



MBR1020VL

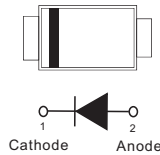
SURFACE MOUNT SCHOTTKY POWER RECTIFIER

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

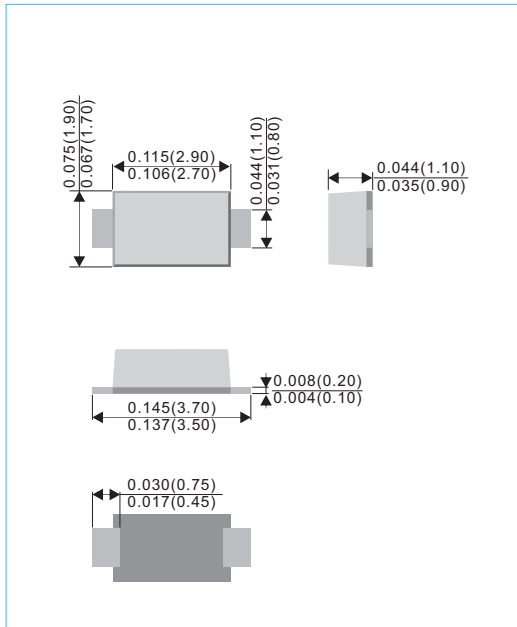
MECHANICAL DATA

- 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 Conitions, Halfwave, Single Phase, 60Hz) | I_{FSM} | 45 | A |
| Voltage Rate of Change (Rated V_R) | dv/dt | 1000 | V/ μ 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 | $^{\circ}$ C/W |

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 μ s, Duty Cycle < 2%



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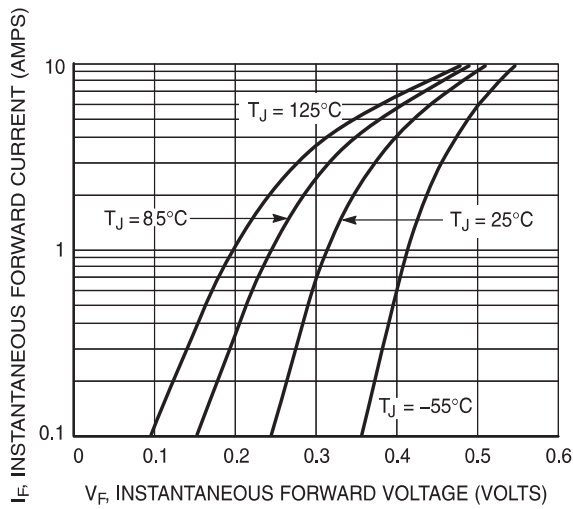


