



MB420G

ULTRA LOW VF SCHOTTKY BARRIER RECTIFIER

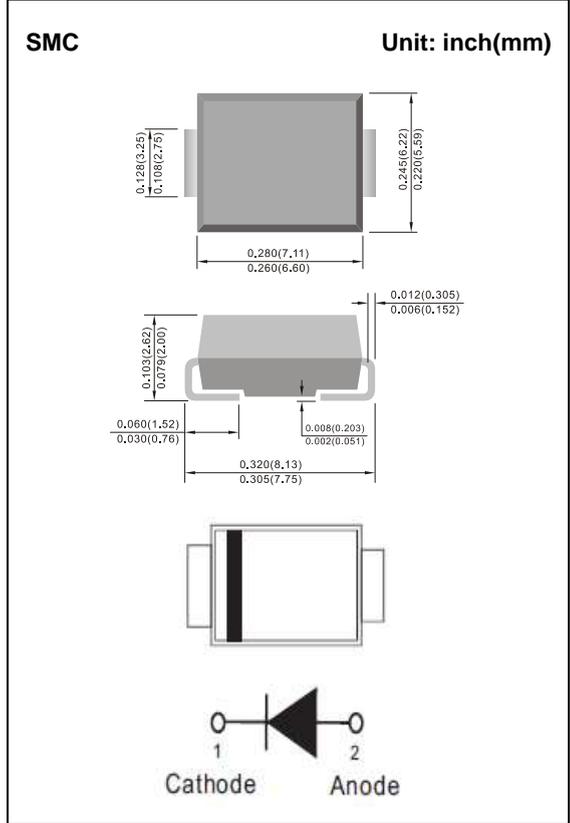
| | | | |
|----------------|--------------|----------------|------------|
| Voltage | 200 V | Current | 4 A |
|----------------|--------------|----------------|------------|

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
- Approx. Weight: 0.0082 ounces, 0.233 grams



Maximum Ratings And Electrical Characteristics (T_A=25°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 _{θJL} | 15 | °C/W |
| | (Note 2) R _{θJC} | 23 | |
| | (Note 1) R _{θJA} | 110 | |
| Maximum reverse recovery time | T _{RR} | 35 | ns |
| Operating junction temperature range | T _J | -55 to +150 | °C |
| Storage temperature range | T _{STG} | -55 to +150 | °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°C unless otherwise noted)

| PARAMETER | SYMBOL | TEST CONDITION | | MIN. | TYP. | MAX. | UNITS |
|-------------------------------|-----------------|-----------------------|-----------------------|------|------|------|-------|
| Breakdown voltage | V _{BR} | I _R =0.5mA | T _J =25°C | 200 | - | - | V |
| Instantaneous forward voltage | V _F | I _F =1A | T _J =25°C | - | 0.71 | - | V |
| | | I _F =2A | | - | 0.76 | - | |
| | | I _F =4A | | - | - | 0.86 | |
| | | I _F =1A | T _J =125°C | - | 0.55 | - | V |
| I _F =2A | - | 0.61 | | - | | | |
| Reverse current | I _R | V _R =160V | T _J =25°C | - | 30 | - | nA |
| | | V _R =200V | T _J =25°C | - | - | 5 | μA |
| | | | T _J =125°C | - | - | 5 | mA |



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TYPICAL CHARACTERISTIC CURVES

