

MBR1020VL-AU

Surface Mount Schottky Power Rectifier

Voltage

20 V

Current

1 A

Features

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

Mechanical Data

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

SOD-123FL



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

PARAMETER	SYMBOL	LIMIT	UNIT
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 _{θJA} ⁽¹⁾	200	°C/W
	R _{θJC} ⁽²⁾	80	
	R _{θJL} ⁽²⁾	70	
Operating Junction Temperature Range	T _J	-55~125	°C
Storage Temperature Range	T _{STG}	-55~125	°C

MBR1020VL-AU

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Forward Voltage	V_F	$I_F = 0.1\text{ A}, T_J = 25^\circ\text{C}$	-	-	0.275	V
		$I_F = 0.5\text{ A}, T_J = 25^\circ\text{C}$	-	-	0.315	
		$I_F = 1\text{ A}, T_J = 25^\circ\text{C}$	-	-	0.34	
		$I_F = 0.1\text{ A}, T_J = 85^\circ\text{C}$	-	-	0.205	
		$I_F = 0.5\text{ A}, T_J = 85^\circ\text{C}$	-	-	0.27	
		$I_F = 1\text{ A}, T_J = 85^\circ\text{C}$	-	-	0.3	
Reverse Current	$I_R^{(3)}$	$V_R = 16\text{ V}, T_J = 25^\circ\text{C}$	-	110	-	μA
		$V_R = 20\text{ V}, T_J = 25^\circ\text{C}$	-	-	0.6	mA
		$V_R = 20\text{ V}, T_J = 85^\circ\text{C}$	-	-	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 cm² copper pad area.
3. Short duration pulse test used to minimize self-heating effect.

