



# MBR1020VL-AU

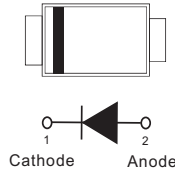
## SURFACE MOUNT SCHOTTKY POWER RECTIFIER

### FEATURES

- Guardring for stress protection
- Optimized for very low forward voltage
- Acquire quality system certificate : TS16949
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

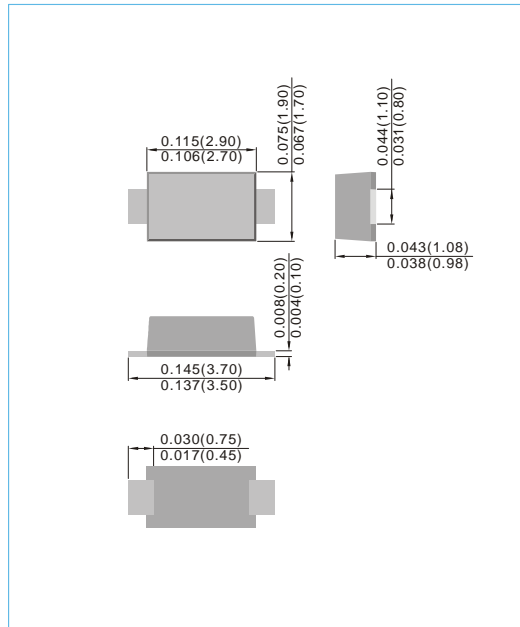
### MECHANICAL DATA

- Case: SOD-123FL, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00061 ounces, 0.0172 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 Conitions, 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

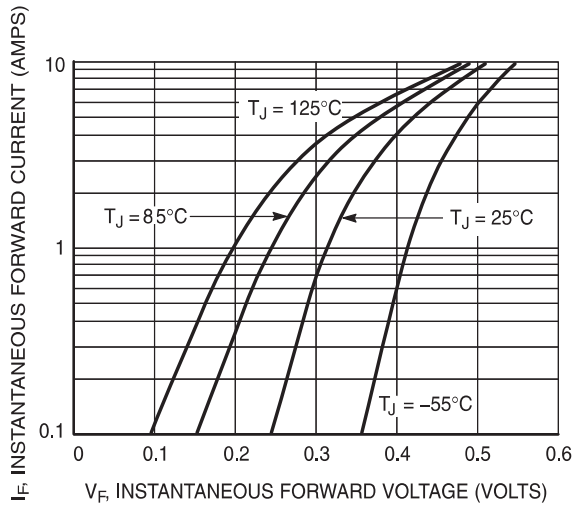
### ELECTRICAL CHARACTERISTICS

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

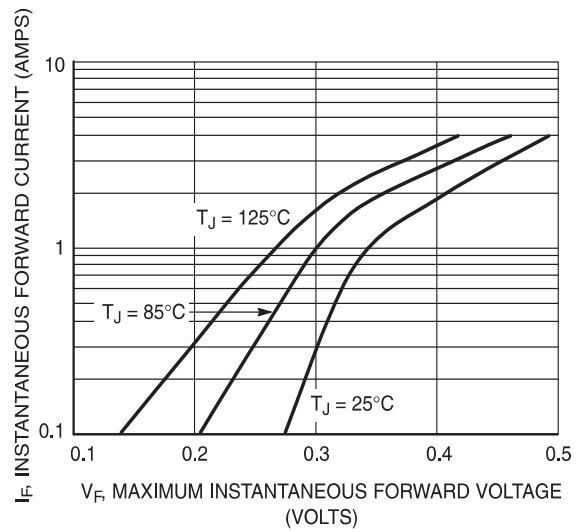
3. Pulse Test : Pulse Width = 300 $\mu$ s, Duty Cycle < 2%



