

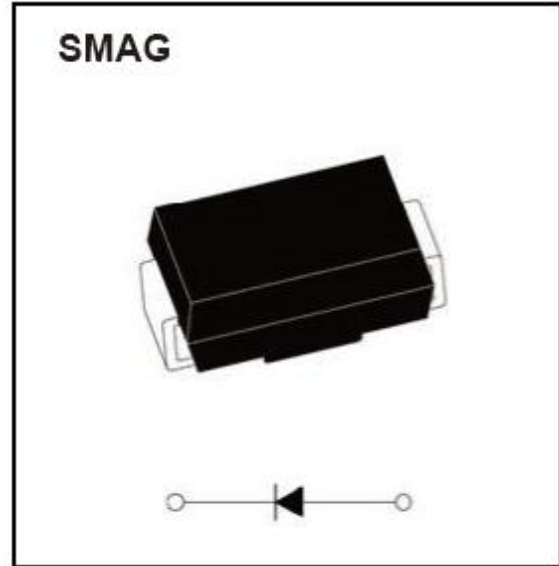


SMAG Plastic-Encapsulate Diodes

S1A-S1M General Purpose Rectifier

Features

- I_o 1A
- VRRM 50V-1000V
- High surge current capability.
- Glass passivated chip.
- Polarity:Color band denotes cathode.
- AEC Q101 Qualified.



Application

- Rectifier.

Marking

- S1X
X:From A To M

ABSOLUTE MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

| Item | Symbol | Unit | Conditions | S1 | | | | | | |
|--------------------------------------|--------------------|------|--|------------|-----|-----|-----|-----|-----|------|
| | | | | 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, TL=100°C | 1 | | | | | | |
| Surge(Non-repetitive)Forward Current | I _{FSM} | A | 60Hz Half-sine wave, 1 cycle, Ta=25°C | 30 | | | | | | |
| Junction Temperature | T _J | °C | | -55~+ 150 | | | | | | |
| Storage Temperature | T _{STG} | °C | | -55 ~ +150 | | | | | | |

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

| Item | Symbol | Unit | Test Condition | S1 | | | | | |
|-----------------------------|-------------------|-----------------------------|------------------------------|--------------------------|----|----|---|---|---|
| | | | | A | B | D | G | J | K |
| Peak Forward Voltage | V_{FM} | V | $I_{FM}=1.0A$ | 1.0 | | | | | |
| Peak Reverse Current | I _{RRM1} | μA | $V_{RM}=V_{RRM}$ | $T_a=25^{\circ}\text{C}$ | | 5 | | | |
| | I _{RRM2} | | | $T_a=100$ | | 50 | | | |
| Thermal Resistance(Typical) | $R_{\theta J-A}$ | $^{\circ}\text{C}/\text{W}$ | Between junction and ambient | | 55 | | | | |
| | $R_{\theta J-L}$ | | Between junction and lead | | 25 | | | | |

Notes:

Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas.

