



TAYCHIPST

SURFACE MOUNT ULTRAFAST POWER RECTIFIERS

MURS205 THRU MURS210

50V-100V 2.0A

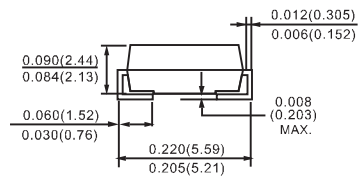
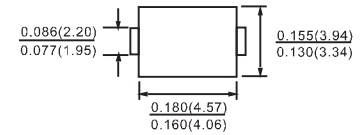
Features

- 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 V Max @ 2.0 A, T_J = 150°C)
- Pb-Free Packages are Available

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
- Polarity: Polarity Band Indicates Cathode Lead

DO-214AA(SMB)



Dimensions in inches and (millimeters)

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _{RRM}		V
Working Peak Reverse Voltage	V _{RWM}	50	
DC Blocking Voltage	V _R	100	
		MURA205T3	
		MURA210T3	
Average Rectified Forward Current	I _{F(AV)}		A
@ T _L = 150°C		1.0	
@ T _L = 125°C		2.0	
Non-Repetitive Peak Surge Current	I _{FSM}	50	A
(Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)			
Operating Junction Temperature	T _J	-60 to +175	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction-to-Lead (T _L = 25°C)	R _{θJL}	13	°C/W

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Maximum Instantaneous Forward Voltage (Note 1) (I _F = 2.0 A, T _J = 25°C) (I _F = 2.0 A, T _J = 150°C)	V _F	0.94 0.74	V
Maximum Instantaneous Reverse Current (Note 1) (Rated dc Voltage, T _J = 25°C) (Rated dc Voltage, T _J = 150°C)	i _R	2.0 50	μA
Maximum Reverse Recovery Time (I _F = 1.0 A, di/dt = 50 A/μs) (I _F = 0.5 A, i _R = 1.0 A, I _R to 0.25 A)	t _{rr}	30 20	ns
Maximum Forward Recovery Time (I _F = 1.0 A, di/dt = 100 A/μs, Rec. to 1.0 V)	t _{fr}	20	ns

1. Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2.0%.

ORDERING INFORMATION

Device	Package	Shipping†
MURS205T3	SMB	2500 Tape & Reel
MURS205T3G	SMB (Pb-Free)	2500 Tape & Reel
MURS210T3	SMB	2500 Tape & Reel
MURS210T3G	SMB (Pb-Free)	2500 Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

