



SMAG Plastic-Encapsulate Diodes

RS1A THRU RS1M Fast Recovery Rectifier Diodes

Features

- $I_{F(AV)}$ 1A
- V_{RRM} 50V-1000V
- High surge current capability
- Polarity: Color band denotes cathode

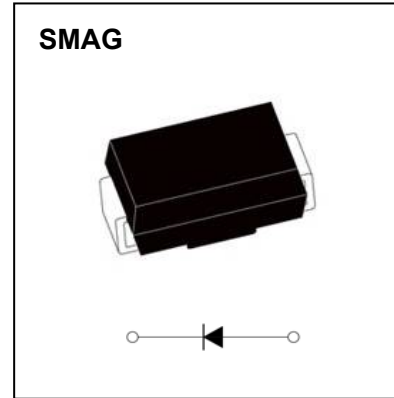
Applications

- Rectifier

Marking

- RS1X

X : From A To M



Limiting Values(Absolute Maximum Rating)

| Item | Symbol | Unit | Test Conditions | RS1 | | | | | | |
|--|----------------|------------------|--|------------|-----|-----|-----|-----|-----|------|
| | | | | 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 | 1.0 | | | | | | |
| Surge(Non-repetitive)Forward Current | I_{FSM} | A | 60Hz Half-sine wave, 1 cycle, $T_a=25^\circ\text{C}$ | 30 | | | | | | |
| Operation Junction and Storage Temperature Range | T_J, T_{STG} | $^\circ\text{C}$ | | -55 ~ +150 | | | | | | |

Electrical Characteristics (T=25°C Unless otherwise specified)

| Item | Symbol | Unit | Test Condition | RS1 | | | | | | |
|--------------------------------|------------------|---------------------------|---|-------------------------|---|---|-----|---|-----|---|
| | | | | A | B | D | G | J | K | M |
| Peak Forward Voltage | V_F | V | $I_F=1.0\text{A}$ | 1.3 | | | | | | |
| Maximum reverse recovery time | t_{rr} | ns | $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$ | 150 | | | 250 | | 500 | |
| 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 | | | | 75 | | | |
| | $R_{\theta J-L}$ | | Between junction and terminal | | | | 27 | | | |
| Junction Capacitance (Typical) | C_j | pF | Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C | | | | 6 | | | |

Notes:

Thermal resistance from junction to ambient and from junction to lead mounted on FR4 PCB double sided copper mini pad

