

MURS205T3, MURS210T3

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 (0.74 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: U2A, U2B



ON Semiconductor

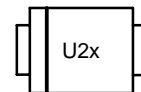
<http://onsemi.com>

ULTRAFAST RECTIFIERS
2 AMPERES
50–100 VOLTS



SMB
CASE 403A

MARKING
DIAGRAM



x = A (205T3)
B (210T3)

ORDERING INFORMATION

Device	Package	Shipping
MURS205T3	SMB	2500 Tape & Reel
MURS210T3	SMB	2500 Tape & Reel

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

MURS205T3, MURS210T3

MAXIMUM RATINGS

Rating	Symbol	MURS		Unit
		205T3	210T3	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	Volts
Average Rectified Forward Current	$I_{F(AV)}$	1.0 @ $T_L = 150^\circ\text{C}$ 2.0 @ $T_L = 125^\circ\text{C}$		Amps
Non-Repetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	50		Amps
Operating Junction Temperature	T_J	- 65 to +175		$^\circ\text{C}$

THERMAL CHARACTERISTICS

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

Maximum Instantaneous Forward Voltage (1) ($i_F = 2.0\text{ A}$, $T_J = 25^\circ\text{C}$) ($i_F = 2.0\text{ A}$, $T_J = 150^\circ\text{C}$)	V_F	0.94 0.74	Volts
Maximum Instantaneous Reverse Current (1) (Rated dc Voltage, $T_J = 25^\circ\text{C}$) (Rated dc Voltage, $T_J = 150^\circ\text{C}$)	i_R	2.0 50	μA
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)	t_{rr}	30 20	ns
Maximum Forward Recovery Time ($i_F = 1.0\text{ A}$, $di/dt = 100\text{ A}/\mu\text{s}$, Rec. to 1.0 V)	t_{fr}	20	ns

(1) Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$.

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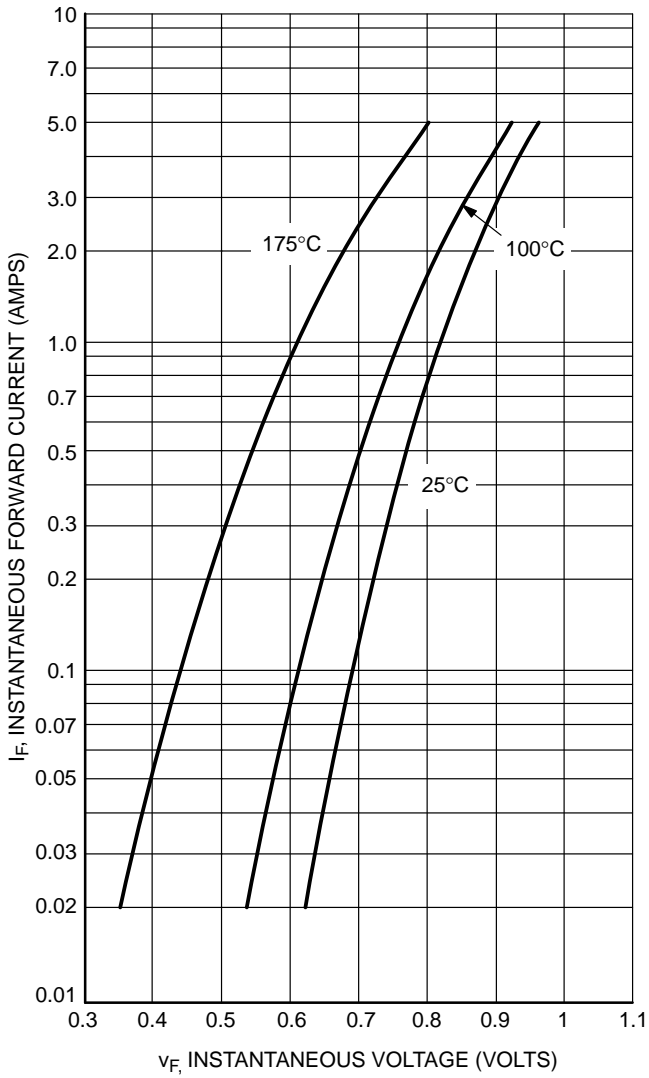


