

## MBR0520WS SCHOTTKY BARRIER RECTIFIER DIODE



### Features

- Lead-less chip form
- Low  $V_f$
- High current capability
- Low power loss/high efficiency
- UL 94V-0 class package material
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Schematic & Pin Configuration



### Mechanical Characteristics

- Case: SOD-323, Molded plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.04 grams(approx)

### Maximum Ratings @ $T_A=25^\circ\text{C}$ unless otherwise specified

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	$V_{RRM}$	-	20	V
Working Peak Reverse Voltage	$V_{RWM}$			
DC Blocking Voltage	$V_R$			
Average Forward Current	$I_F (AV)$	50% duty cycle @ $T_A=55^\circ\text{C}$ , rectangular wave form	0.5	A
Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	8.3ms, Half Sine pulse	10	A

### Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop*	$V_F$	@ 0.5A, Pulse, $T_J = 25^\circ\text{C}$	0.45	V
Reverse Current*	$I_{R1}$	@ $V_R = \text{rated } V_R$ , $T_J = 25^\circ\text{C}$	100	$\mu\text{A}$
Junction Capacitance	$C_J$	@ $V_R = 5\text{V}$ , $T_C = 25^\circ\text{C}$ , $f_{SIG} = 1\text{MHz}$	75	pF

\* Pulse width < 300  $\mu\text{s}$ , duty cycle < 2%

**Ratings and Characteristics Curves**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	$T_J$	-	-55 to +125	°C
Storage Temperature	$T_{stg}$	-	-55 to +150	°C
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	DC operation	120	°C/W

