



# MB420L

## ULTRA LOW VF SCHOTTKY BARRIER RECTIFIER

**Voltage**

**200 V**

**Current**

**4 A**

### Features

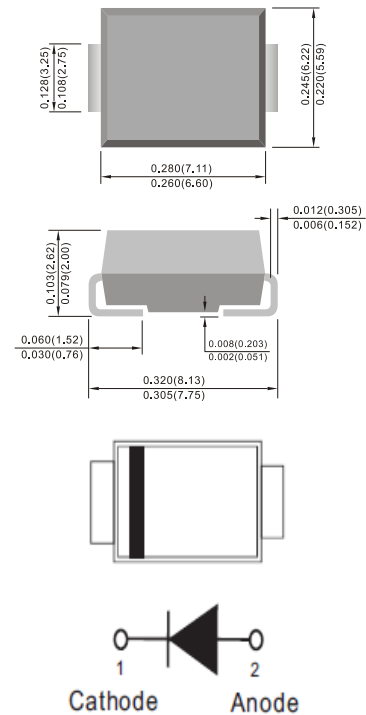
- Ideal for automated placement
- Ultra low forward voltage drop, low power loss
- High efficiency operation
- Low thermal resistance
- Ultra thin profile package for space constrained utilization
- Easy pick and place package suitable for automated handling
- Lead free in compliance with EU RoHS 2.0
- 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 ( $V_R = 4V, f = 1MHz$ )	$C_J$	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.	UNITS
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	$\mu\text{A}$
			$T_J=125^\circ\text{C}$	-	-	5	mA



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## TYPICAL CHARACTERISTIC CURVES