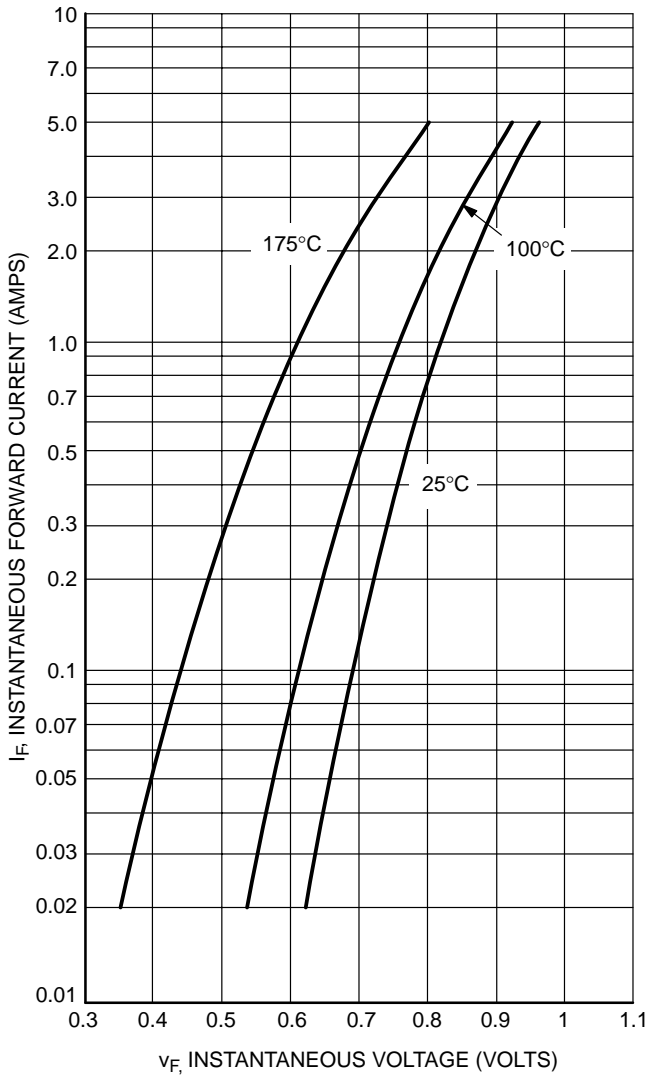


Figure 1. Typical Forward Voltage

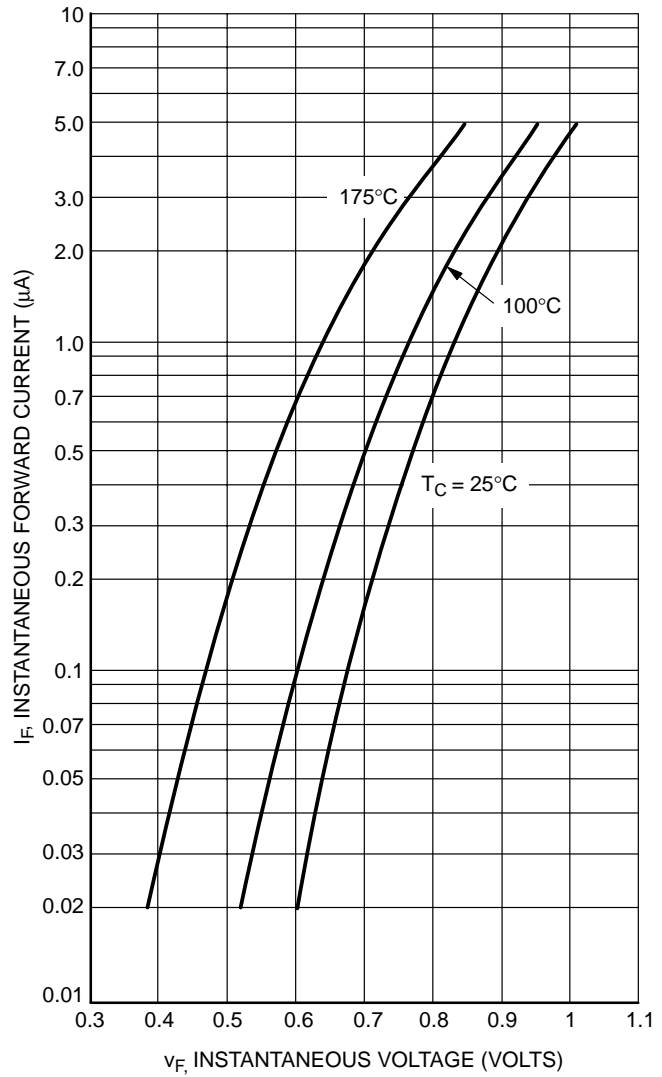


Figure 2. Maximum Forward Voltage

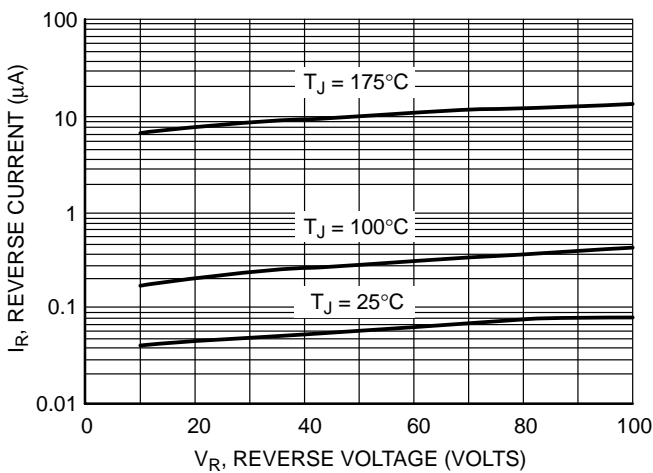


Figure 3. Typical Reverse Current*

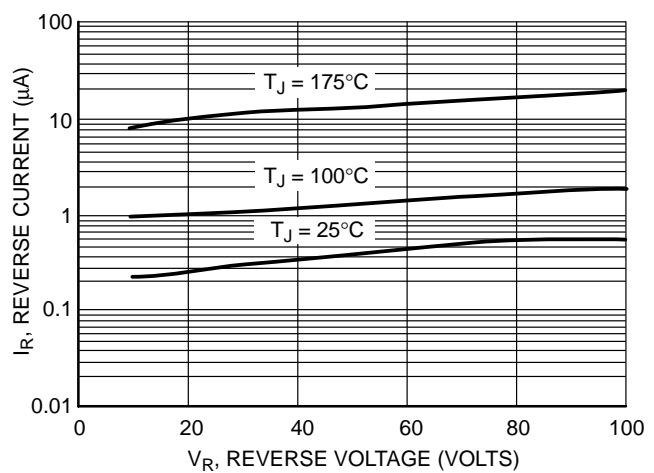


Figure 4. Maximum Reverse Current*

