



# MBR1020VL

## SURFACE MOUNT SCHOTTKY POWER RECTIFIER

SOD-123FL

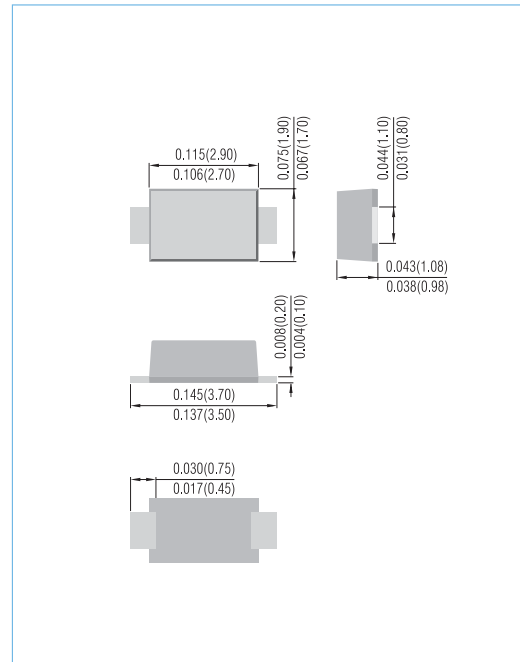
Unit: inch (mm)

### FEATURES

- Guardring for stress protection
- Optimized for very low forward voltage
- In compliance with EU RoHS 2002/95/EC directives

### MECHANICAL DATA

- Case: SOD-123FL, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0168 gram
- Marking code : RL



### MAXIMUM RATINGS

RATING	SYMBOL	VALUE	UNITS
Peak Repetitive Reverse Voltage	$V_{RRM}$	20	V
Average Rectified Forward Current (See Figure 1)	$I_{F(AV)}$	1.0	A
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions, Halfwave, Single Phase, 60Hz)	$I_{FSM}$	45	A
Voltage Rate of Change (Rated $V_R$ )	$dv/dt$	1000	V/ $\mu$ s
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to + 125	$^{\circ}$ C

### THERMAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	VALUE	UNITS
Thermal Resistance-Junction-to-Lead(Note1)	$R_{\theta JL}$	26	$^{\circ}$ C/W
Thermal Resistance-Junction-to-Lead(Note2)	$R_{\theta JL}$	21	
Thermal Resistance-Junction-to-Ambient(Note1)	$R_{\theta JA}$	325	
Thermal Resistance-Junction-to-Ambient(Note2)	$R_{\theta JA}$	82	

- 1.Mounted with minimum recommended pad size, PC Board FR4
- 2.Mounted with 1 in.copper pad (Cu area 700mm<sup>2</sup>)

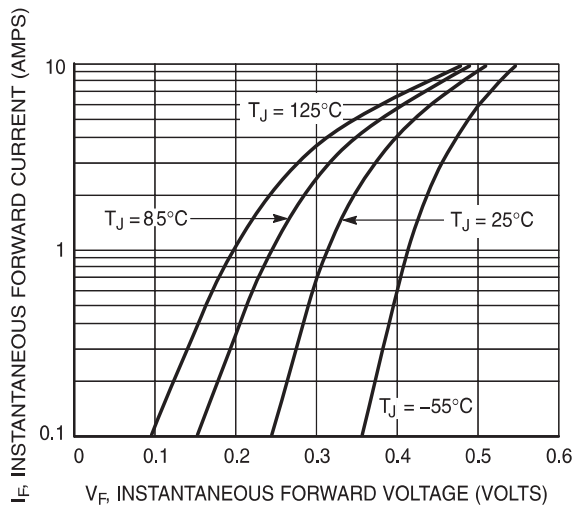
### ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	$T_J=25^{\circ}$ C	$T_J=85^{\circ}$ C	UNITS
Maximum Instantaneous Forward Voltage (Note3) $I_F=0.1A$ $I_F=0.5A$ $I_F=1.0A$	$V_F$	0.275 0.315 0.340	0.205 0.270 0.300	V
Maximum Instantaneous Reverse Current (Note3) (Rated DC Voltage)	$I_R$	0.60	15	mA

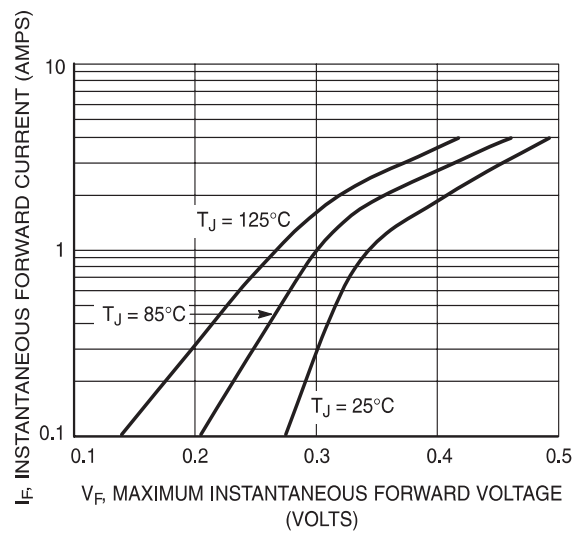
- 3.Pulse Test : Pulse Width = 300 $\mu$ s, Duty Cycle < 2%