MBR1020VL-AU

TYPICAL CHARACTERISTIC CURVES

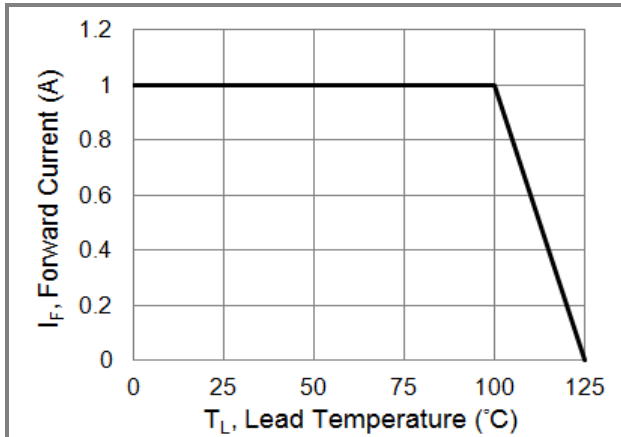


Fig.1 Forward Current Derating Curve

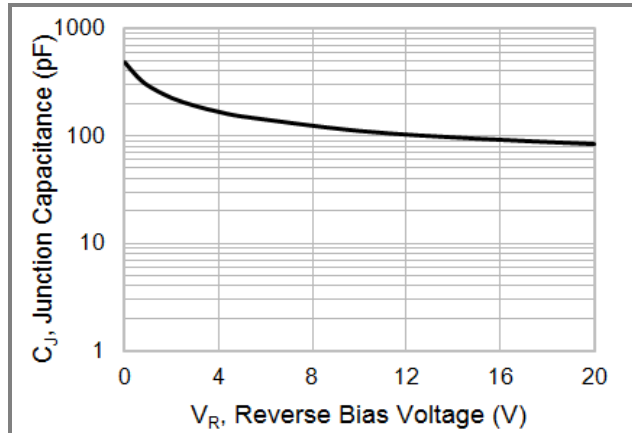


Fig.2 Typical Junction Capacitance

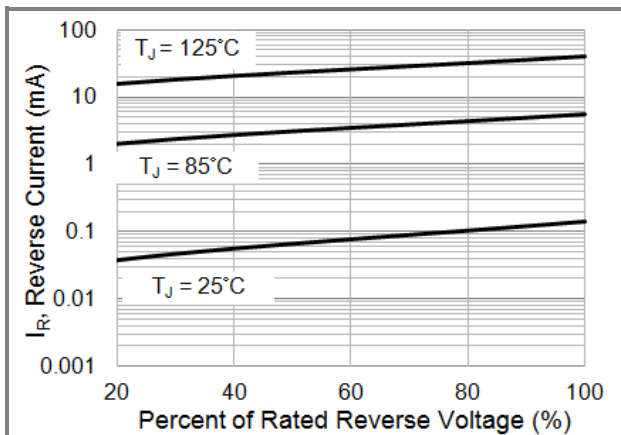


Fig.3 Typical Reverse Characteristics

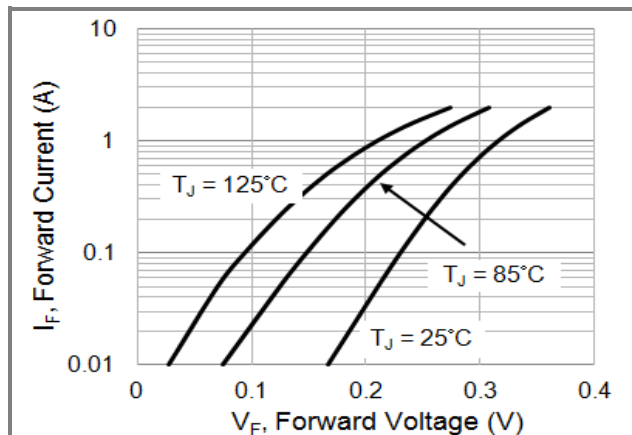


Fig.4 Typical Forward Characteristics

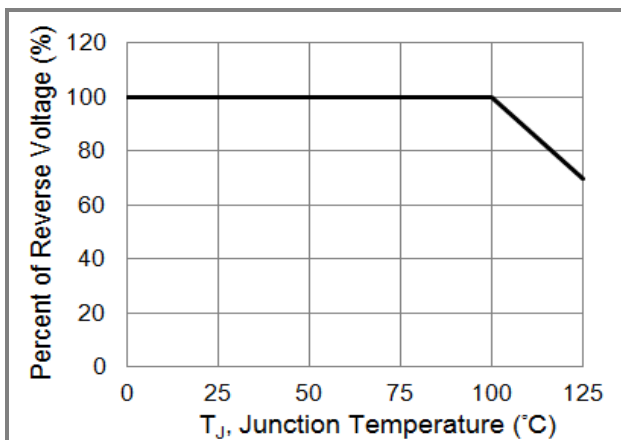


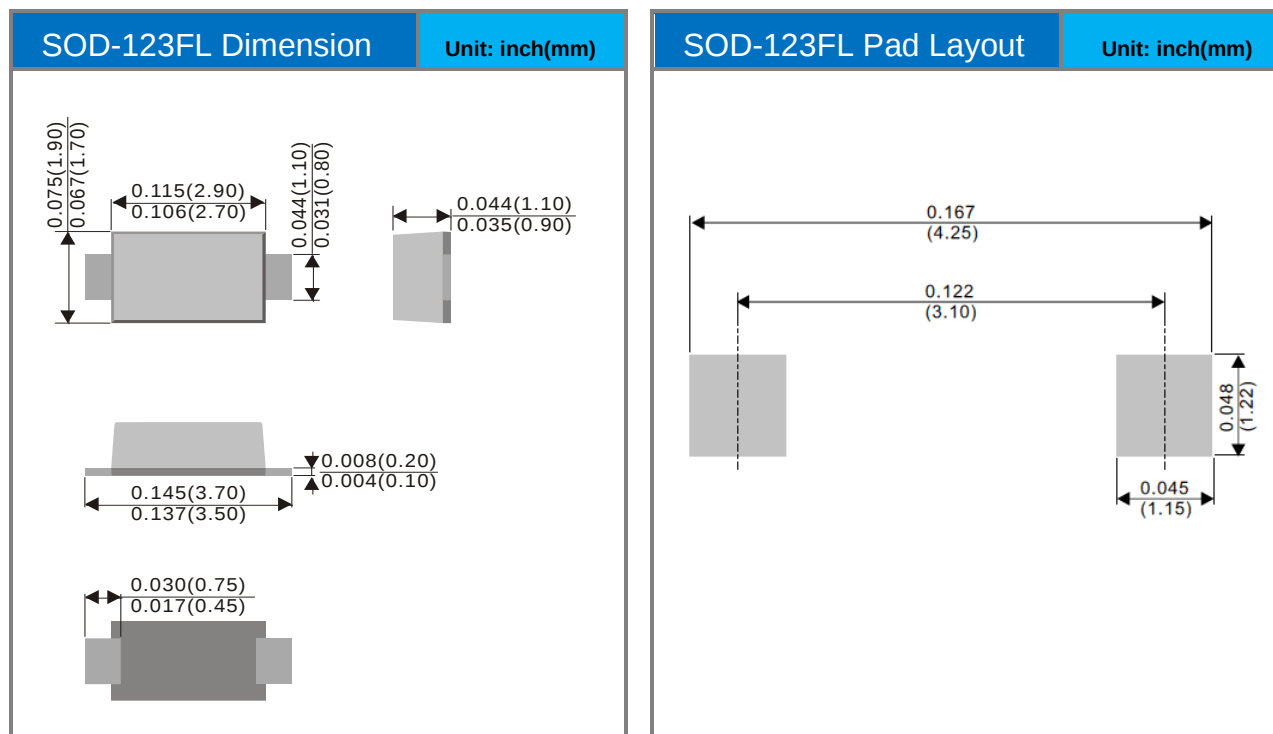
Fig.5 Operating Temperature Derating Curve

MBR1020VL-AU

Product and Packing Information

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

Packaging Information & Mounting Pad Layout



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