

SMCG Plastic-Encapsulate Diodes

S3A THRU S3M General Purpose Rectifier Diodes

Features

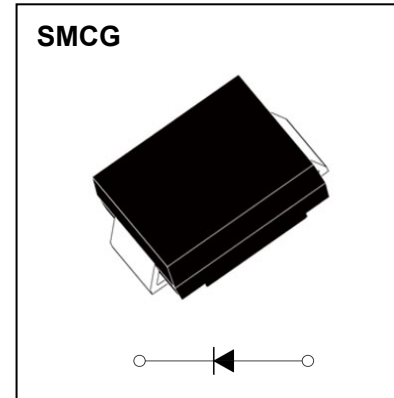
- $I_{F(AV)}$ 3A
- V_{RRM} 50V-1000V
- High surge current capability
- Polarity: Color band denotes cathode

Applications

- Rectifier

Marking

- S3X
- X : From A To M



Limiting Values(Absolute Maximum Rating)

| Item | Symbol | Unit | Test Conditions | S3 | | | | | | |
|--|----------------|--------------------|---|------------|-----|-----|-----|-----|-----|------|
| | | | | A | B | D | G | J | K | M |
| Repetitive Peak Reverse Voltage | V_{RRM} | V | | 50 | 100 | 200 | 400 | 600 | 800 | 1000 |
| Maximum RMS Voltage | V_{RMS} | V | | 35 | 70 | 140 | 280 | 420 | 560 | 700 |
| Average Forward Current | $I_{F(AV)}$ | A | 60Hz Half-sine wave, Resistance load, $T_L=100\text{ C}$ | 3.0 | | | | | | |
| Surge(Non-repetitive)Forward Current | I_{FSM} | A | 60Hz Half-sine wave, 1 cycle, $T_a=25\text{ C}$ | 100 | | | | | | |
| Operation Junction and Storage Temperature Range | T_J, T_{STG} | $^{\circ}\text{C}$ | | -55 ~ +150 | | | | | | |

Electrical Characteristics ($T=25^{\circ}\text{C}$ Unless otherwise specified)

| Item | Symbol | Unit | Test Condition | S3 | | | | | | |
|-----------------------------|------------------|-----------------------------|-------------------------------|---------------------------|---|---|---|---|---|---|
| | | | | A | B | D | G | J | K | M |
| Peak Forward Voltage | V_F | V | $I_F=3.0\text{A}$ | 1.15 | | | | | | |
| Peak Reverse Current | I_{RRM1} | μA | $V_{RM}=V_{RRM}$ | $T_a=25^{\circ}\text{C}$ | | | | | | |
| | I_{RRM2} | | | $T_a=125^{\circ}\text{C}$ | | | | | | |
| Thermal Resistance(Typical) | $R_{\theta J-A}$ | $^{\circ}\text{C}/\text{W}$ | Between junction and ambient | 47 | | | | | | |
| | $R_{\theta J-L}$ | | Between junction and terminal | 10 | | | | | | |

Notes:

Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.27" x 0.27" (7.0 mm x 7.0 mm) copper pad areas