Figure 1. Typical Forward Voltage

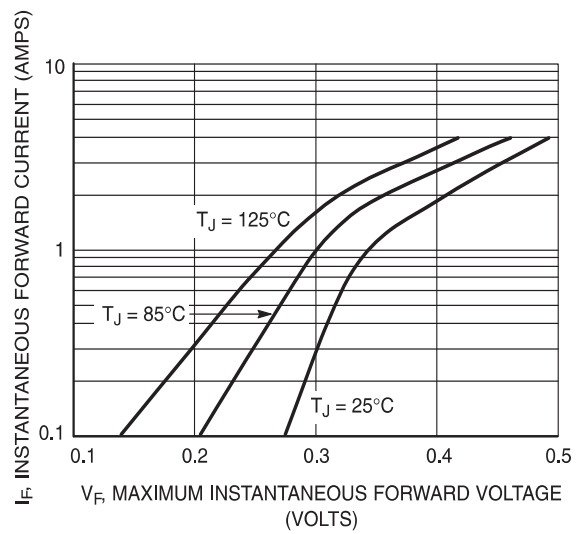


Figure 2. Maximum Forward Voltage

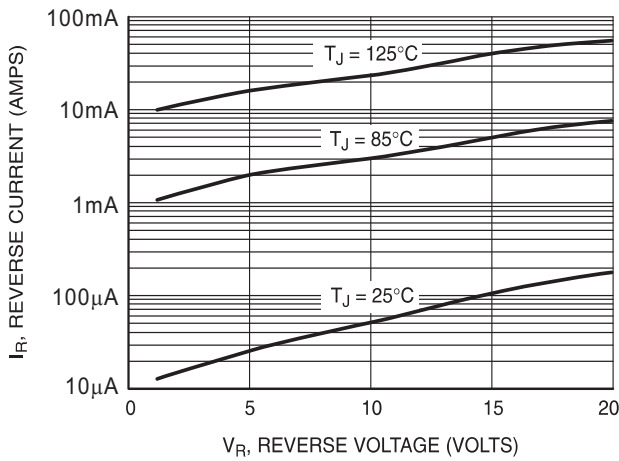


Figure 3. Typical Reverse Current

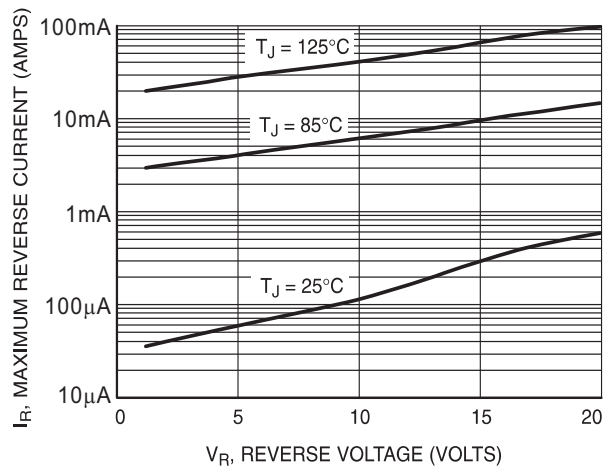


Figure 4. Maximum Reverse Current

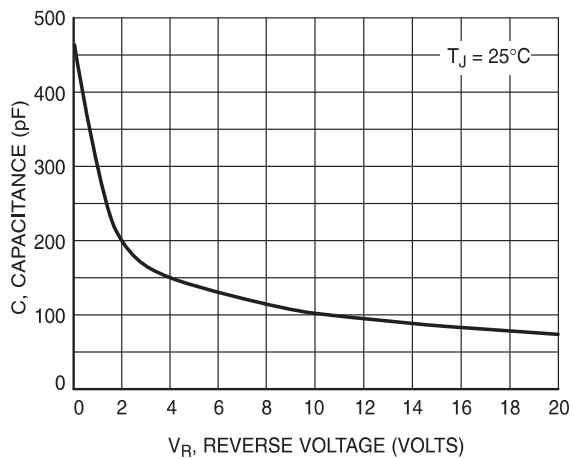


Figure 5. Capacitance

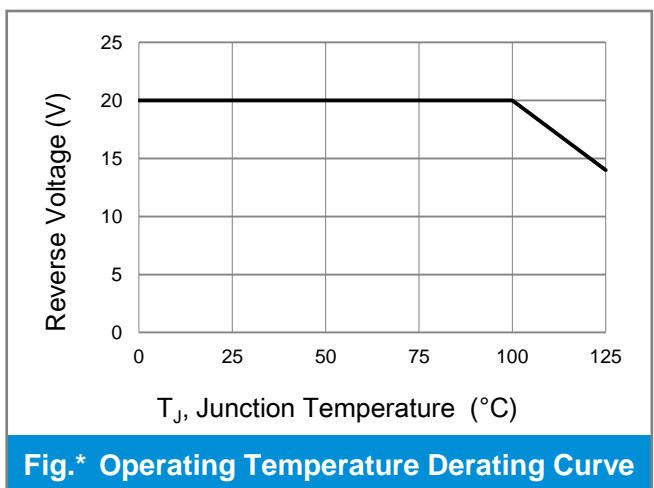
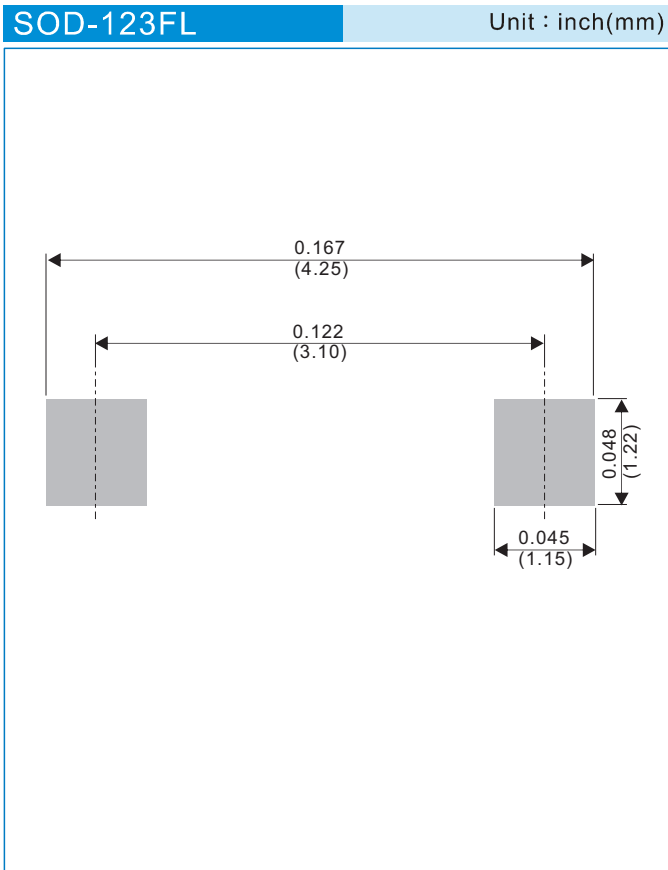


Fig.* Operating Temperature Derating Curve



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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



MBR1020VL

Part No_packing code_Version

MBR1020VL_R1_00001

MBR1020VL_R2_00001

For example :

RB500V-40_R2_00001



| Packing Code XX | | | | Version Code XXXXXX | | |
|--------------------------------------|----------------------|----------------------------------|----------------------|----------------------------|----------------------|---------------------------------------|
| Packing type | 1 st Code | Packing size code | 2 nd Code | HF or RoHS | 1 st Code | 2 nd ~5 th 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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