Figure 1. Typical Forward Voltage

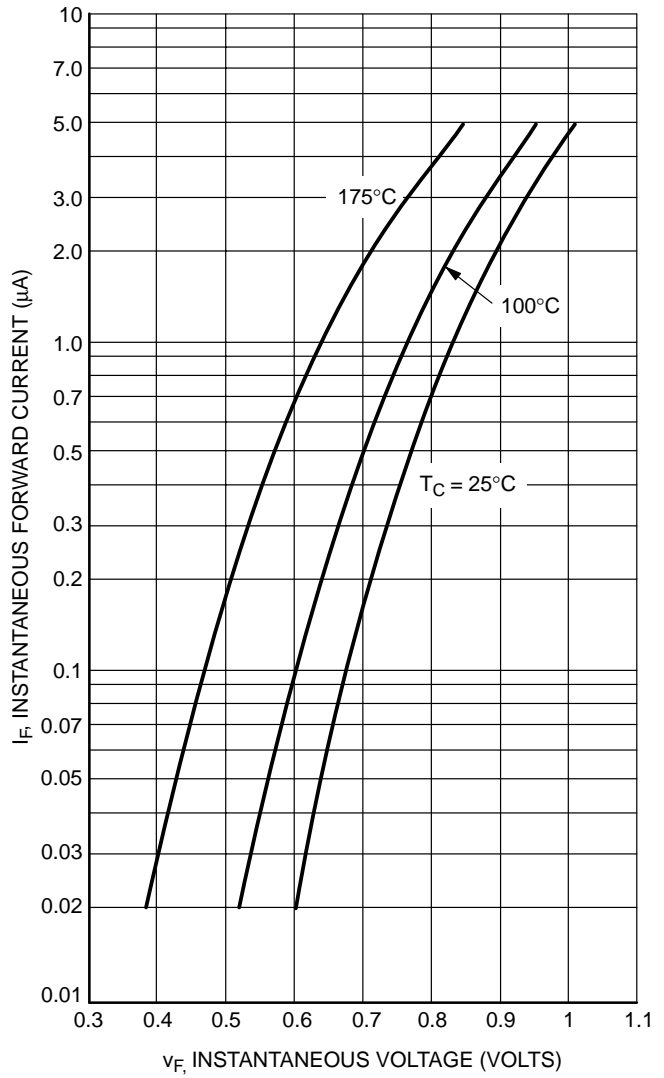


Figure 2. Maximum Forward Voltage

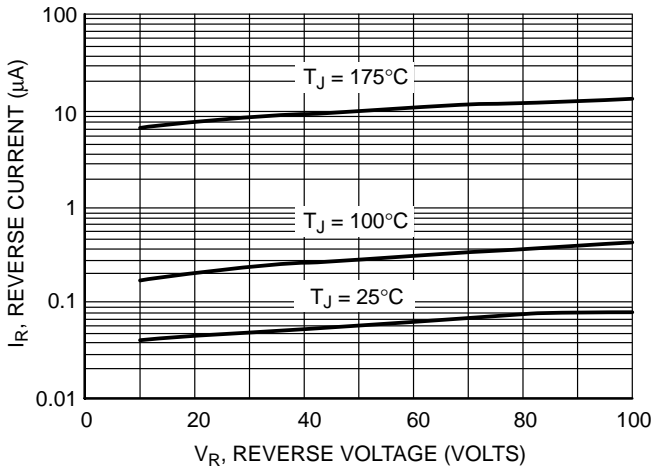


Figure 3. Typical Reverse Current*

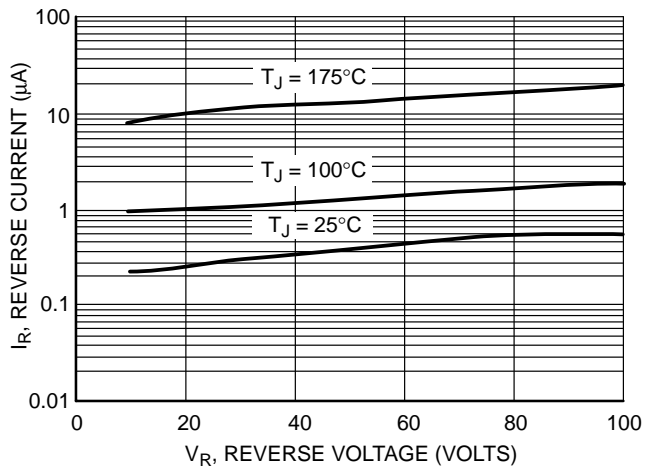


Figure 4. Maximum Reverse Current*

* 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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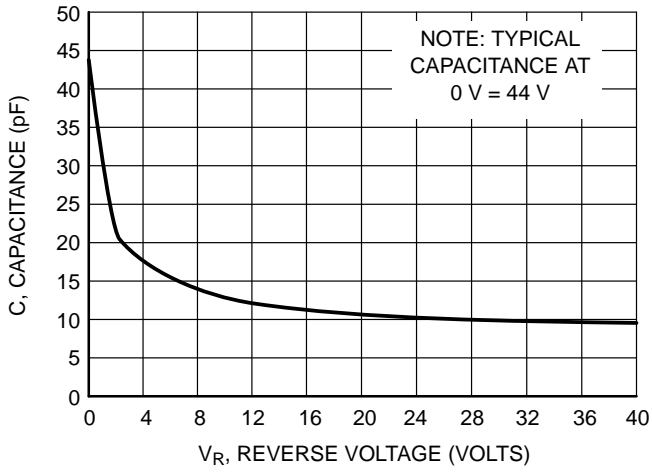