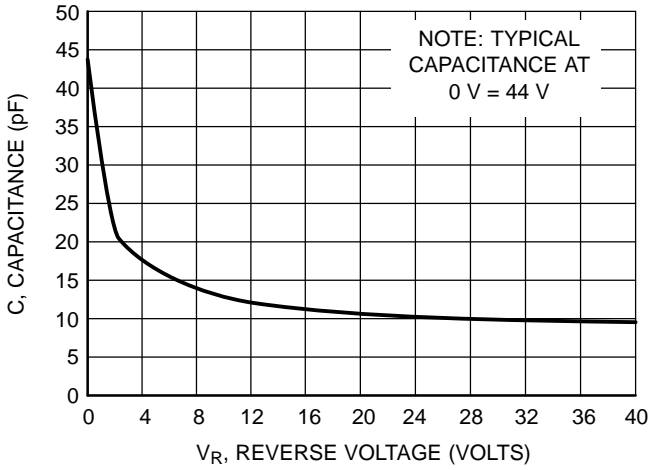


Figure 5. Typical Capacitance

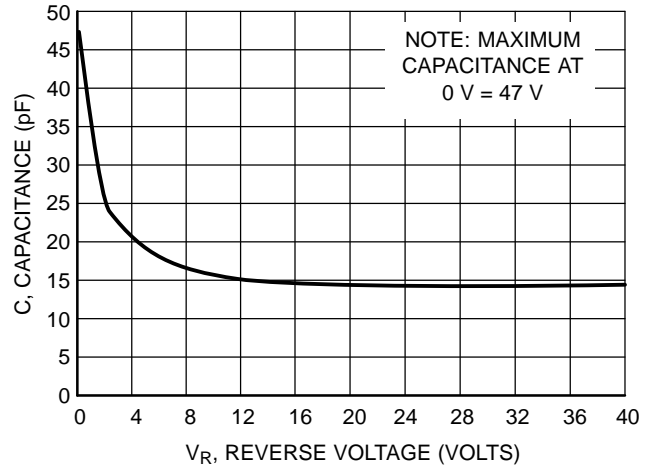


Figure 6. Maximum Capacitance

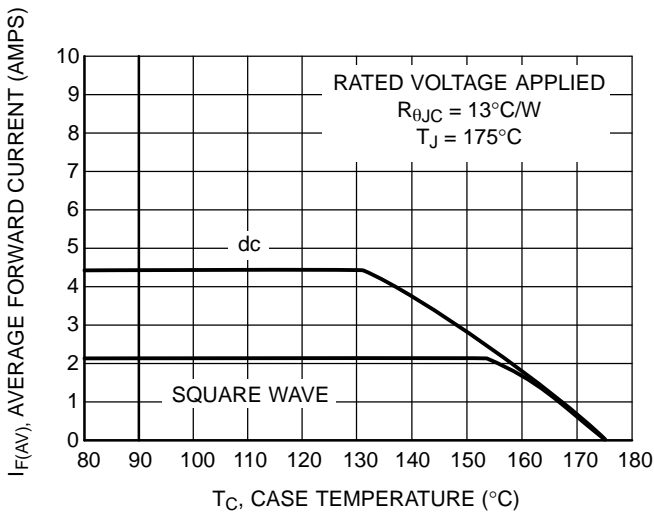


Figure 7. Current Derating, Case

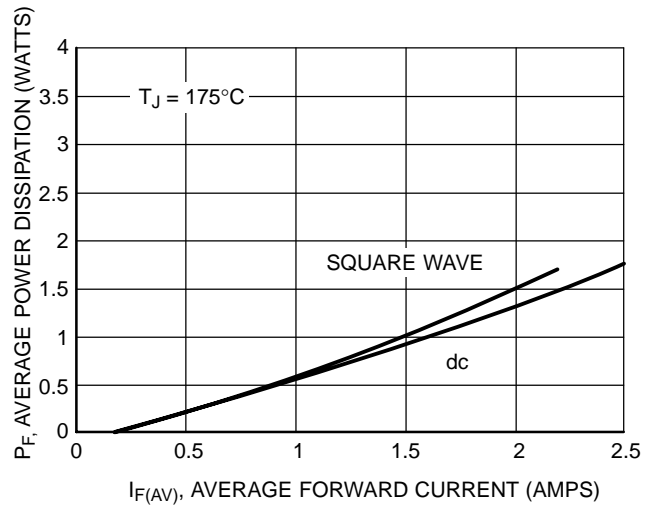


Figure 8. Power Dissipation