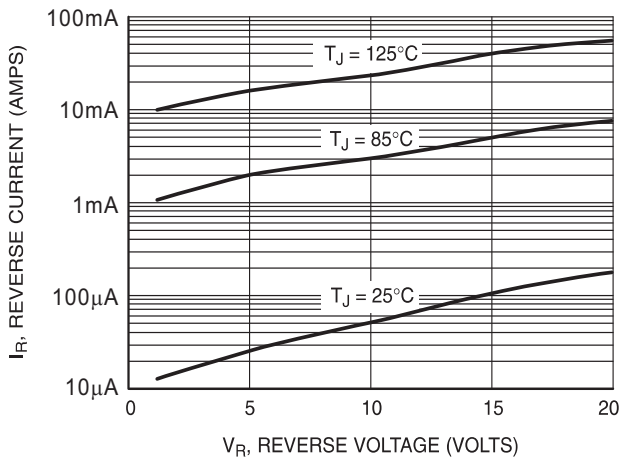
# MBR1020VL-AU



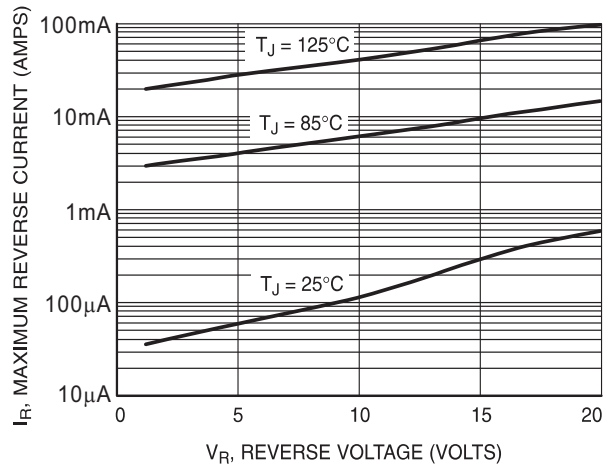
**Figure 1. Typical Forward Voltage**



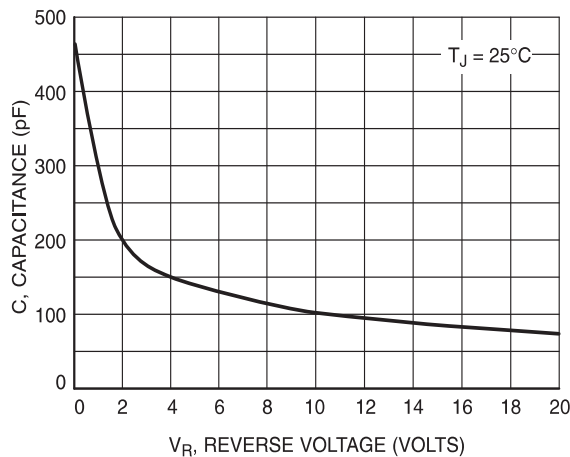
**Figure 2. Maximum Forward Voltage**



**Figure 3. Typical Reverse Current**



**Figure 4. Maximum Reverse Current**

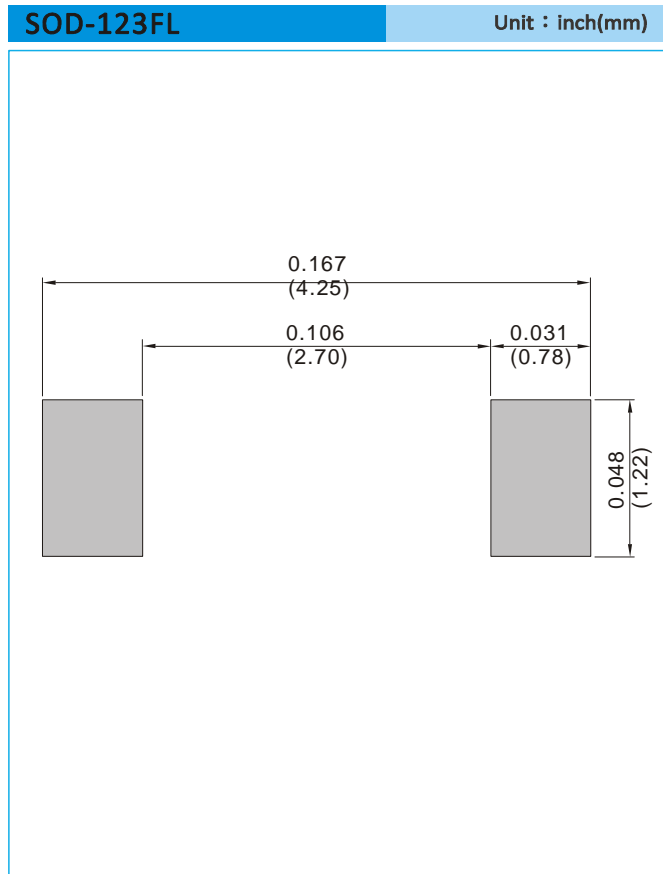


**Figure 7. Capacitance**



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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



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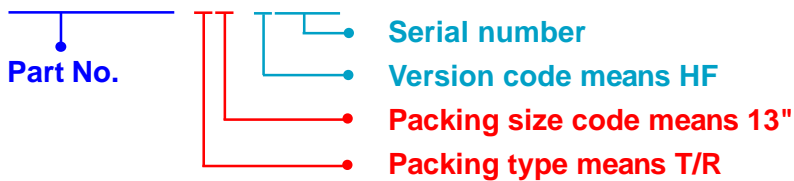
### Part No\_packing code\_Version

MBR1020VL-AU\_R1\_000A1

MBR1020VL-AU\_R2\_000A1

For example :

**RB500V-40** **R2** **00001**



Packing Code <b>XX</b>				Version Code <b>XXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



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