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

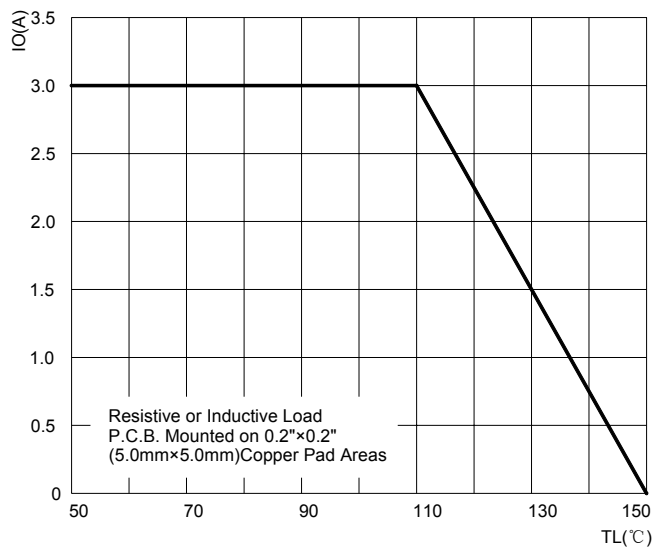


FIG.2: MAXIMUM NON-REPETITIVE FORWARD URGE CURRENT

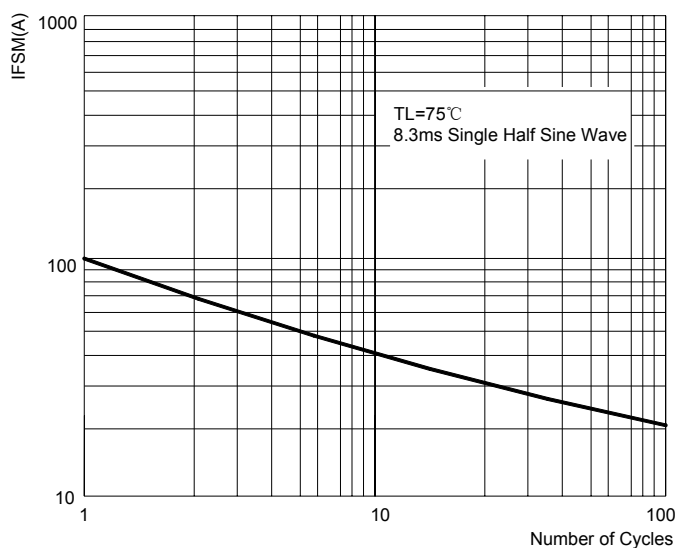


FIG.3: TYPICAL FORWARD CHARACTERISTICS

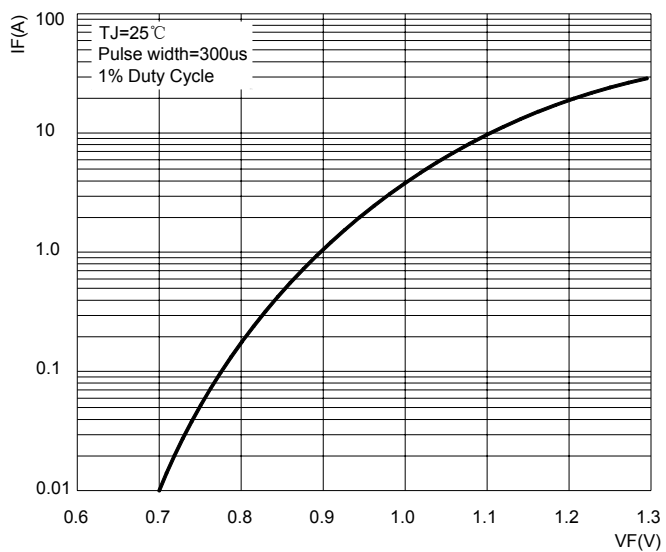
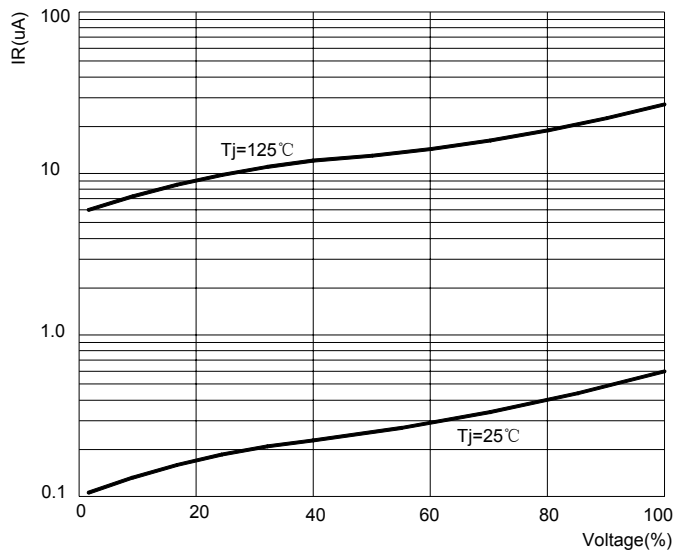
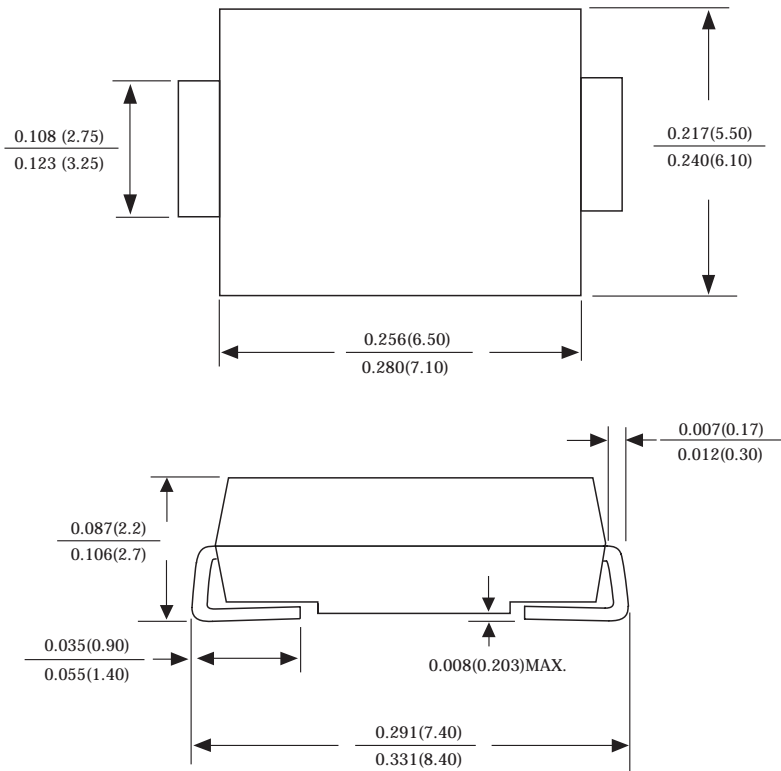


