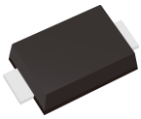
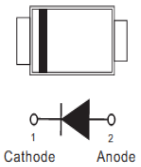
MBR1020VL-AU

SURFACE MOUNT SCHOTTKY POWER RECTIFIER

Voltage	20 V	Current	1 A

SOD-123FL





Features

- Low forward voltage drop
- Deal for automated placement
- Low power loss, high efficiency
- High surge current capability
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard
- AEC-Q101 qualified

Mechanical Data

- Case: SOD-123 Package
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0006 ounces, 0.0173 grams

Maximum Ratings and Thermal Characteristics (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	V
Maximum Rms Voltage	V_{RMS}	14	V
Maximum Dc Blocking Voltage	V_{DC}	20	V
Maximum Average Forward Current	$I_{F(AV)}$	1	A
Peak Forward Surge Current: 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	45	A
Typical Junction Capacitance Measured at 1 MHz And Applied VR = 4V	C_J	170	pF
Typical Thermal Resistance	$R_{\theta JA}$ (1) $R_{\theta JC}$ (2) $R_{\theta JL}$ (2)	200 80 70	°C/W
Operating Junction Temperature Range	T_J	-55~125	°C
Storage Temperature Range	T_{STG}	-55~125	°C

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Electrical Characteristics (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Forward Voltage	V_F	I_F = 0.1 A, T_J = 25 °C	-	-	0.275	V
		I_F = 0.5 A, T_J = 25 °C	-	-	0.315	
		I_F = 1 A, T_J = 25 °C	-	-	0.34	
		I_F = 0.1 A, T_J = 85 °C	-	-	0.205	
		I_F = 0.5 A, T_J = 85 °C	-	-	0.27	
		I_F = 1 A, T_J = 85 °C	-	-	0.3	
Reverse Current	I_R (3)	V_R = 16 V, T_J = 25 °C	-	110	-	uA
		V_R = 20 V, T_J = 25 °C	-	-	0.6	mA
		V_R = 20 V, T_J = 85 °C	-	-	15	mA

NOTES:

1. Mounted on a FR4 PCB, single-sided copper, mini pad.
2. Mounted on a FR4 PCB, single-sided copper, with 100 cm^2 copper pad area
3. Short duration pulse test used to minimize self-heating effect

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TYPICAL CHARACTERISTIC CURVES

