MBRS130LT3

Preferred Device

Schottky Power Rectifier

Surface Mount Power Package

. . . Employs the Schottky Barrier principle in a large area metal–to–silicon power diode. State–of–the–art geometry features epitaxial construction with oxide passivation and metal overlay contact. Ideally suited for low voltage, high frequency rectification, or as free wheeling and polarity protection diodes, in surface mount applications where compact size and weight are critical to the system.

- Very Low Forward Voltage Drop (0.395 Volts Max @ 1.0 A, T_J = 25°C)
- Small Compact Surface Mountable Package with J–Bend Leads
- Highly Stable Oxide Passivated Junction
- Guardring for Stress Protection

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
- Cathode Polarity Band
- Marking: 1BL3

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	30	V
Average Rectified Forward Current T_L = 120°C T_L = 110°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}	40	A
Operating Junction Temperature	T_J	–65 to +125	°C

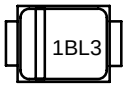
ON Semiconductor™

http://onsemi.com

SCHOTTKY BARRIER RECTIFIER 1.0 AMPERE 30 VOLTS

SMB
CASE 403A
PLASTIC

MARKING DIAGRAM



1BL3 = Device Code

ORDERING INFORMATION

Device	Package	Shipping
MBRS130LT3	SMB	2500/Tape & Reel

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

THERMAL CHARACTERISTICS

Rating	Symbol	Value	Unit
Thermal Resistance — Junction to Lead (T_L = 25°C)	$R_{\theta JL}$	12	°C/W

ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (Note 1.) (i_F = 1.0 A, T_J = 25°C) (i_F = 2.0 A, T_J = 25°C)	V_F	 0.395 0.445	Volts
Maximum Instantaneous Reverse Current (Note 1.) (Rated dc Voltage, T_J = 25°C) (Rated dc Voltage, T_J = 100°C)	I_R	 1.0 10	mA

1. Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2%.

