



Schottky Power Rectifier

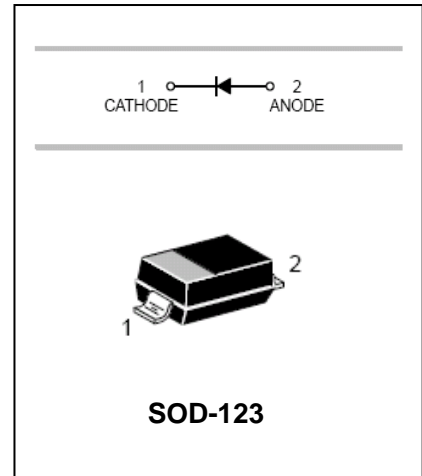
**MBR140**

**FEATURES**

- Guarding for stress protection.
- Low forward voltage.
- 125°C Operating junction temperature.
- Epoxy meets UL 94v-0 @0.125 in.



Lead-free



**APPLICATIONS**

- Low voltage high frequency rectification.
- Free wheeling and polarity protection diodes in surface mount application.

**ORDERING INFORMATION**

Type No.	Marking	Package Code
MBR140	L4F	SOD-123

**MAXIMUM RATING @ Ta=25°C unless otherwise specified**

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	40	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Reverse Voltage	$V_R$		
Average Rectified Forward Current (At Rated $V_R$ , $T_L = 112^\circ\text{C}$ )	$I_O$	1.0	A
Non-Repetitive Peak Surge Current (Non-Repetitive peak surge current, halfwave, single phase, 60 Hz)	$I_{FSM}$	15	A
Storage Temperature	$T_{stg}$	-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/ $\mu\text{s}$
<b>THERMAL CHARACTERISTICS</b>			
Thermal Resistance, Junction-to-Lead	$R_{tjl}$	26	°C/W
Thermal Resistance, Junction-to-Lead	$R_{tjl}$	21	
Thermal Resistance, Junction-to-Ambient	$R_{tja}$	325	
Thermal Resistance, Junction-to-Ambient	$R_{tja}$	82	



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**ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified**

Rating	Symbol	Value	Unit
Maximum Instantaneous Forward Voltage ( $I_F = 0.1$ A) ( $I_F = 1.0$ A) ( $I_F = 3.0$ A)	$V_F$	0.36 0.55 0.85	v
Maximum Instantaneous Reverse Current ( $V_R = 40$ V) ( $V_R = 20$ V)	$I_R$	0.5 0.15	mA