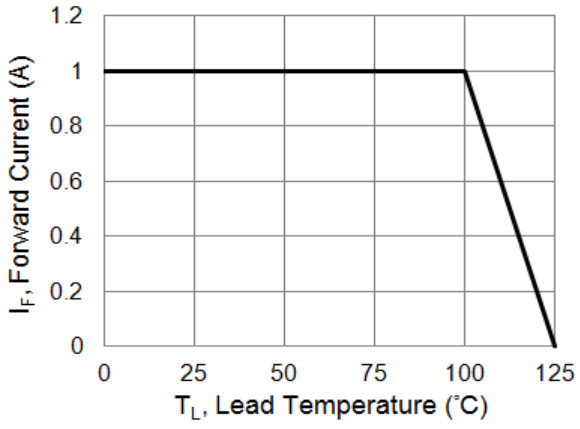


Fig.1 Forward Current Derating Curve

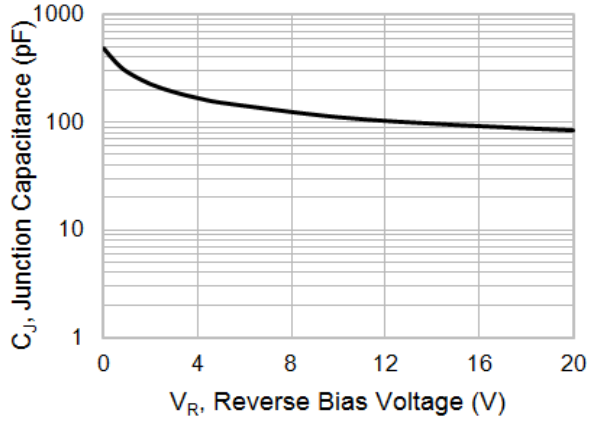


Fig.2 Typical Junction Capacitance

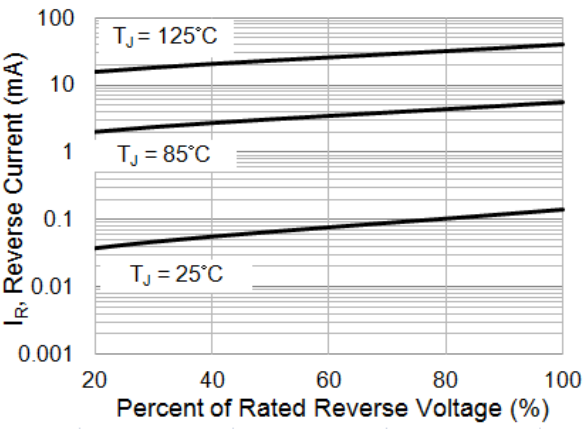


Fig.3 Typical Reverse Characteristics

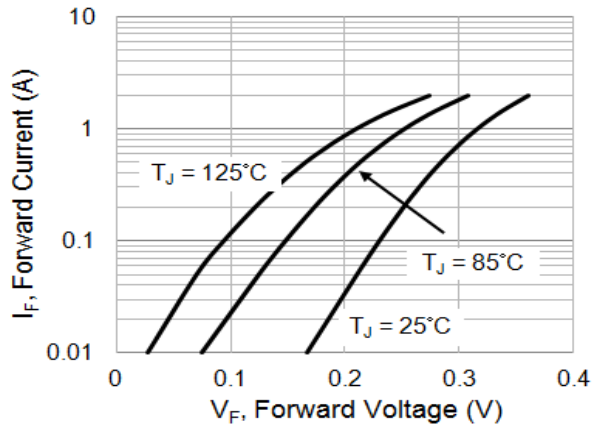


Fig.4 Typical Forward Characteristics

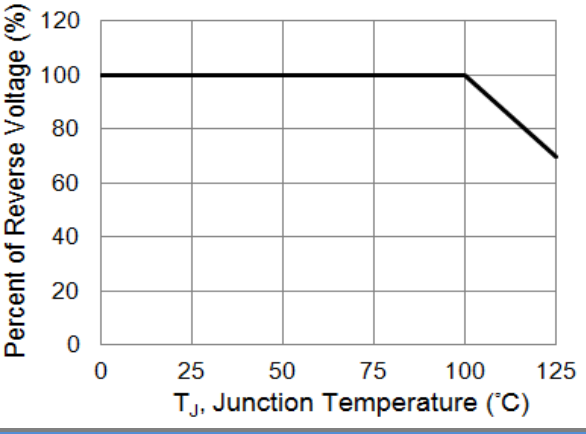


Fig.5 Operating Temperature Derating Curve

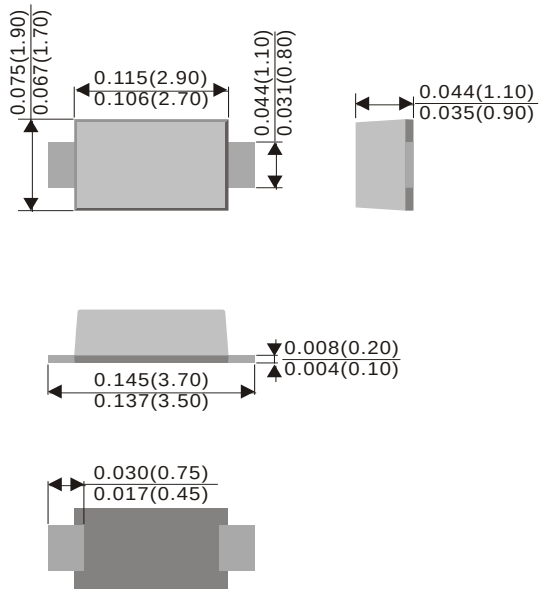
MBR1020VL-AU

Part No Packing Code Version

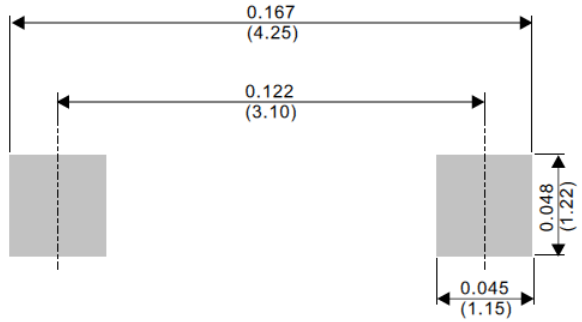
Part No Packing Code	Package Type	Packing Type	Marking	Version
MBR1020VL-AU_R1_000A1	SOD-123FL	3K / 7" Reel	RL	Halogen free

Packaging Information & Mounting Pad Layout

SOD-123FL Dimension — Unit: inch(mm)



SOD-123FL Pad Layout — Unit: inch(mm)



MBR1020VL-AU

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