

# MBRS3201T3

## SMC Power Surface Mount Package

### Features

- Lower Forward Voltage than any Ultrafast Rectifier:  
 $V_F < 0.59 \text{ V}$  at  $150^\circ\text{C}$
- Fast Switching Speed: Reverse Recovery Time ( $t_{RR}$ )  $< 35 \text{ ns}$
- Soft Recovery Characteristics: Softness Factor ( $t_b/t_a$ )  $\geq 1$
- Highly Stable Over Temperature

### Benefits

- Significantly Reduced EMI
- Eliminates the Need of Snubber Circuits
- Low Switching and Heat Losses
- Improved Thermal Management

### Applications

- Engine and Convenience Control Systems
- Motor Controls
- Battery Chargers and Switching Power Supplies

### Mechanical Characteristics

- Small Compact Surface Mount Package with J-Bend Leads
- Rectangular Package for Automated Handling
- Weight: 217 mg (Approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes:  $260^\circ\text{C}$  Maximum for 10 Seconds
- Polarity: Notch in Plastic Body Indicates Cathode Lead

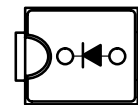
### MAXIMUM RATINGS

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	200	V
Average Rectified Forward Current (Rated $V_R$ , $T_C = \text{TBD}$ )	$I_{F(AV)}$	3	A
Nonrepetitive Peak Surge Current	$I_{FSM}$	100	A
Operating Junction Temperature	$T_J$	-55 to +150	$^\circ\text{C}$

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.

# 200V, 3A Schottky Fast Soft-Recovery Power Rectifier

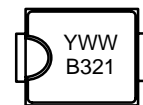
SCHOTTKY RECTIFIER  
3 AMPS, 200 VOLTS



### MARKING DIAGRAM



SMC  
CASE 403



B321 = Specific Device Code  
Y = Year  
WW = Work Week

### ORDERING INFORMATION

Device	Package	Shipping
MBRS3201T3	SMC	2500 / Tape & Reel

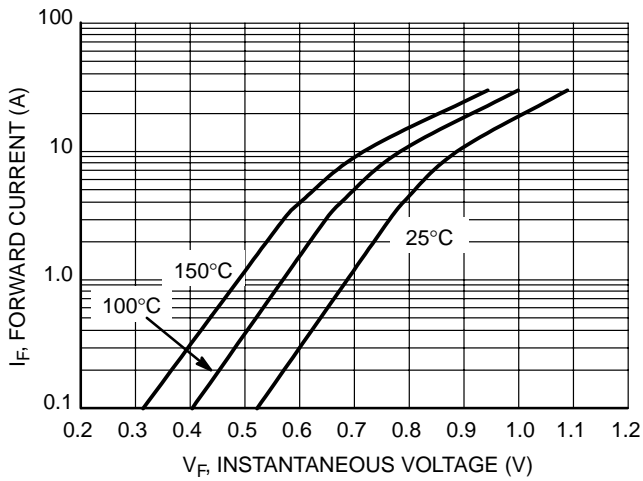
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

**THERMAL CHARACTERISTICS**

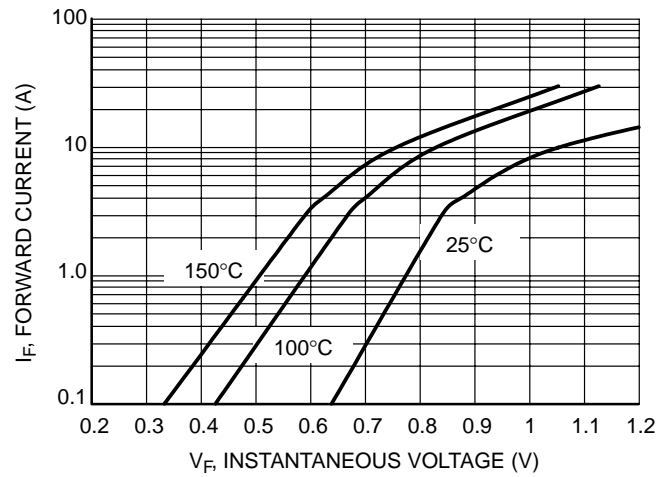
Characteristic	Symbol	Value	Unit
Thermal Resistance – Junction-to-Lead	$R_{\theta JL}$	12	$^{\circ}C/W$
Thermal Resistance – Junction-to-Ambient	$R_{\theta JA}$	60	$^{\circ}C/W$

**ELECTRICAL CHARACTERISTICS**

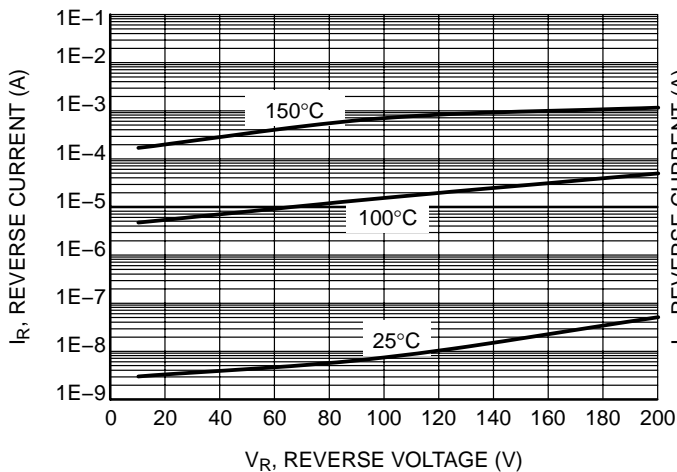
Characteristic	Symbol	Value	Unit
Maximum Instantaneous Forward Voltage ( $I_F = 3\text{ A}$ , $T_J = 25^{\circ}C$ ) ( $I_F = 3\text{ A}$ , $T_J = 150^{\circ}C$ )	$V_F$	0.84 0.59	V
Maximum Instantaneous Reverse Current (Rated $V_R$ ) (Rated DC Voltage, $T_J = 25^{\circ}C$ ) (Rated DC Voltage, $T_J = 150^{\circ}C$ )	$I_R$	5 5	$\mu A$ mA
Maximum Reverse Recovery Time ( $I_F = 1\text{ A}$ , $di/dt = 100\text{ A/us}$ , $V_R = 30\text{ V}$ )	$t_{rr}$	35	ns



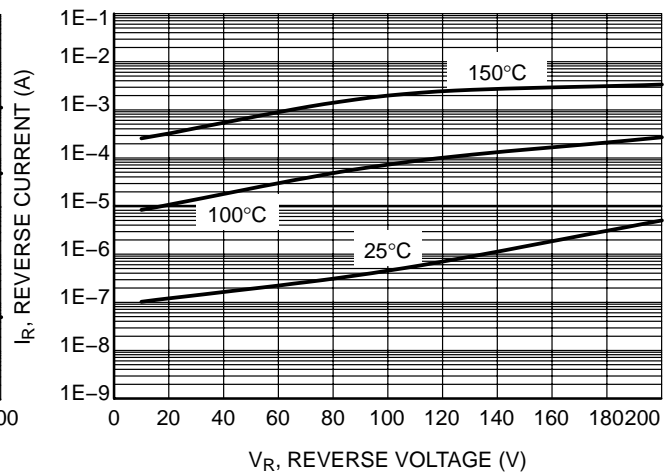
**Figure 1. Typical Forward Voltage**



**Figure 2. Maximum Forward Voltage**



**Figure 3. Typical Reverse Voltage**



**Figure 4. Maximum Reverse Voltage**