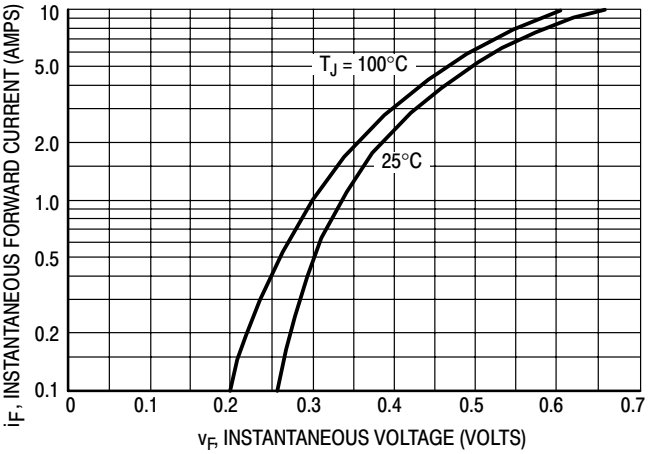


Figure 1. Typical Forward Voltage

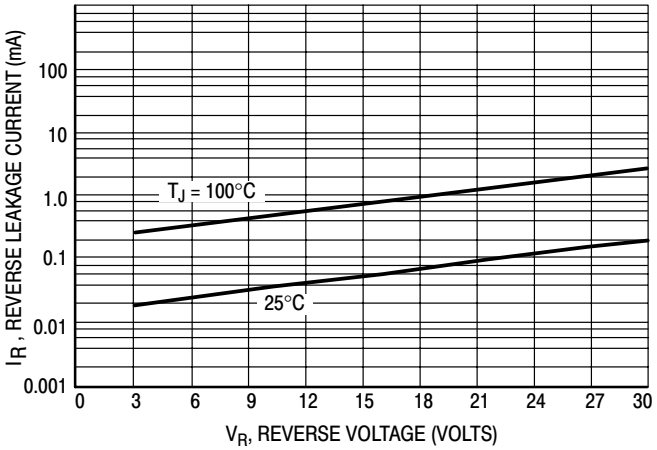


Figure 2. Typical Reverse Leakage Current

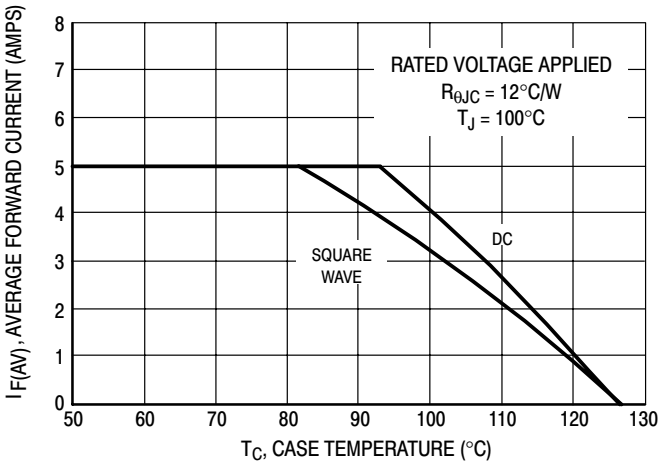


Figure 3. Current Derating (Case)

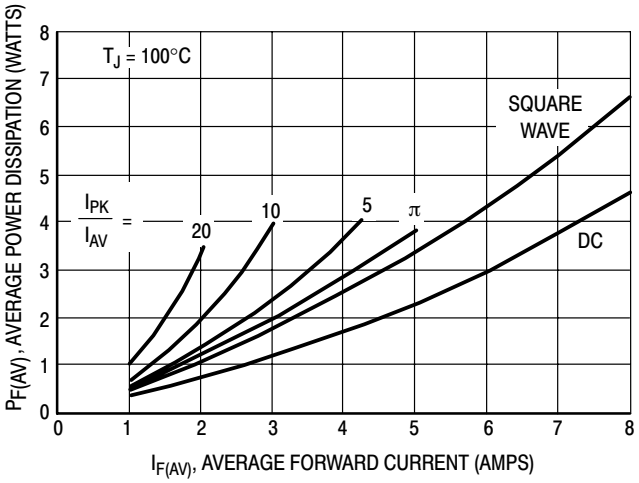


Figure 4. Typical Power Dissipation

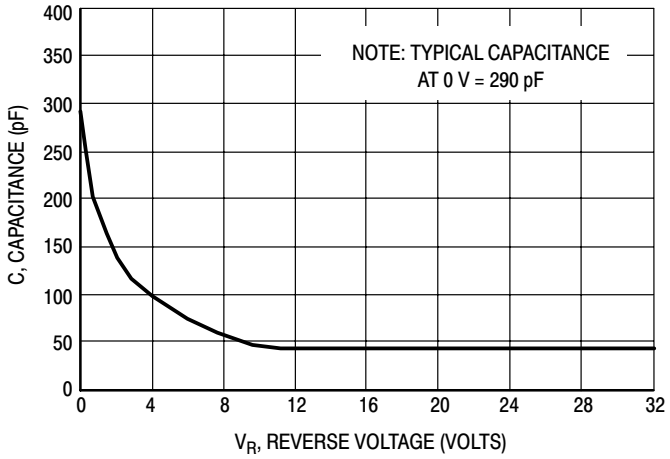
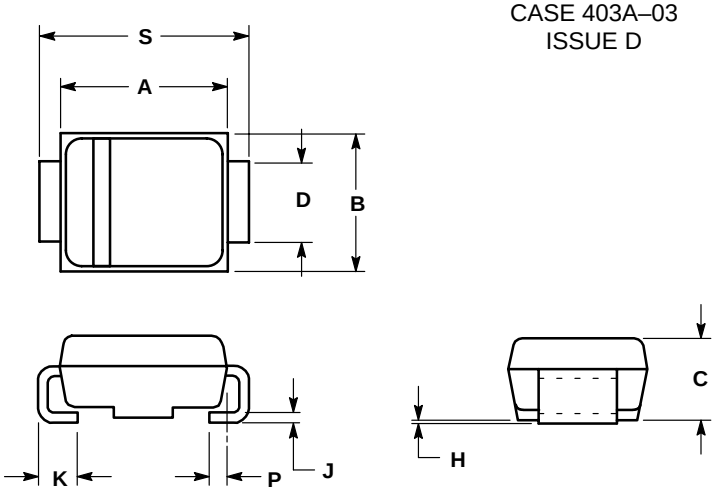


Figure 5. Typical Capacitance

PACKAGE DIMENSIONS

SMB
PLASTIC PACKAGE
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.

	INCHES		MILLIMETERS	
DIM	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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