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

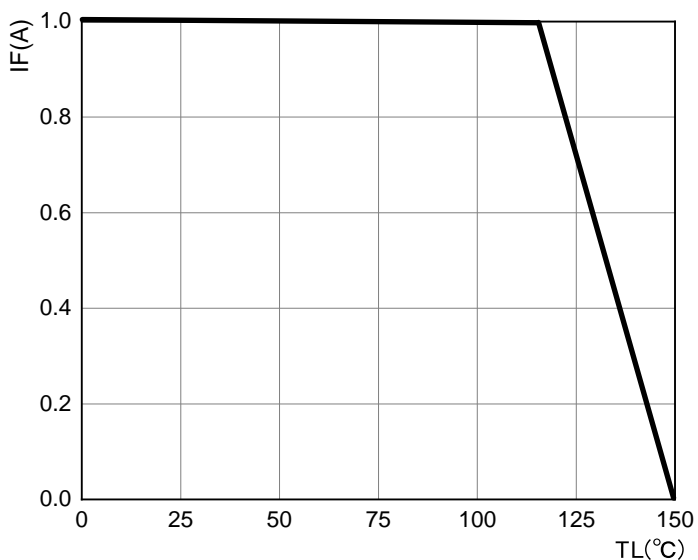


FIG 2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

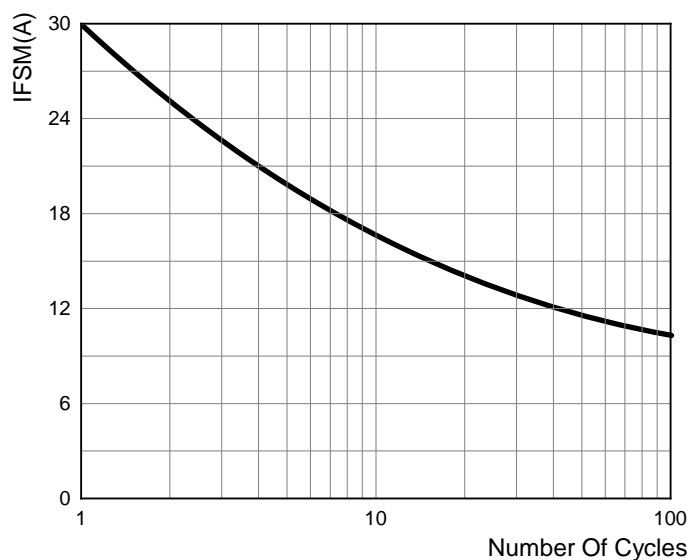


FIG.3 : TYPICAL FORWARD CHARACTERISTICS

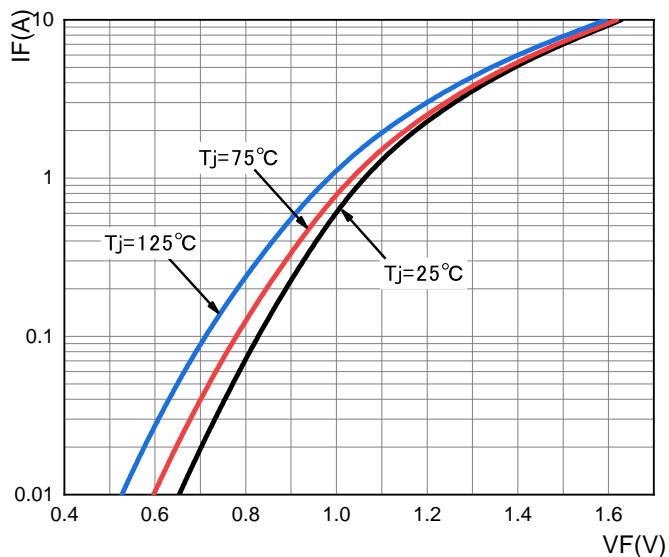
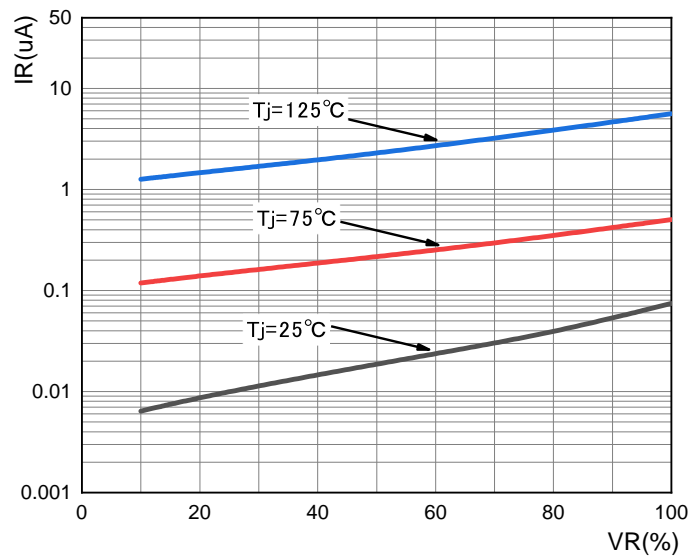
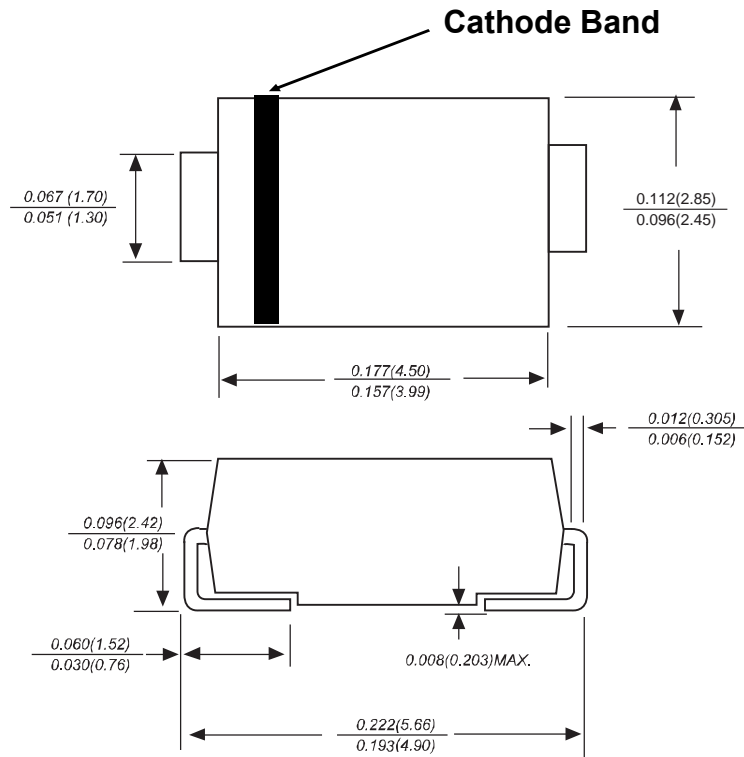


FIG.4 TYPICAL REVERSE CHARACTERISTICS

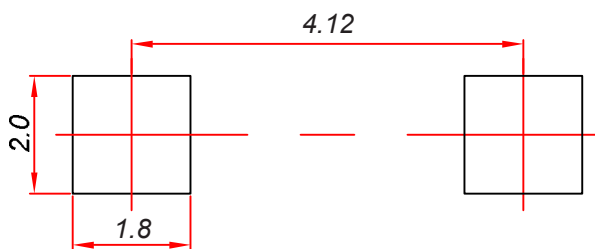


SMAG Package Outline Dimensions



Dimensions in inches and (millimeters)

SMAG Suggested Pad Layout



Note:

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

NOTICE

JSCJ reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSCJ does not assume any liability arising out of the application or use of any product described herein.

