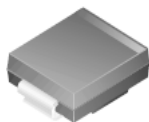


S3N

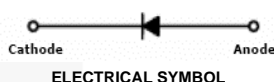
3 A, 1200 V Surface Mount Rectifier

Features

- Low-Profile Package
- Glass-Passivated Junction
- High Breakdown Voltage Rating
- UL Flammability Classification: 94V-0



SMC/DO-214AB
COLOR BAND DENOTES CATHODE



Ordering Information

| Part Number | Top Mark | Package | Packing Method |
|-------------|----------|----------------|----------------|
| S3N | S3N | DO-214AB (SMC) | Tape and Reel |

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.

| Symbol | Parameter | Value | Units |
|-------------|---|----------------------------------|------------------|
| V_{RRM} | Maximum Repetitive Reverse Voltage | 1200 | V |
| $I_{F(AV)}$ | Average Rectified Forward Current | $T_A = 100^\circ\text{C}$ 3.0 | A |
| I_{FSM} | Non-Repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine Wave | 100 | A |
| T_{stg} | Storage Temperature Range | -55 to +150 | $^\circ\text{C}$ |
| T_J | Operating Junction Temperature Range | -55 to +150 | $^\circ\text{C}$ |

Thermal Characteristics⁽¹⁾

| Symbol | Parameter | Typical | Units |
|-----------------|---|---------|-------|
| $R_{\theta JL}$ | Thermal Resistance, Junction to Lead | 13 | °C/W |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 47 | °C/W |

Note:

1. Device mounted on FR-4 PCB with 0.4 inch x 0.4 inch (10 mm x 10 mm) Cu pad.

Electrical Characteristics

Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.

| Symbol | Parameter | Conditions | Min. | Typ. | Max. | Units |
|----------|------------------------------|---|---------------------------|------|------|---------------|
| V_F | Forward Voltage | $I_F = 3.0 \text{ A}$ | | | 1.2 | V |
| T_{rr} | Reverse Recovery Time | $I_F = 0.5 \text{ A}, I_R = 1.0 \text{ A}, I_{rr} = 0.25 \text{ A}$ | | | 2.5 | μs |
| I_R | Reverse Current | $V_r = 1200\text{V}$ | $T_A = 25^\circ\text{C}$ | | 5 | μA |
| | | | $T_A = 125^\circ\text{C}$ | | 250 | |
| C_T | Typical Junction Capacitance | $V_r = 4.0 \text{ V}, f = 1.0 \text{ MHz}$ | | | 60 | pF |