**NOTE:** Pulse Test: Pulse Width  $\leq 250 \mu s$ , Duty Cycle  $\leq 2\%$ .

**TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified**

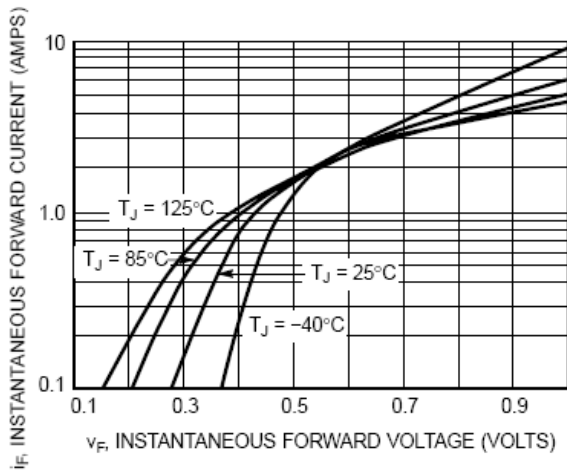


Figure 1. Typical Forward Voltage

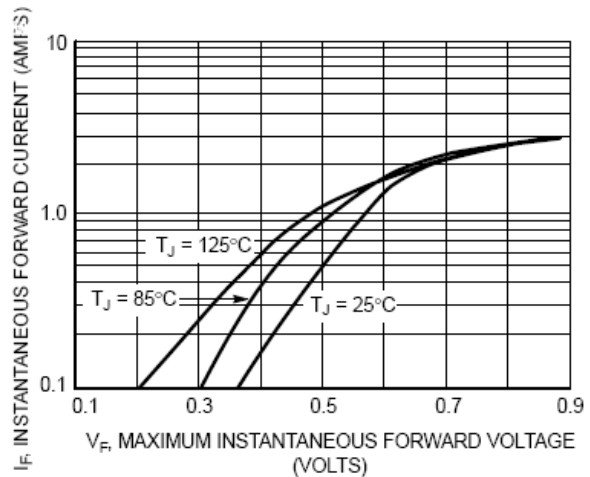


Figure 2. Maximum Forward Voltage

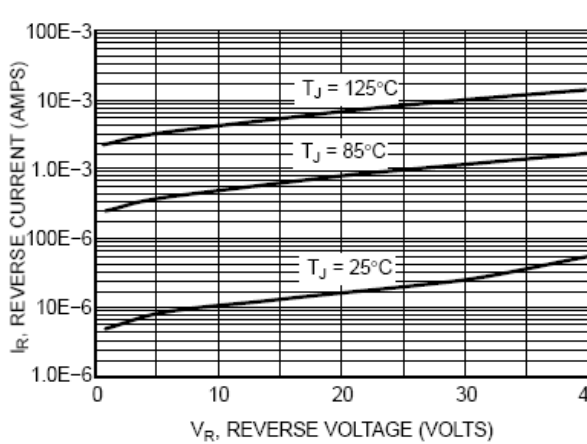


Figure 3. Typical Reverse Current

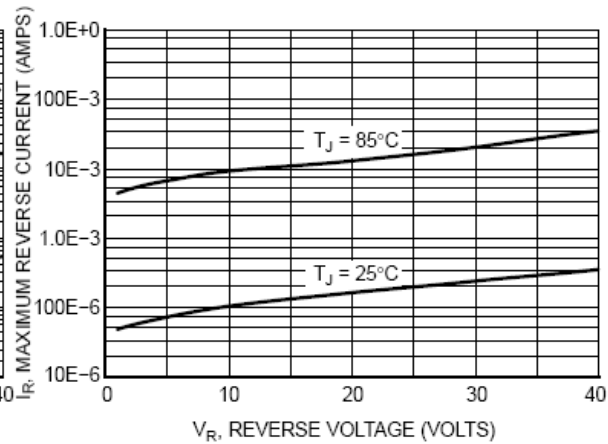


Figure 4. Maximum Reverse Current

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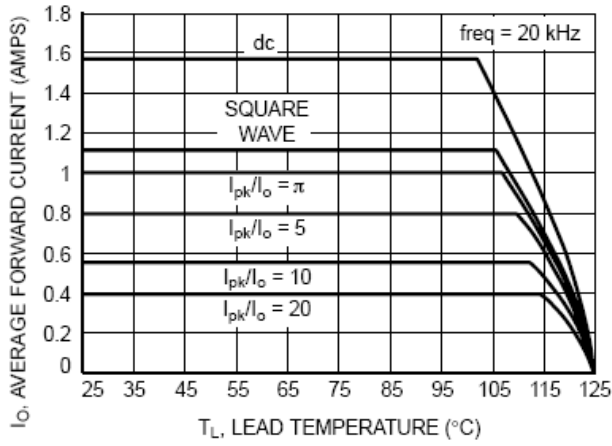


Figure 5. Current Derating

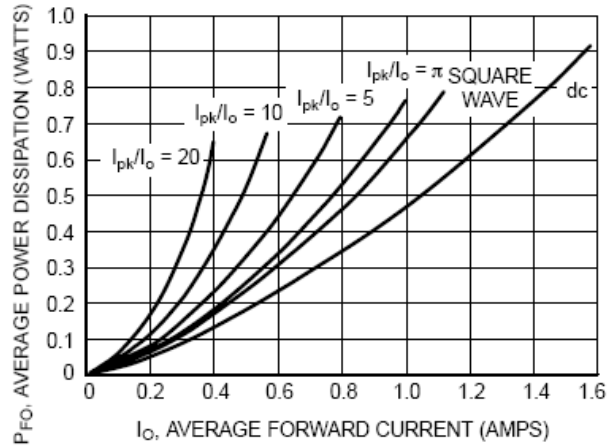
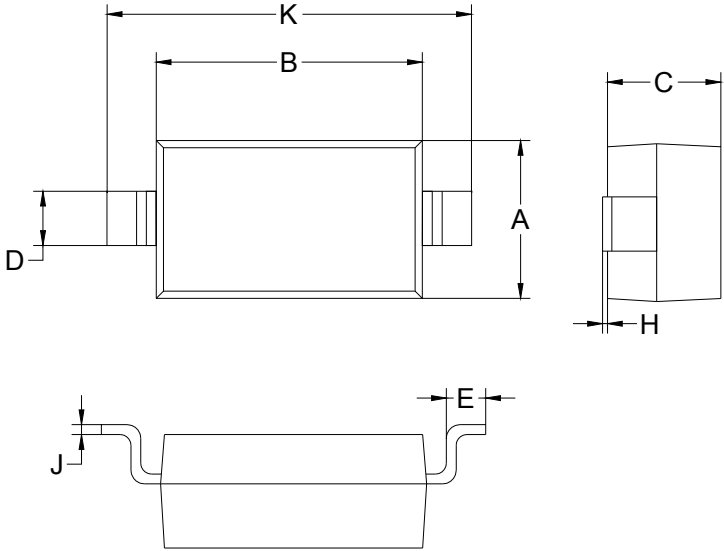


Figure 6. Forward Power Dissipation

PACKAGE OUTLINE

Plastic surface mounted package

SOD-123



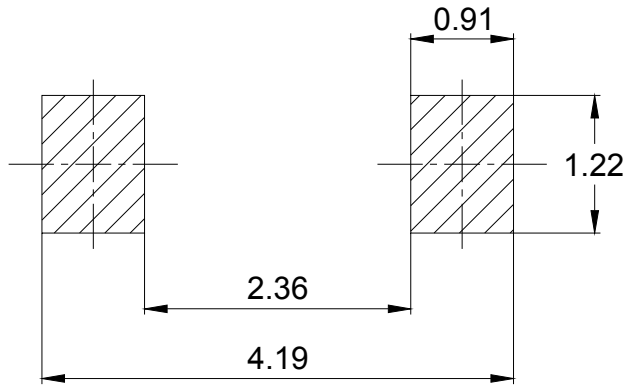
SOD-123		
Dim	Min	Max
A	1.45	1.75
B	2.55	2.85
C	1.15 Typical	
D	0.55 Typical	
E	0.25	0.45
H	0.02	0.10
J	0.1 Typical	
K	3.55	3.85
All Dimensions in mm		



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**MBR140**

SOLDERING FOOTPRINT



Unit: mm

PACKAGE INFORMATION

Device	Package	Shipping
MBR140	SOD-123	3000/Tape&Reel