

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 Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	20	V
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	μA
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 μs , duty cycle < 2%

Ratings and Characteristics Curves

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

Ratings and Characteristics Curves

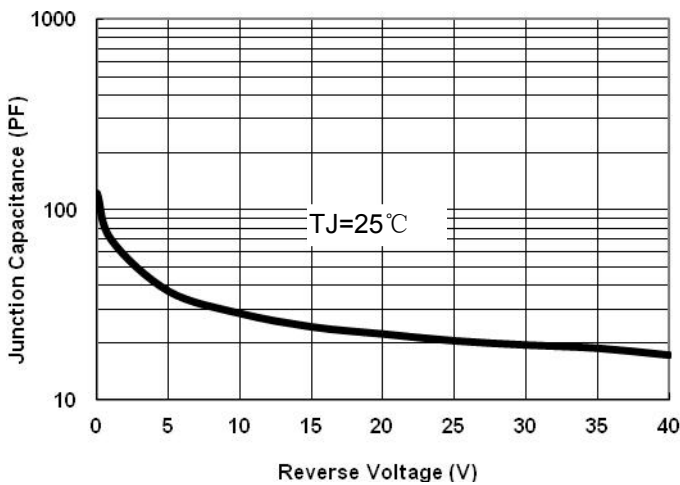


Fig.1-Typical Junction Capacitance

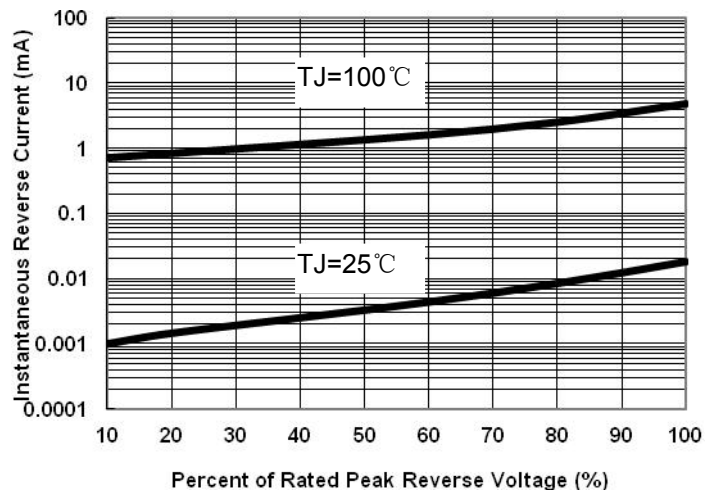


Fig.2-Typical Reverse Characteristics

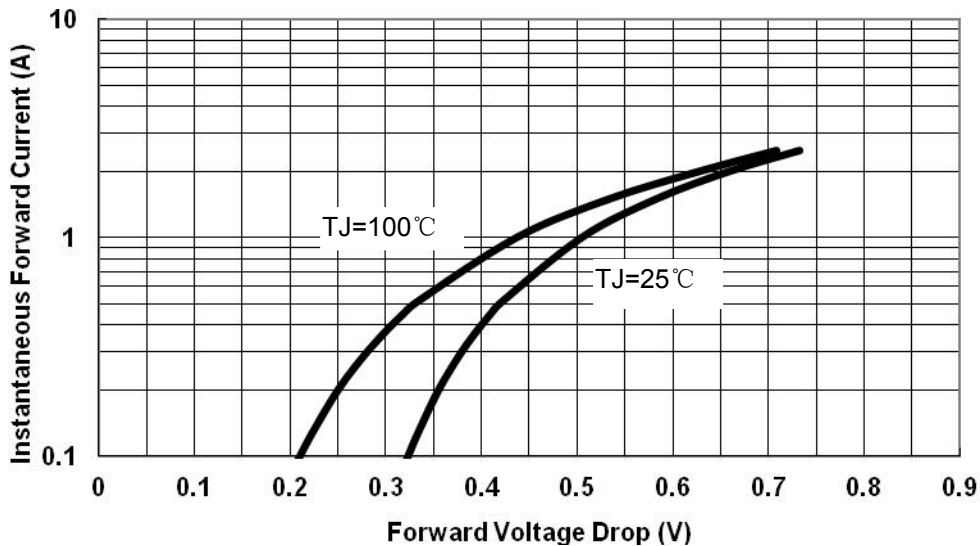
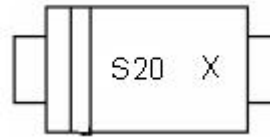


Fig.3-Typical Forward Voltage Drop Characteristics

Ordering Information

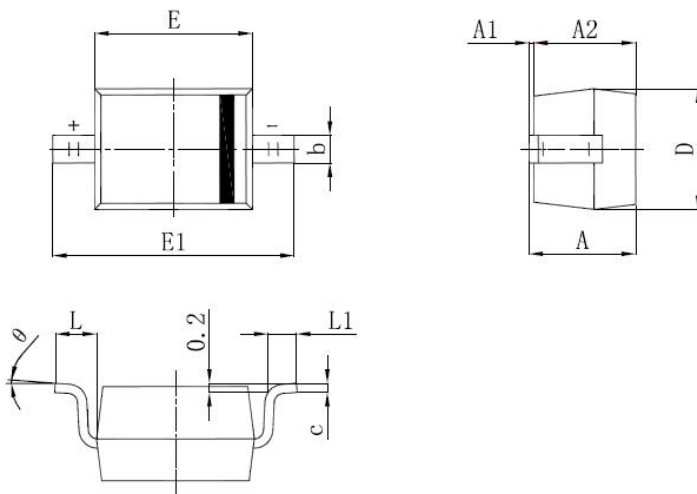
Device	Package	Shipping
MBR0520WS	SOD-323 (Pb-Free)	3000pcs / reel

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

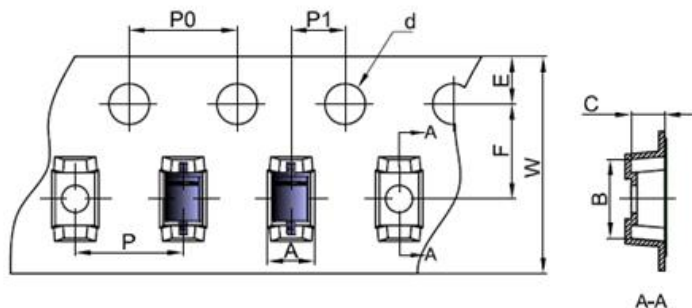
Marking Diagram


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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