

MB420L

ULTRA LOW VF SCHOTTKY BARRIER RECTIFIER

Voltage

200 V

Current

4 A

Features

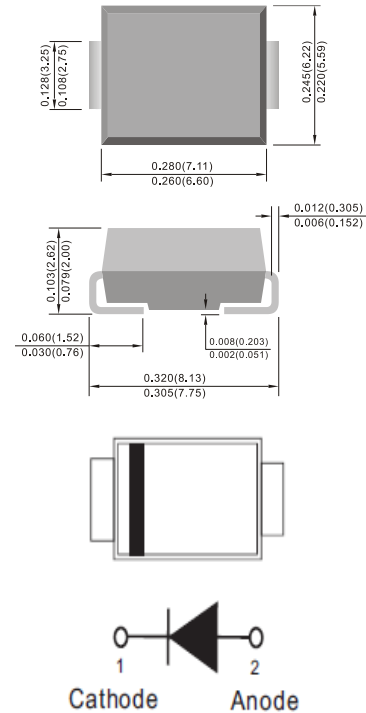
- Ideal for automated placement
- Ultra low forward voltage drop, low power loss
- High efficiency operation
- Low thermal resistance
- Ultra thin profile package for space constrained utilization
- Easy pick and place package suitable for automated handling
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case: SMC Molded Plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.0082 ounces, 0.233 grams

SMC

Unit: inch(mm)



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

PARAMETER	SYMBOL	LIMIT	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	200	V
Maximum rms voltage	V_{RMS}	140	V
Maximum dc blocking voltage	V_R	200	V
Maximum average forward rectified current	$I_{F(AV)}$	4	A
Peak forward surge current : 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	100	A
Typical junction capacitance ($V_R = 4V$, $f=1\text{MHz}$)	C_J	80	pF
Typical thermal resistance	(Note 2) $R_{\theta JL}$	15	$^{\circ}\text{C/W}$
	(Note 1) $R_{\theta JA}$	110	
Maximum reverse recovery time	T_{RR}	35	ns
Operating junction temperature range	T_J	-55 to +150	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^{\circ}\text{C}$

Note:1.Mounted on a FR4 PCB, single-sided copper, mini pad.

2.Mounted on 10cm*10cm*0.5mm copper pad area.

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

PARAMETER	SYMBOL	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Breakdown voltage	V_{BR}	$I_R=0.5\text{mA}$	$T_J=25^{\circ}\text{C}$	200	-	-	V
Instantaneous forward voltage	V_F	$I_F=1\text{A}$	$T_J=25^{\circ}\text{C}$	-	0.71	-	V
		$I_F=2\text{A}$		-	0.76	-	
		$I_F=4\text{A}$		-	-	0.86	
		$I_F=1\text{A}$	$T_J=125^{\circ}\text{C}$	-	0.55	-	V
		$I_F=2\text{A}$		-	0.61	-	
Reverse current	I_R	$V_R=160\text{V}$	$T_J=25^{\circ}\text{C}$	-	30	-	nA
		$V_R=200\text{V}$	$T_J=25^{\circ}\text{C}$	-	-	5	μA
			$T_J=125^{\circ}\text{C}$	-	-	5	mA

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TYPICAL CHARACTERISTIC CURVES