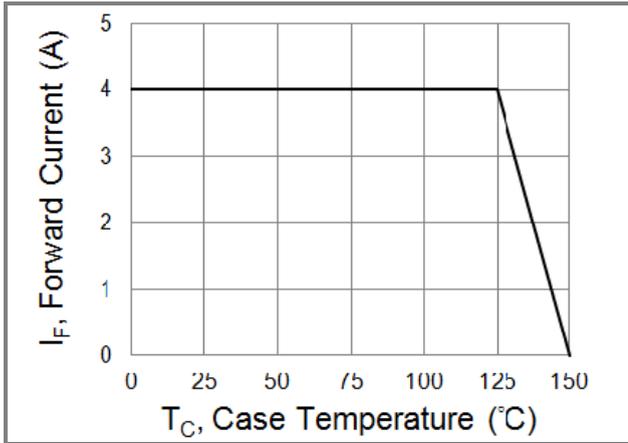


Fig.1 Forward Current Derating Curve

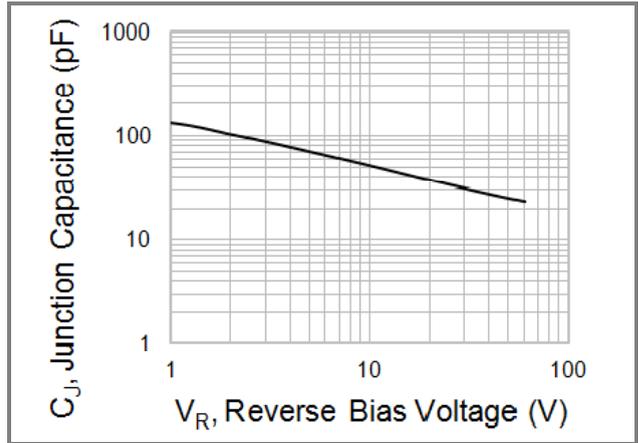


Fig.2 Typical Junction Capacitance

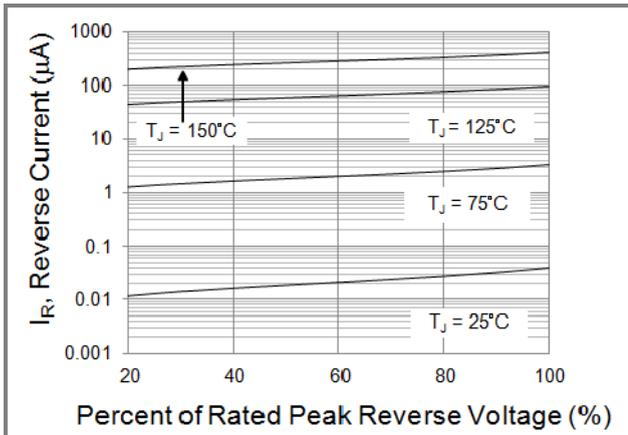


Fig.3 Typical Reverse Characteristics

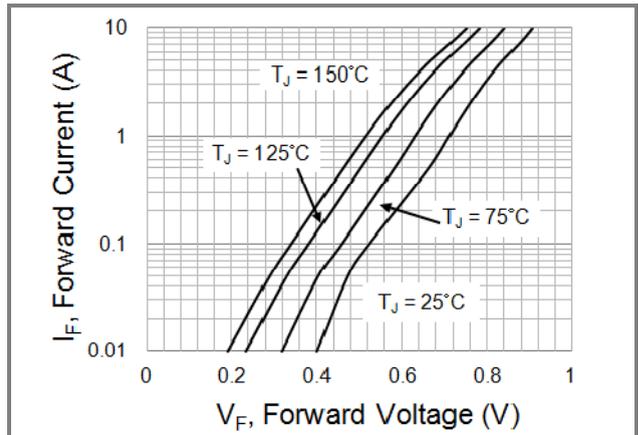


Fig.4 Typical Forward Characteristics

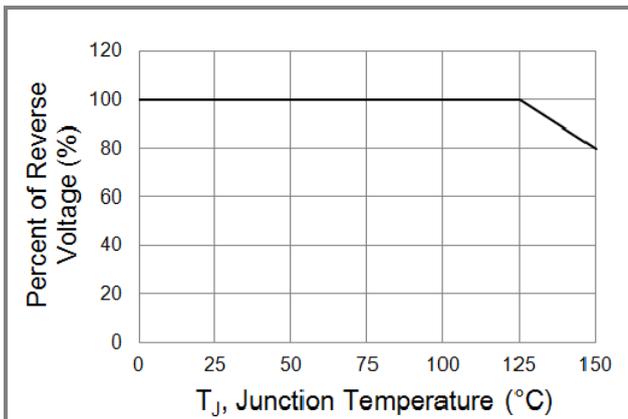


Fig.5 Operating Temperature Derating Curve



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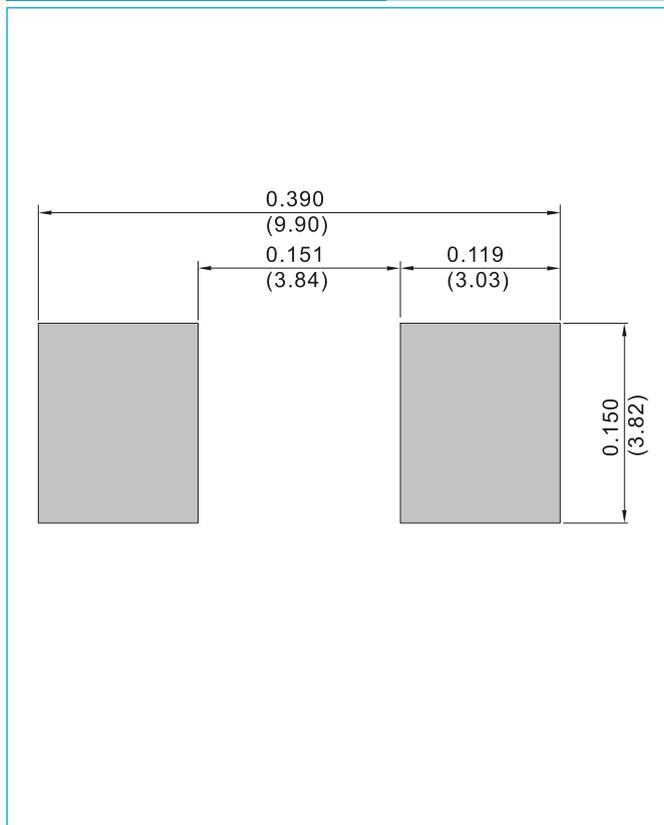
Part No. Packing Code Version

| Part No. Packing Code | Package Type | Packing Type | Marking | Version |
|-----------------------|--------------|--------------------|---------|--------------|
| MB420G_R1_000A1 | SMC | 0.8K pcs / 7" reel | MB420G | Halogen free |
| MB420G_R2_000A1 | SMC | 3K pcs / 13" reel | MB420G | Halogen free |

Mounting Pad Layout

SMC / DO-214AB

Unit : inch(mm)





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