

## MBR1020VL

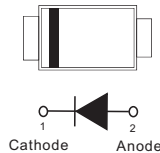
### SURFACE MOUNT SCHOTTKY POWER RECTIFIER

#### FEATURES

- Guardring for stress protection
- Optimized for very low forward voltage
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

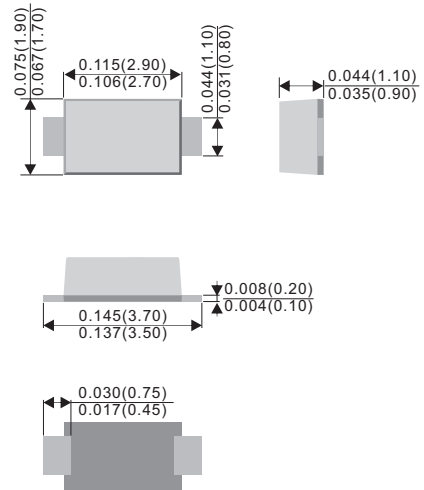
#### MECHANICAL DATA

- Case: SOD-123FL, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00061 ounces, 0.0173 grams
- Marking code: RL



#### SOD-123FL

Unit : inch(mm)



#### 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
Typical thermal Resistance-Junction-to-Ambient (Note1)	$R_{\theta JA}$	200	$^{\circ}$ C/W
Typical thermal Resistance-Junction-to-Lead (Note2)	$R_{\theta JL}$	70	

- 1.Mounted with minimum recommended pad size, PC Board FR4
- 2.Mounted on a FR4 PCB, single-sided copper, with 10cm\*10cm copper pad area

#### 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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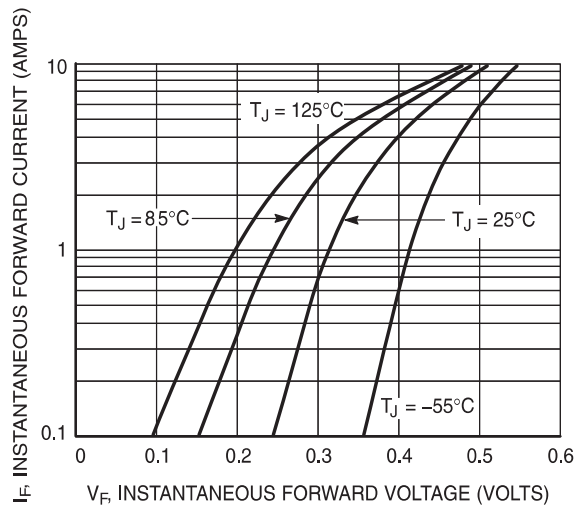