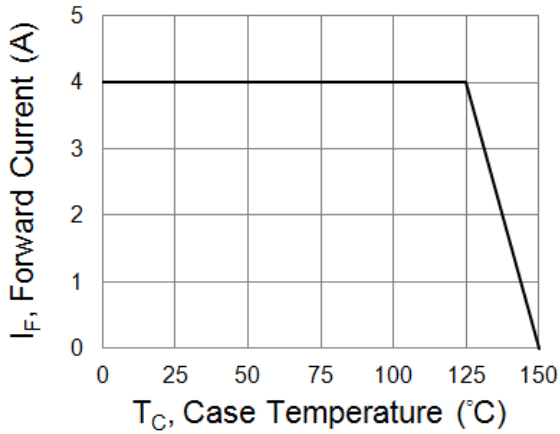


Fig.1 Forward Current Derating Curve

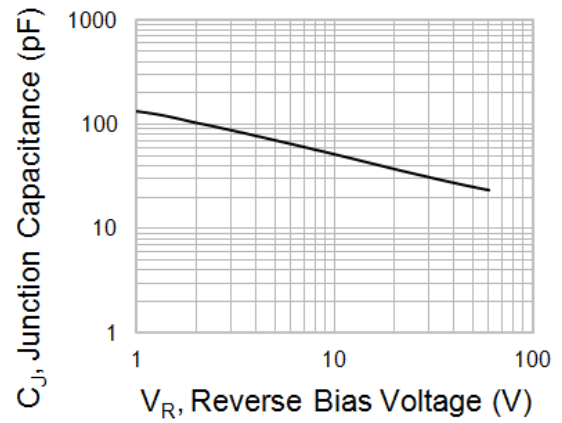


Fig.2 Typical Junction Capacitance

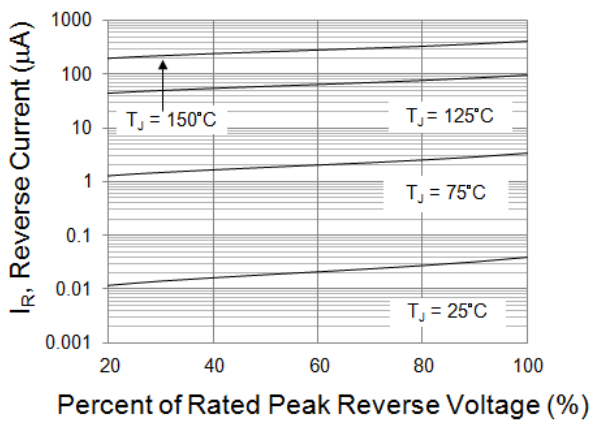


Fig.3 Typical Reverse Characteristics

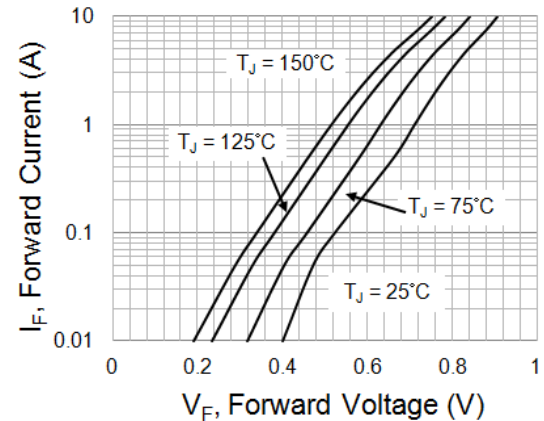


Fig.4 Typical Forward Characteristics

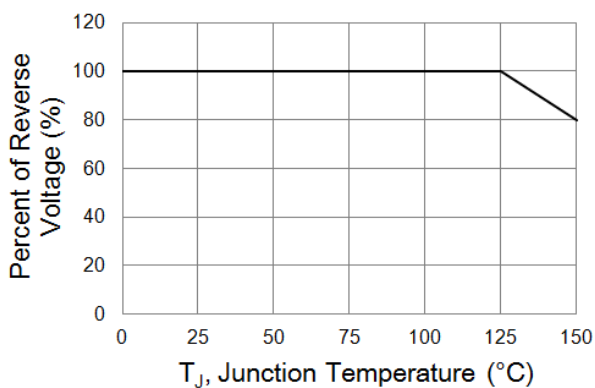


Fig.5 Operating Temperature Derating Curve



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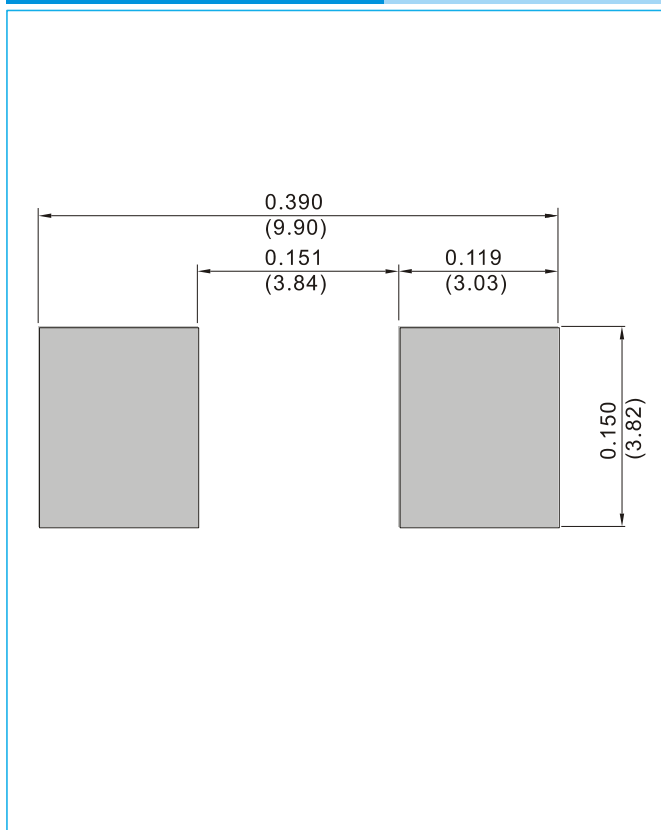
## Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
MB420L_R1_00001	SMC	0.8K pcs / 7" reel	MB420L	Halogen free
MB420L_R2_00001	SMC	3K pcs / 13" reel	MB420L	Halogen free

## Mounting Pad Layout

**SMC / DO-214AB**

Unit : inch(mm)





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