

# MBRA340T3

Employing 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 diodes in surface mount applications where compact size and weight are critical to the system.

- Small Compact Surface Mountable Package with J-Bent Leads
- Rectangular Package for Automated Handling
- Highly Stable Oxide Passivated Junction
- Very Low Forward Voltage Drop
- Guardring for Stress Protection
- Pb-Free Package is Available

### Mechanical Characteristics:

- Case: Epoxy, Molded
- Weight: 70 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, 5000 units per 13 inch reel
- Polarity: Cathode Lead Indicated by Polarity Band
- ESD Ratings: Machine Model = C  
Human Body Model = 3B
- Device Meets MSL 1 Requirements

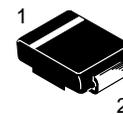
### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	40	V
Average Rectified Forward Current (At Rated $V_R$ , $T_L = 100^\circ\text{C}$ )	$I_O$	3.0	A
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	$I_{FSM}$	100	A
Storage/Operating Case Temperature	$T_{stg}$ , $T_C$	-55 to +150	°C
Operating Junction Temperature	$T_J$	-55 to +125	°C
Voltage Rate of Change (Rated $V_R$ , $T_J = 25^\circ\text{C}$ )	dv/dt	10,000	V/ $\mu\text{s}$

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.

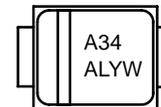
# Surface Mount Schottky Power Rectifier SMA Power Surface Mount Package

**SCHOTTKY BARRIER  
RECTIFIER  
3.0 AMPERES  
40 VOLTS**



**SMA  
CASE 403D  
PLASTIC**

### MARKING DIAGRAM



- A34 = Device Code
- A = Assembly Location
- L = Wafer Lot
- Y = Year
- W = Work Week

### ORDERING INFORMATION

Device	Package	Shipping†
MBRA340T3	SMA	5000/Tape & Reel
MBRA340T3G	SMA (Pb-Free)	5000/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 (Note 1)	$R_{\theta JL}$	15	$^{\circ}C/W$
Thermal Resistance – Junction–to–Ambient (Note 1)	$R_{\theta JA}$	81	$^{\circ}C/W$

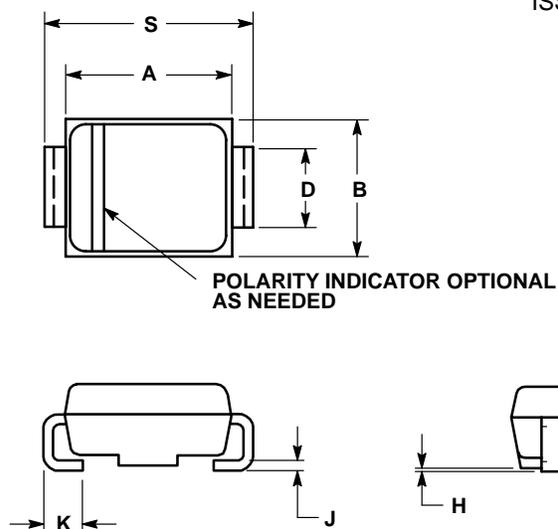
**ELECTRICAL CHARACTERISTICS**

Maximum Instantaneous Forward Voltage (Note 2) $(I_F = 3.0 A)$	$V_F$	$T_J = 25^{\circ}C$	$T_J = 100^{\circ}C$	Volts
		0.450	0.390	
Maximum Instantaneous Reverse Current $(V_R = 40 V)$	$I_R$	$T_J = 25^{\circ}C$	$T_J = 100^{\circ}C$	mA
		0.3	15	

1. Mounted on 2" Square PC Board with 1" Square Total Pad Size, PC Board FR4.
2. Pulse Test: Pulse Width  $\leq 250 \mu s$ , Duty Cycle  $\leq 2.0\%$ .

**PACKAGE DIMENSIONS**

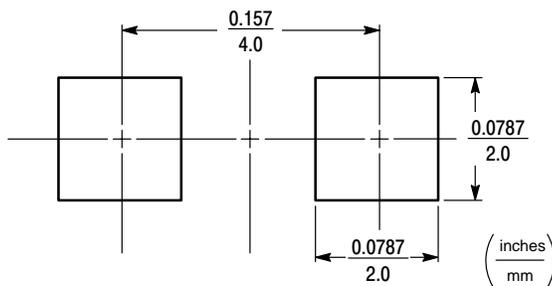
**SMA**  
CASE 403D-02  
ISSUE A



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
  2. CONTROLLING DIMENSION: INCH.
  3. 403D-01 OBSOLETE, NEW STANDARD IS 403D-02.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.160	0.180	4.06	4.57
B	0.090	0.115	2.29	2.92
C	0.075	0.095	1.91	2.41
D	0.050	0.064	1.27	1.63
H	0.002	0.006	0.05	0.15
J	0.006	0.016	0.15	0.41
K	0.030	0.060	0.76	1.52
S	0.190	0.220	4.83	5.59

**SOLDERING FOOTPRINT\***



\*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D. mm