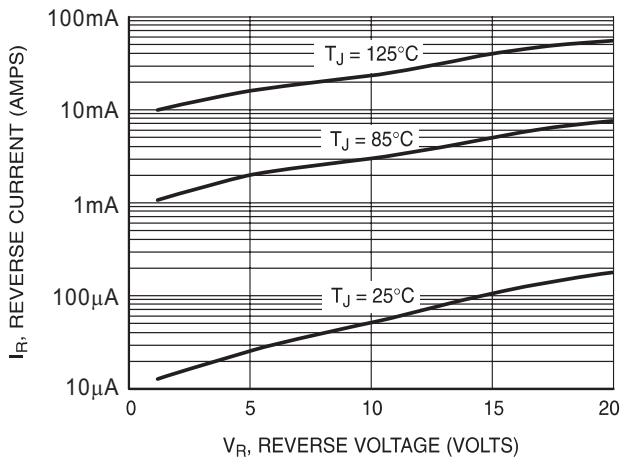
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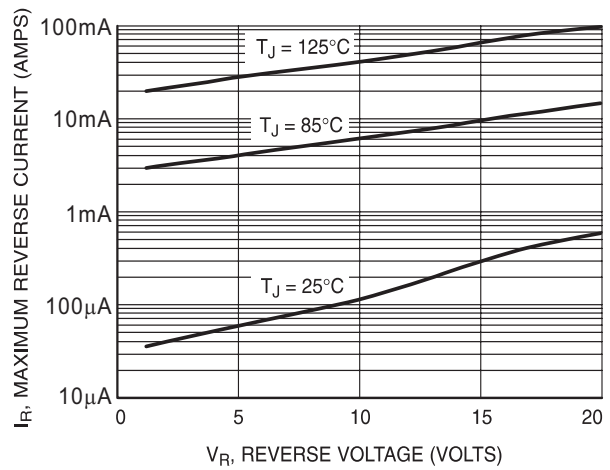
**Figure 1. Typical Forward Voltage**



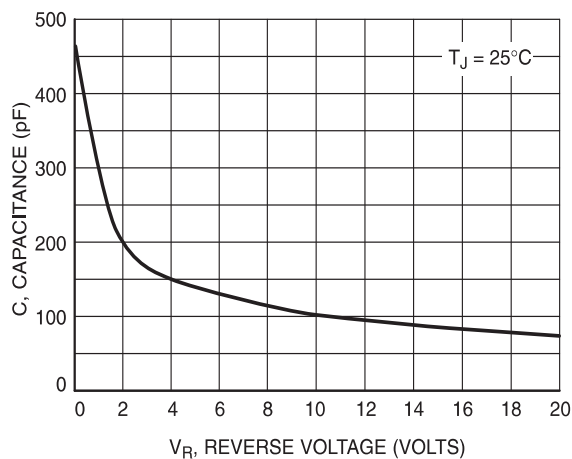
**Figure 2. Maximum Forward Voltage**



**Figure 3. Typical Reverse Current**



**Figure 4. Maximum Reverse Current**

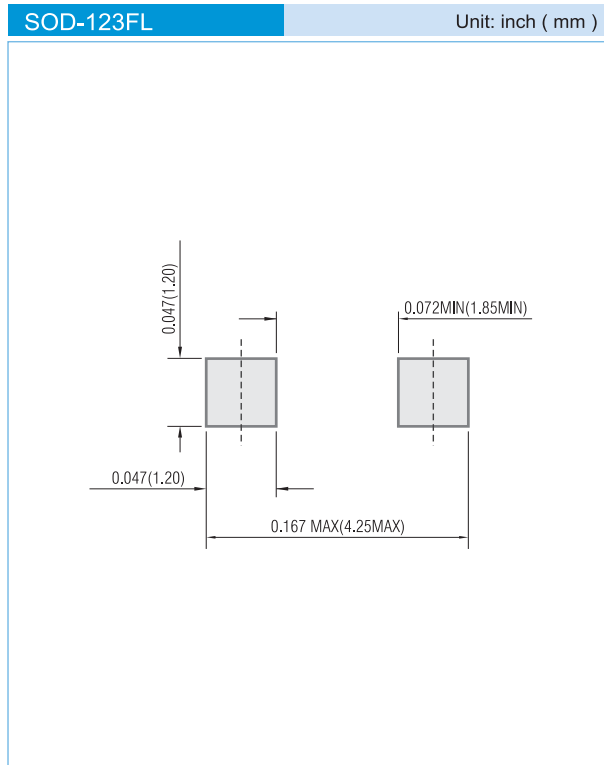


**Figure 7. Capacitance**



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## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information
  - T/R - 10K per 13" plastic Reel
  - T/R - 3K per 7" plastic Reel

## LEGAL STATEMENT

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