**Ratings and Characteristics Curves**

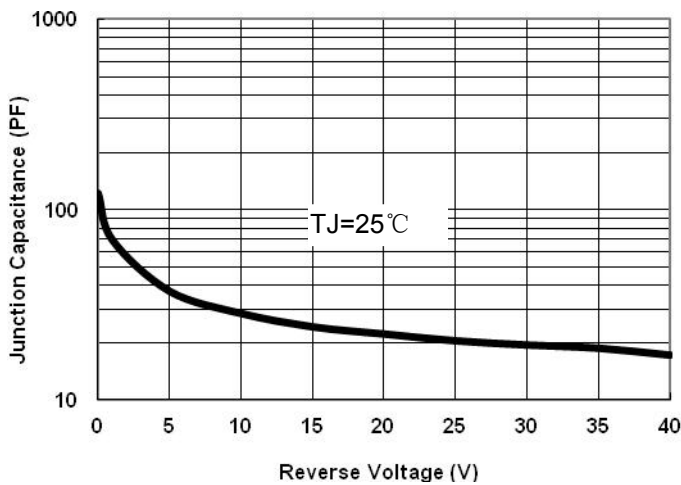


Fig.1-Typical Junction Capacitance

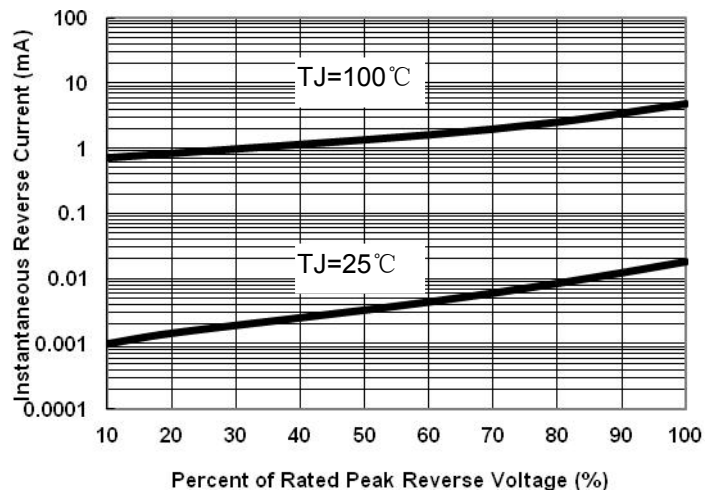


Fig.2-Typical Reverse Characteristics

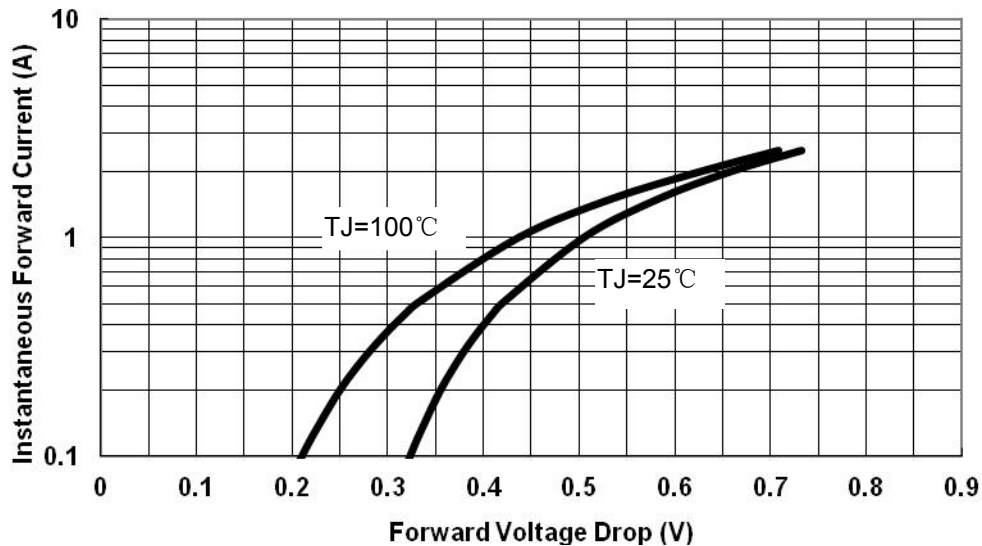
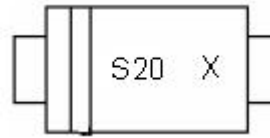


Fig.3-Typical Forward Voltage Drop Characteristics

**Ordering Information**

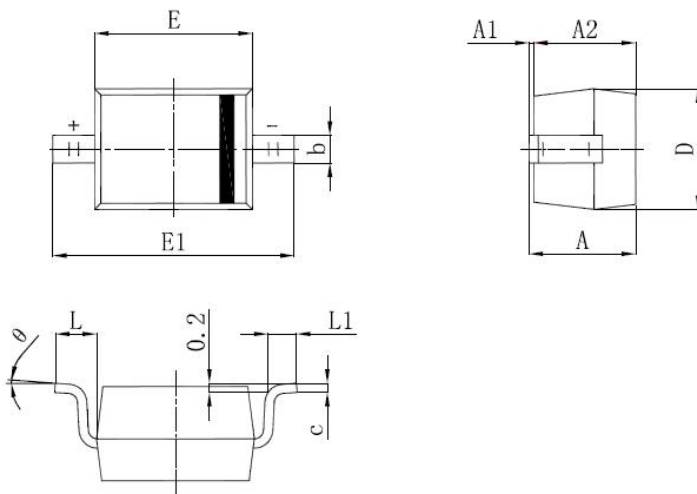
Device	Package	Shipping
MBR0520WS	SOD-323 (Pb-Free)	3000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

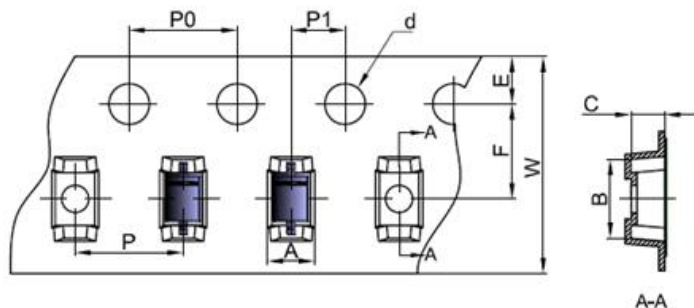
**Marking Diagram**


Where X is Date Code  
 S20 = Marking code

**Cautions:** Molding resin  
 Epoxy resin UL:94V-0

**Mechanical Dimensions SOD-323**


SYMBOL	Millimeters		Inches	
	MIN.	MAX.	MIN.	MAX.
A	-	1.000	-	0.039
A1	0.000	0.100	0.000	0.004
A2	0.800	0.900	0.031	0.035
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	1.200	1.400	0.047	0.055
E	1.600	1.800	0.063	0.071
E1	2.500	2.700	0.098	0.106
L	0.475 REF.		0.019 REF.	
L1	0.250	0.400	0.010	0.016
θ	0°	8°	0°	8°

**Carrier Tape Specification SOD-323**


SYMB OL	Millimeters	
	Min.	Max.
B	2.85	2.95
C	1.20	1.30
d	1.40	1.60
E	1.65	1.85
F	3.40	3.60
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
W	7.90	8.30



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