Figure 5. Typical Capacitance

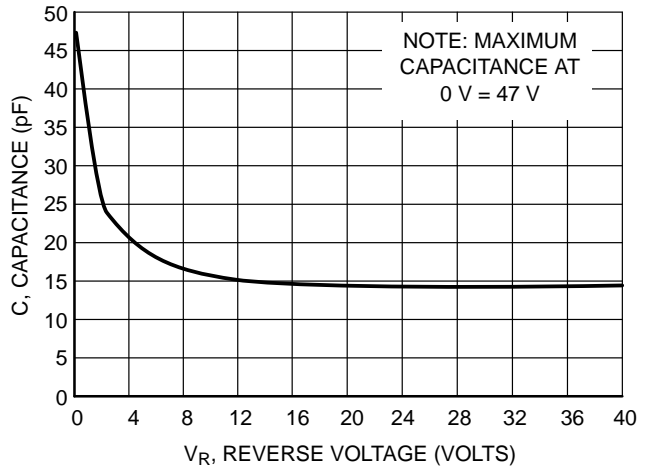


Figure 6. Maximum Capacitance

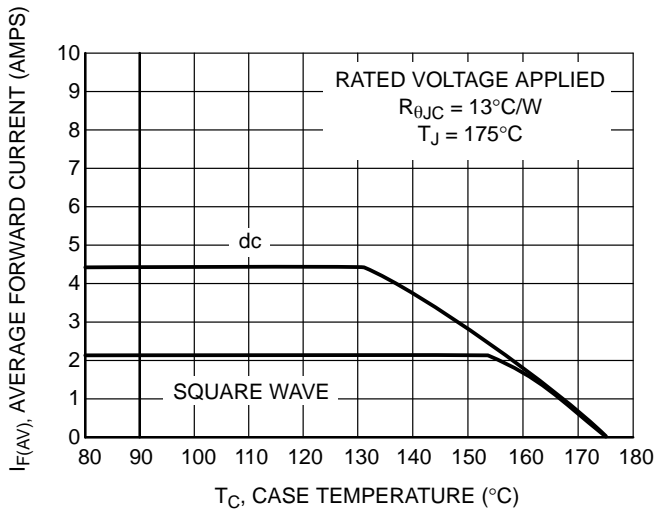


Figure 7. Current Derating, Case

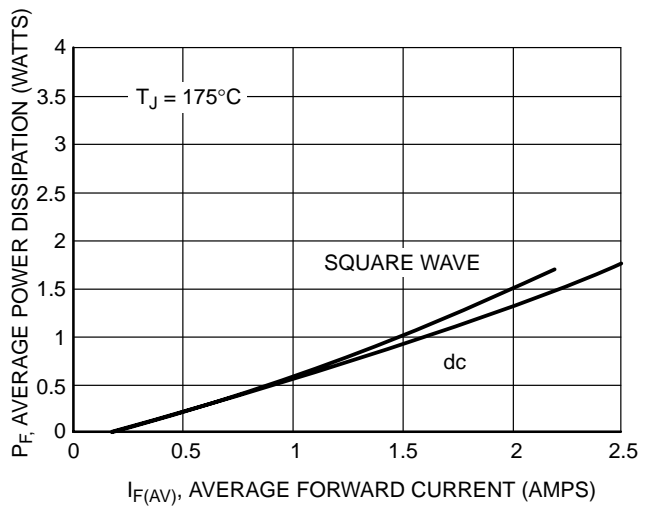


Figure 8. Power Dissipation

Notes

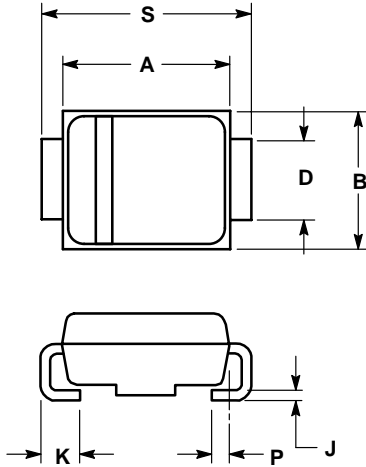
Notes

Notes

MURS205T3, MURS210T3


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

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