Reel Taping Specifications For Surface Mount Devices- SMAG

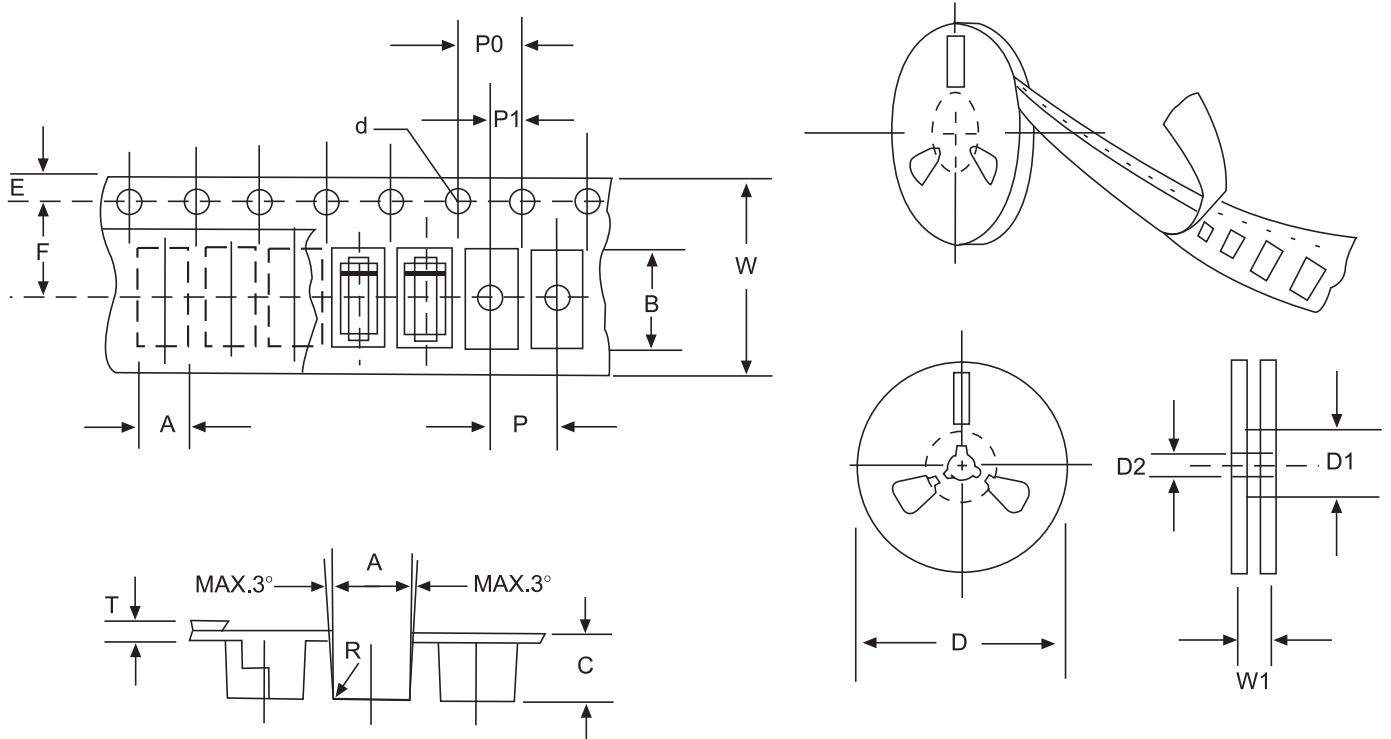


FIG: CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING

| ITEM | SYMBOL | SMAG mm(inch) |
|------------------------|--------|--------------------------|
| Carrier width | A | 2.79±0.1(0.110±0.004) |
| Carrier length | B | 5.33±0.1(0.210±0.004) |
| Carrier depth | C | 2.36±0.1(0.093±0.004) |
| Sprocket hole | d | 1.55±0.05(0.061±0.002) |
| Reel outside diameter | D | 279±2.0 (11± 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 | 5.5±0.05(0.217±0.002) |
| Punch hole pitch | P | 4.0±0.1(0.157±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) |
| Totall tape thickness | T | 0.28±0.02(0.011 ±0.0008) |
| Tape width | W | 12.0±0.2(0.472±0.008) |
| Reel width | W1 | 16.8±2.0(0.661±0.079) |

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