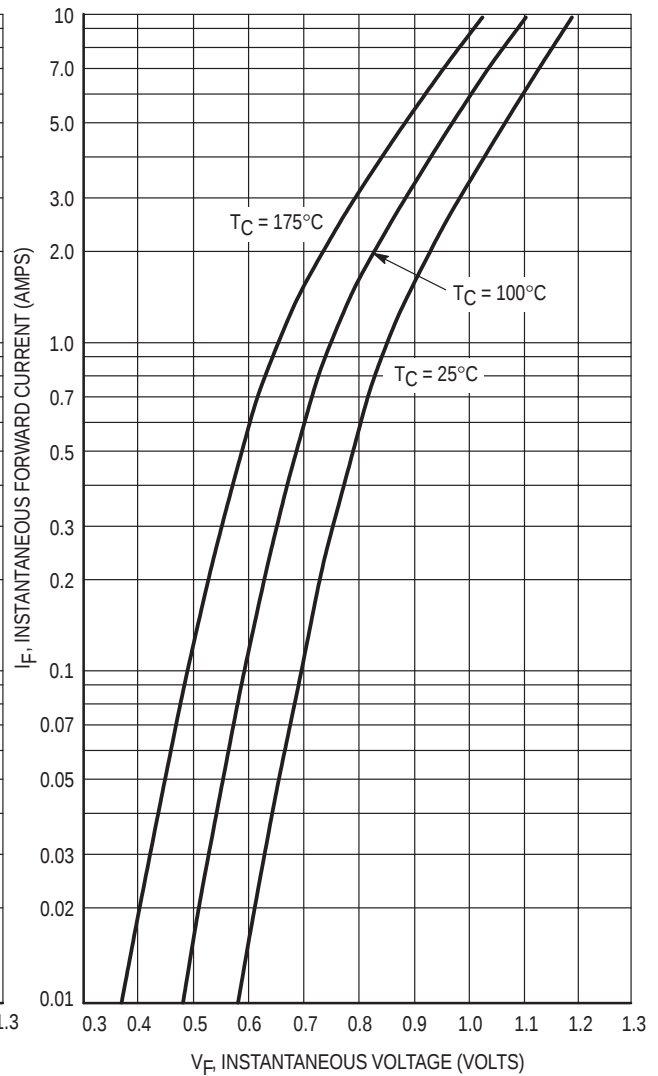


Figure 2. Maximum Forward Voltage

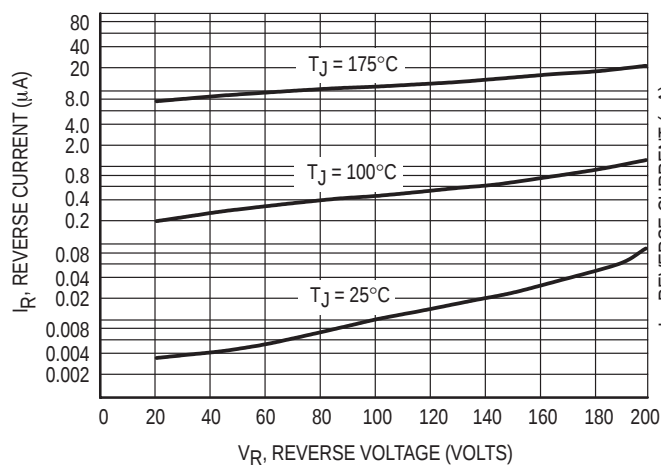


Figure 3. Typical Reverse Current*

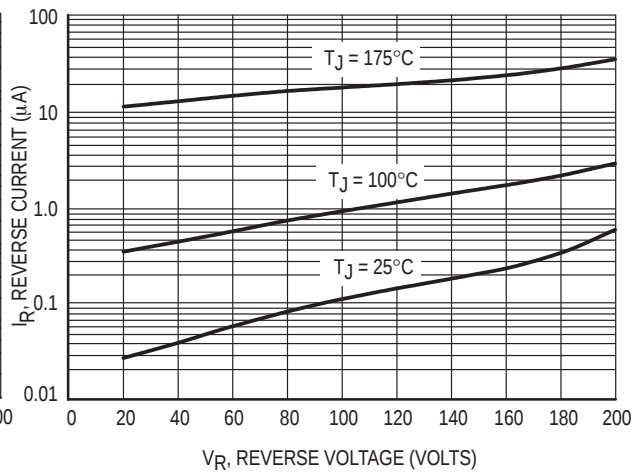


Figure 4. Maximum Reverse Current

* 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 applied V_R is sufficiently below rated V_R .