Typical Performance Characteristics

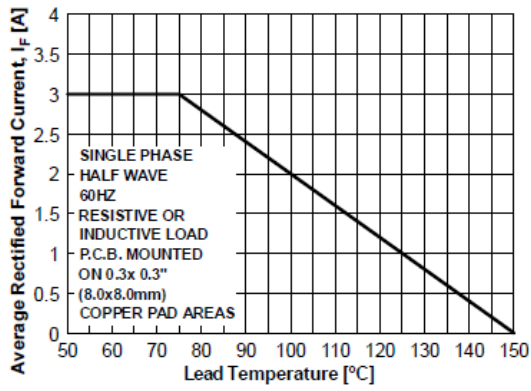


Figure 1. Forward Current Deration Curve

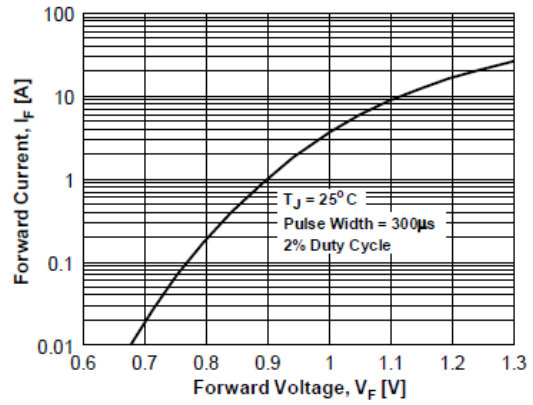


Figure 2. Forward Voltage Characteristics

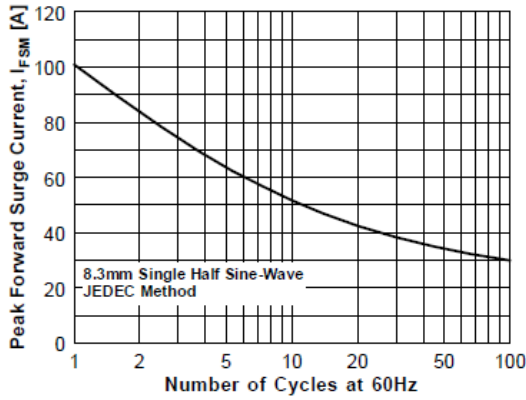


Figure 3. Non-Repetitive Surge Current

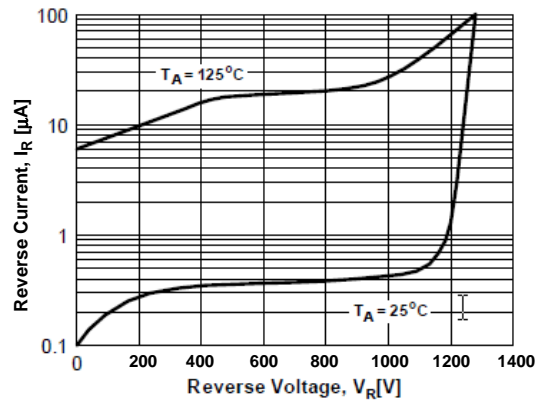


Figure 4. Reverse Current vs. Reverse Voltage

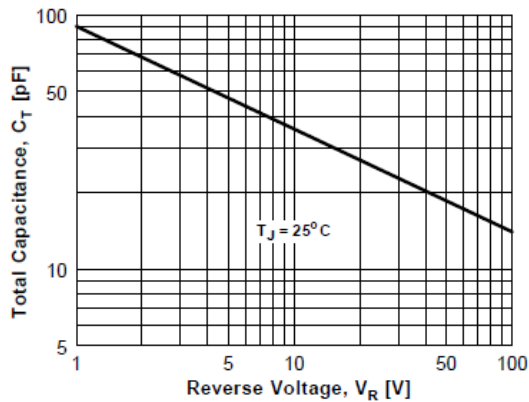


Figure 5. Total Capacitance

Physical Dimensions

SMC/DO-214AB

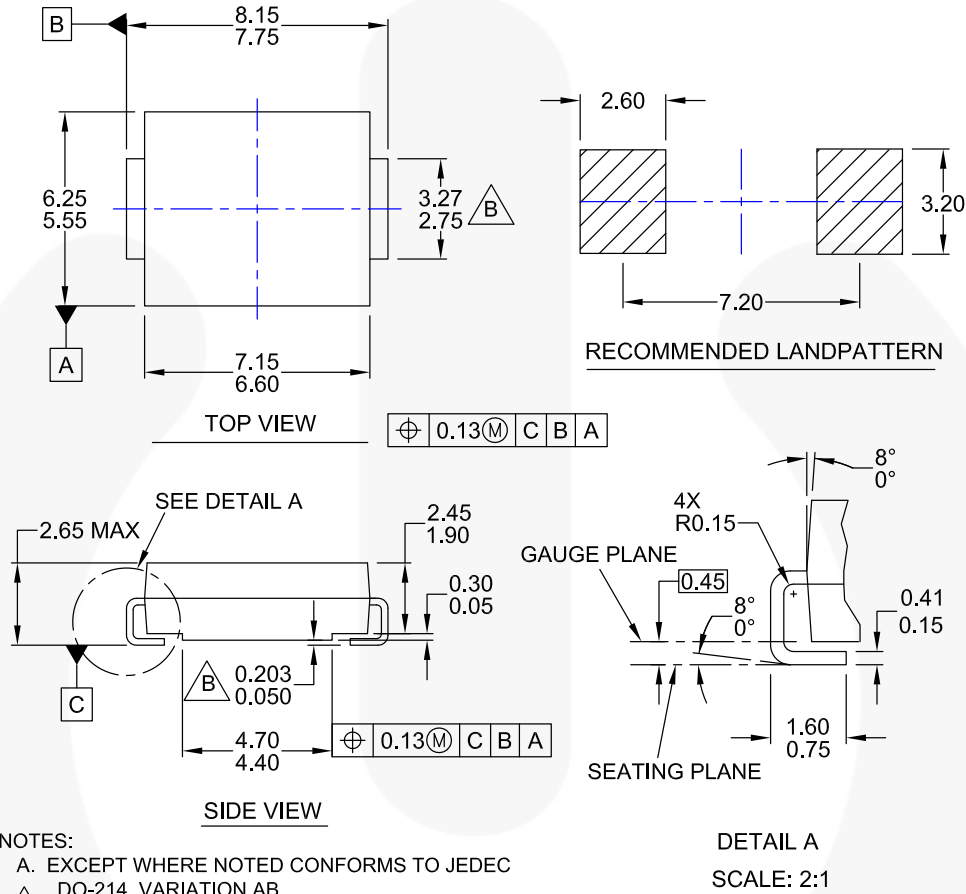


Figure 6. 2-Lead, SMC, JEDEC DO-214, Variation AB

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