FIG.4: TYPICAL REVERSE CHARACTERISTICS

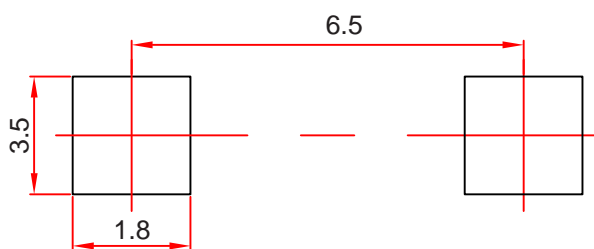


SMCG Package Outline Dimensions



Dimensions in inches and (millimeters)

SMCG Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

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Reel Taping Specifications For Surface Mount Devices–SMCG



FIG: CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING

| ITEM | SYMBOL | SMCG mm(inch) |
|------------------------|--------|--------------------------|
| Carrier width | A | 6.05±0.1(0.238±0.004) |
| Carrier length | B | 8.31±0.1(0.327±0.004) |
| Carrier depth | C | 2.70±0.1(0.106±0.004) |
| Sprocket hole | d | 1.55±0.05(0.061±0.002) |
| Reel outside diameter | D | 330±2.0(13±0.079) |
| Reel inner diameter | D1 | 75 ±1.0 (2.95 ±0.039) |
| Feed hole diameter | D2 | 13±0.5(0.512±0.020) |
| Sprocket hole position | E | 1.75 ±0.1(0.069±0.004) |
| Punch hole position | F | 7.65±0.05(0.301±0.002) |
| Punch hole pitch | P | 8.0±0.1(0.315±0.004) |
| Sprocket hole pitch | P0 | 4.0±0.1(0.157±0.004) |
| Embossment center | P1 | 2.0±0.1(0.079±0.004) |
| Total tape thickness | T | 0.3 ± 0.1 (0.012±0.004) |
| Tape width | W | 16.0±0.2(0.630±0.008) |
| Reel width | W1 | 24.0±2.0(0.945±0.079) |

NOTE: Devices are packed in accordance with EIA standard RS-481-A and specification given above.

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