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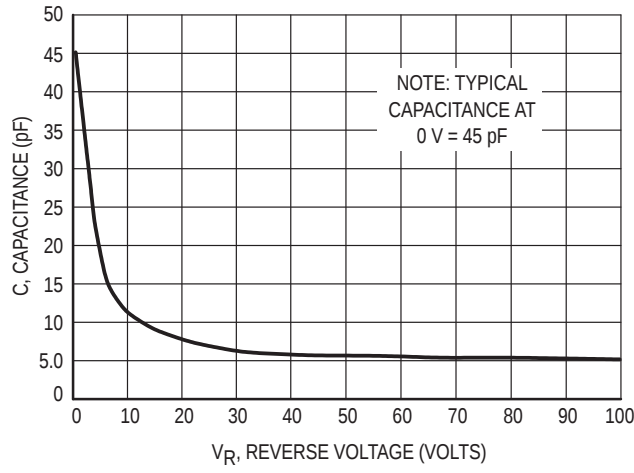


Figure 5. Typical Capacitance

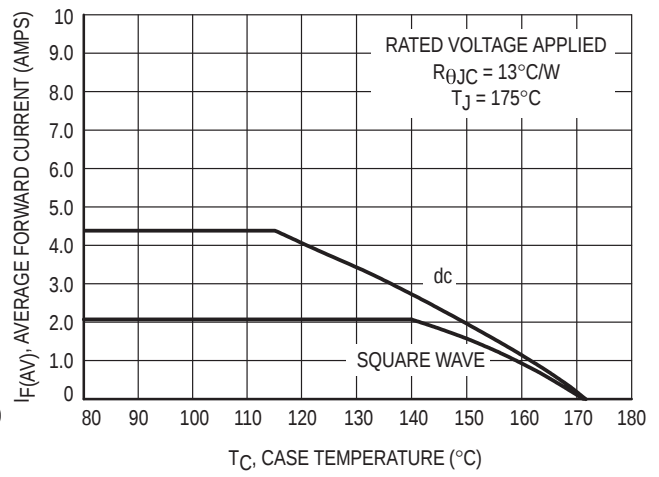


Figure 6. Current Derating, Case

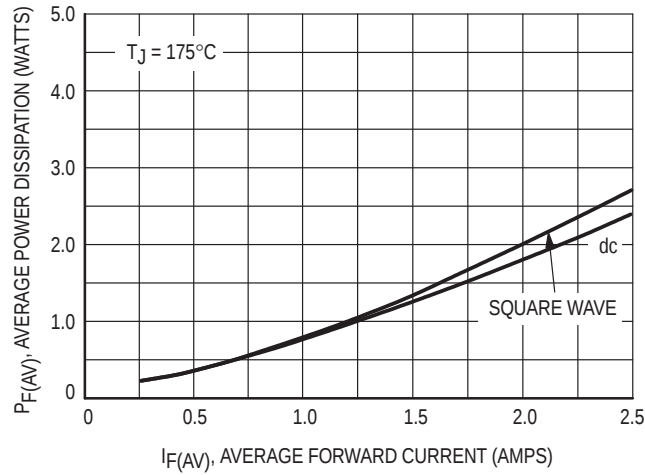
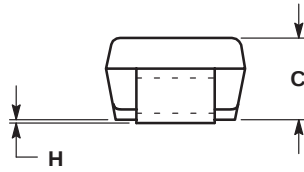
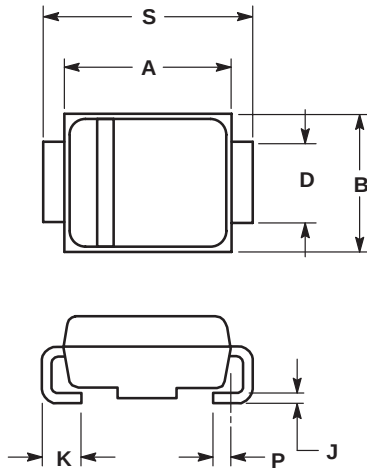


Figure 7. Power Dissipation

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PACKAGE DIMENSIONS

SMB
CASE 403A-03
ISSUE D



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.
 3. D DIMENSION SHALL BE MEASURED WITHIN DIMENSION P.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.160	0.180	4.06	4.57
B	0.130	0.150	3.30	3.81
C	0.075	0.095	1.90	2.41
D	0.077	0.083	1.96	2.11
H	0.0020	0.0060	0.051	0.152
J	0.006	0.012	0.15	0.30
K	0.030	0.050	0.76	1.27
P	0.020 REF		0.51 REF	
S	0.205	0.220	5.21	5.59

Notes

Notes

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