Figure 1. Typical Forward Voltage

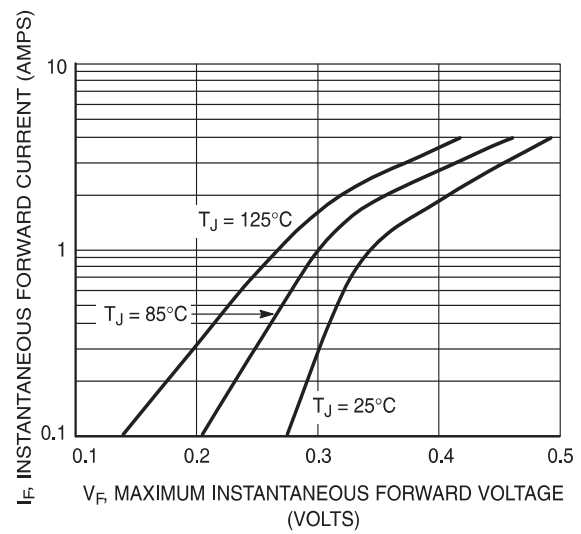


Figure 2. Maximum Forward Voltage

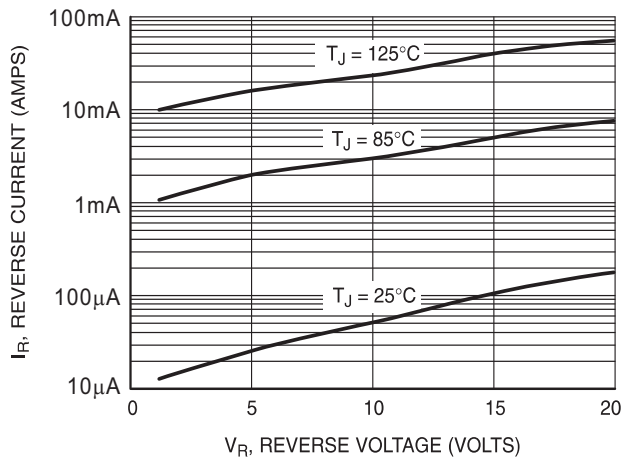


Figure 3. Typical Reverse Current

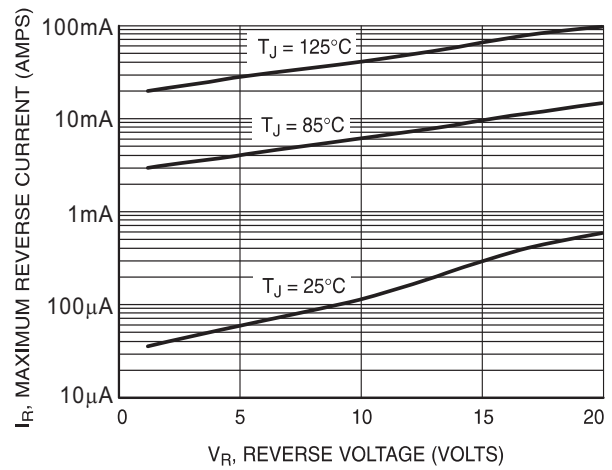


Figure 4. Maximum Reverse Current

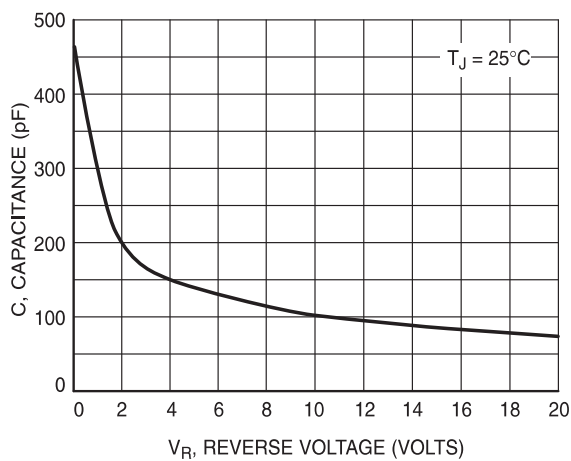


Figure 5. Capacitance

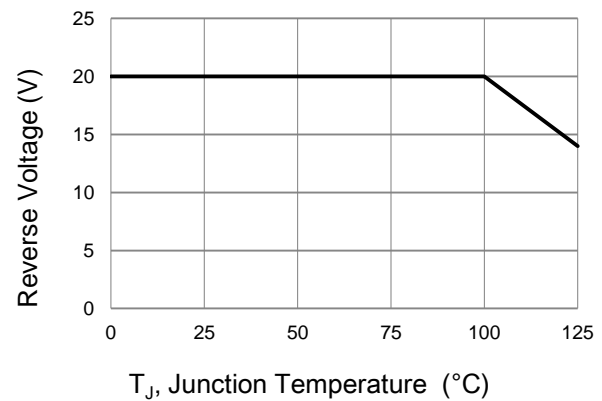


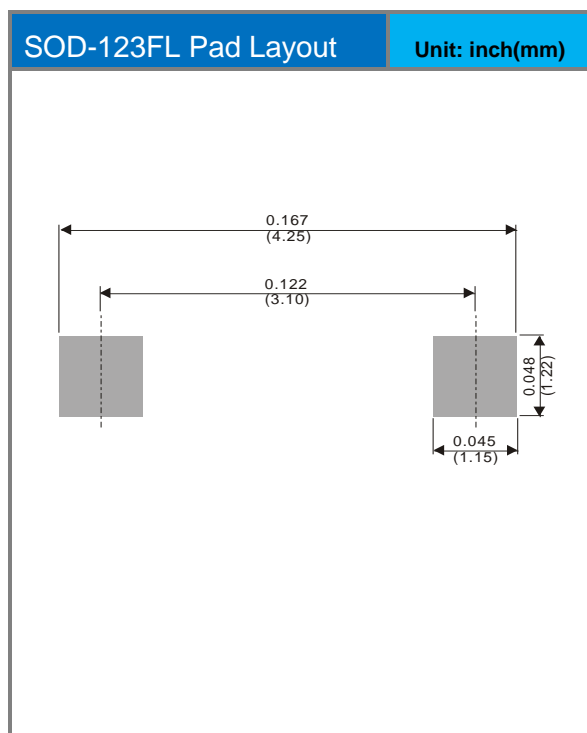
Fig.6 Operating Temperature Derating Curve

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### Product and Packing Information

Part No.	Package Type	Packing Type	Marking
MBR1020VL	SOD-123FL	3K pcs / 7" reel	RL
MBR1020VL	SOD-123FL	10K pcs / 13" reel	RL

### Mounting Pad Layout



## **MBR1020VL**

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