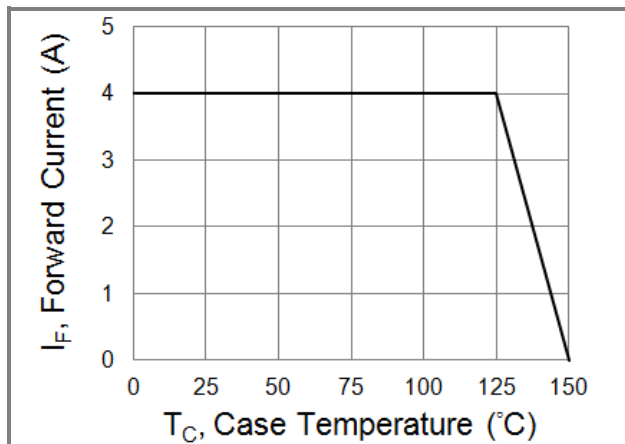


Fig.1 Forward Current Derating Curve

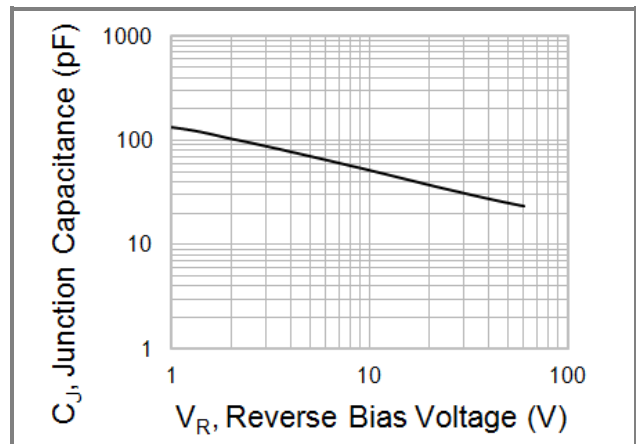


Fig.2 Typical Junction Capacitance

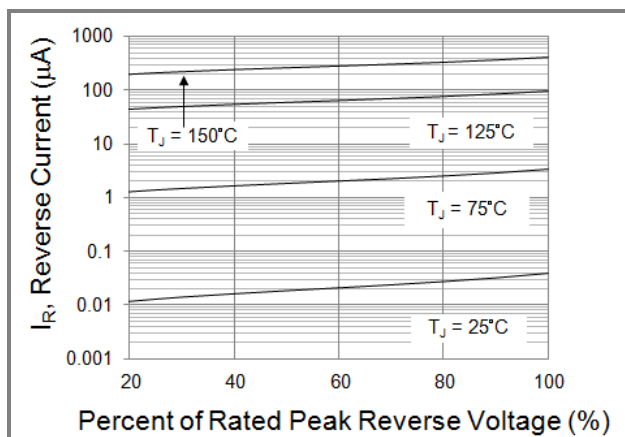


Fig.3 Typical Reverse Characteristics

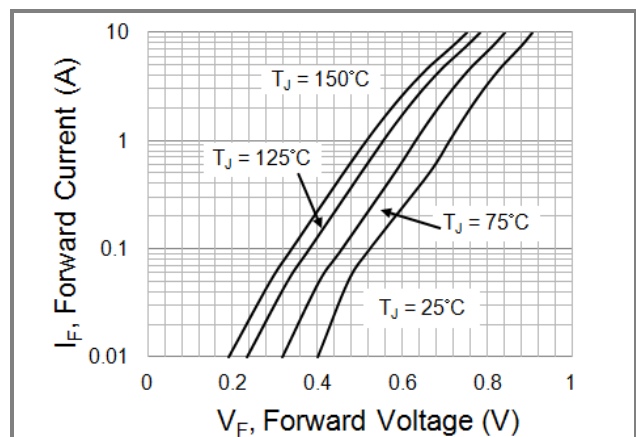


Fig.4 Typical Forward Characteristics

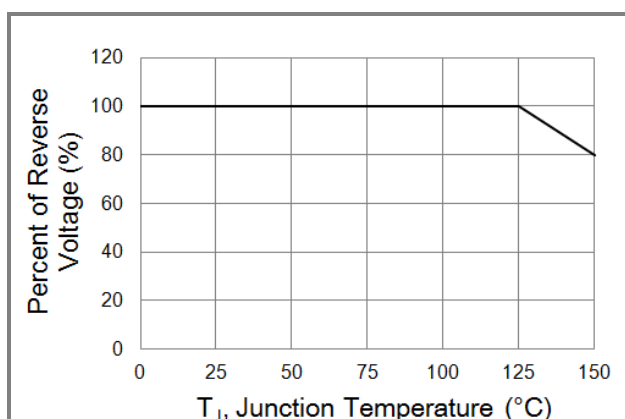


Fig.5 Operating Temperature Derating Curve

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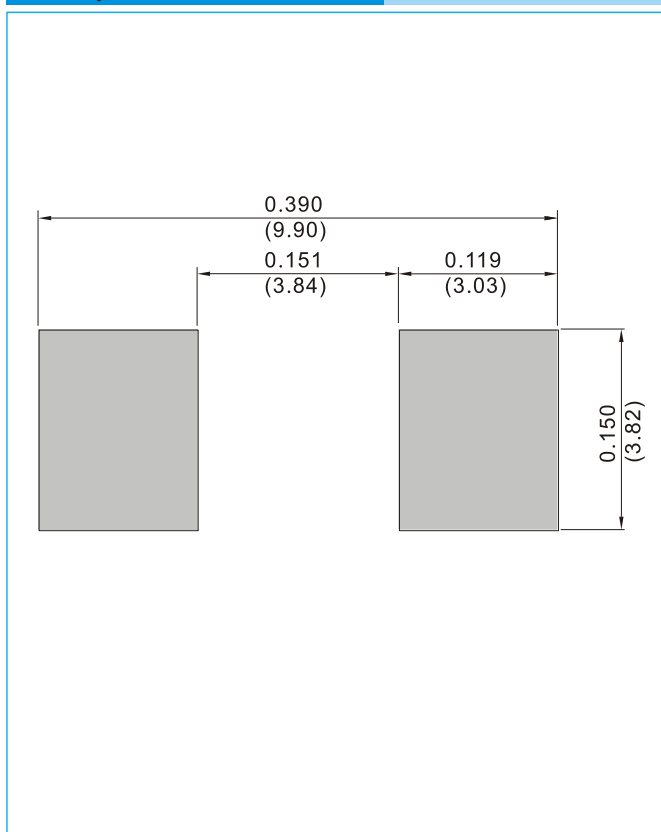
Product and Packing Information

Part No.	Package Type	Packing Type	Marking
MB420L	SMC	0.8K pcs / 7" reel	MB420L
MB420L	SMC	3K pcs / 13" reel	MB420L

Mounting Pad Layout

SMC / DO-214AB

Unit : inch(mm)



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