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

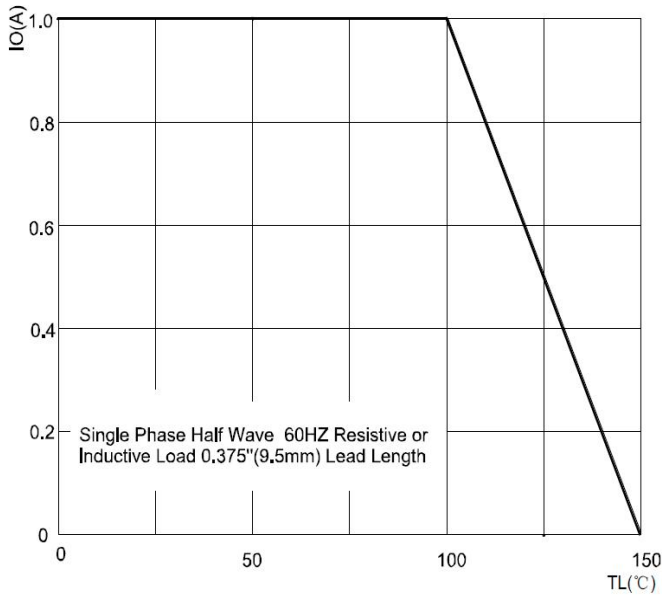


FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

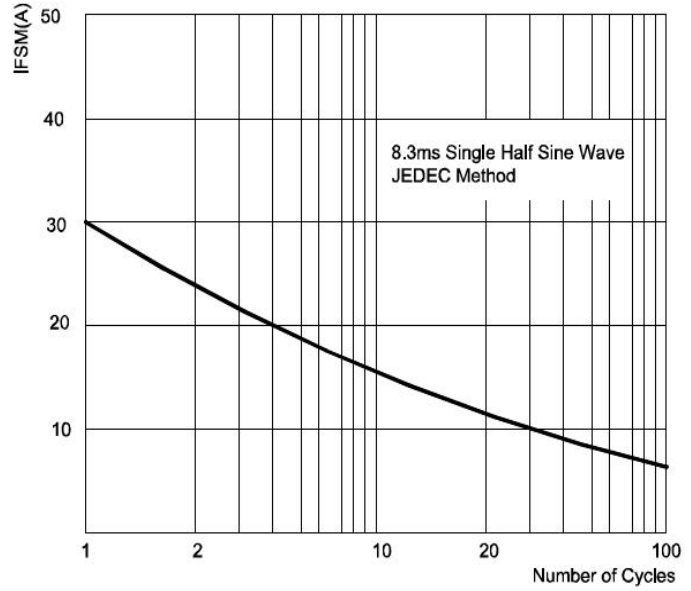


FIG.3: TYPICAL FORWARD CHARACTERISTICS

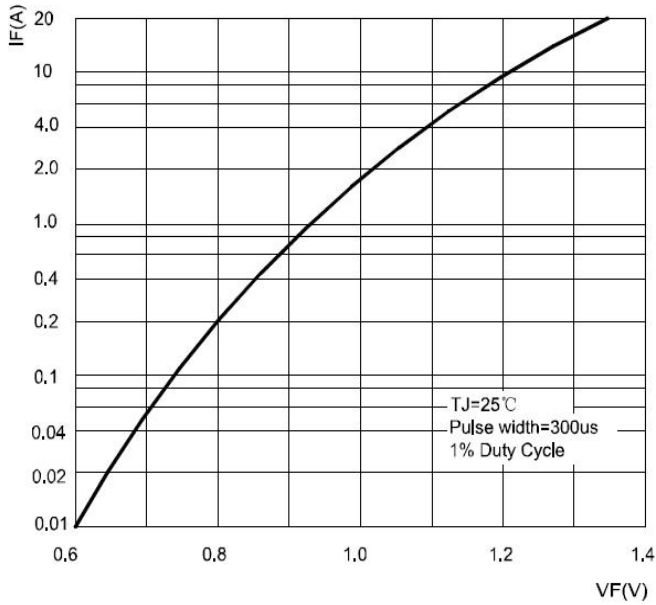
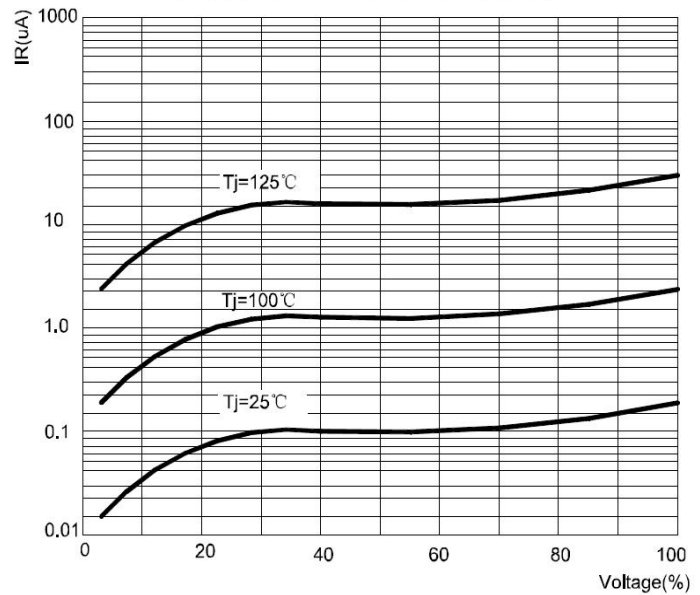
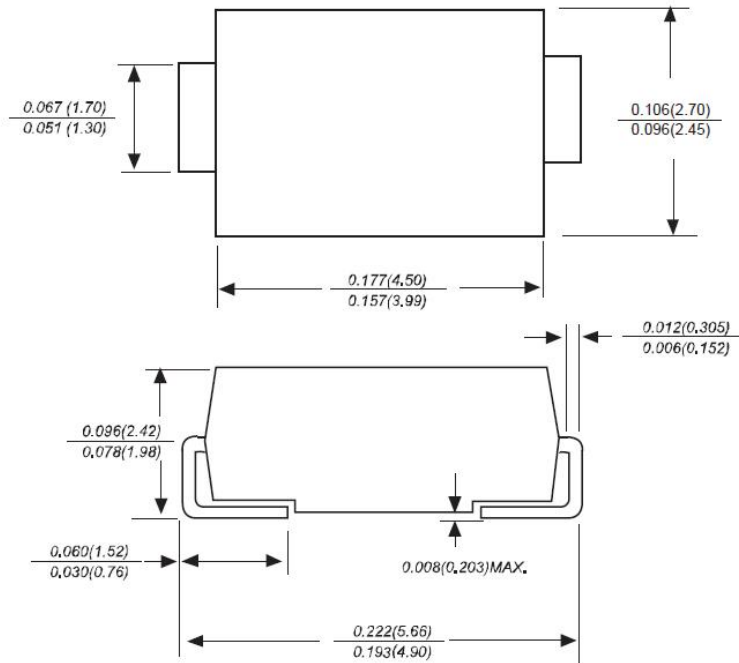


FIG.4: TYPICAL REVERSE CHARACTERISTICS

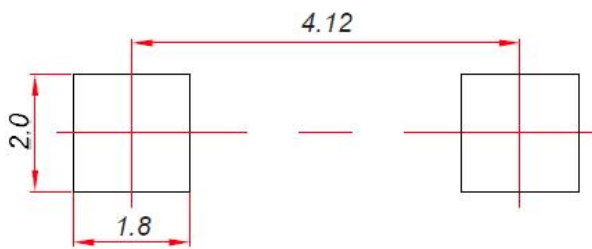


SMAG Package Outline Dimensions



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

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Reel Taping Specifications For Surface Mount Devices- SMAG

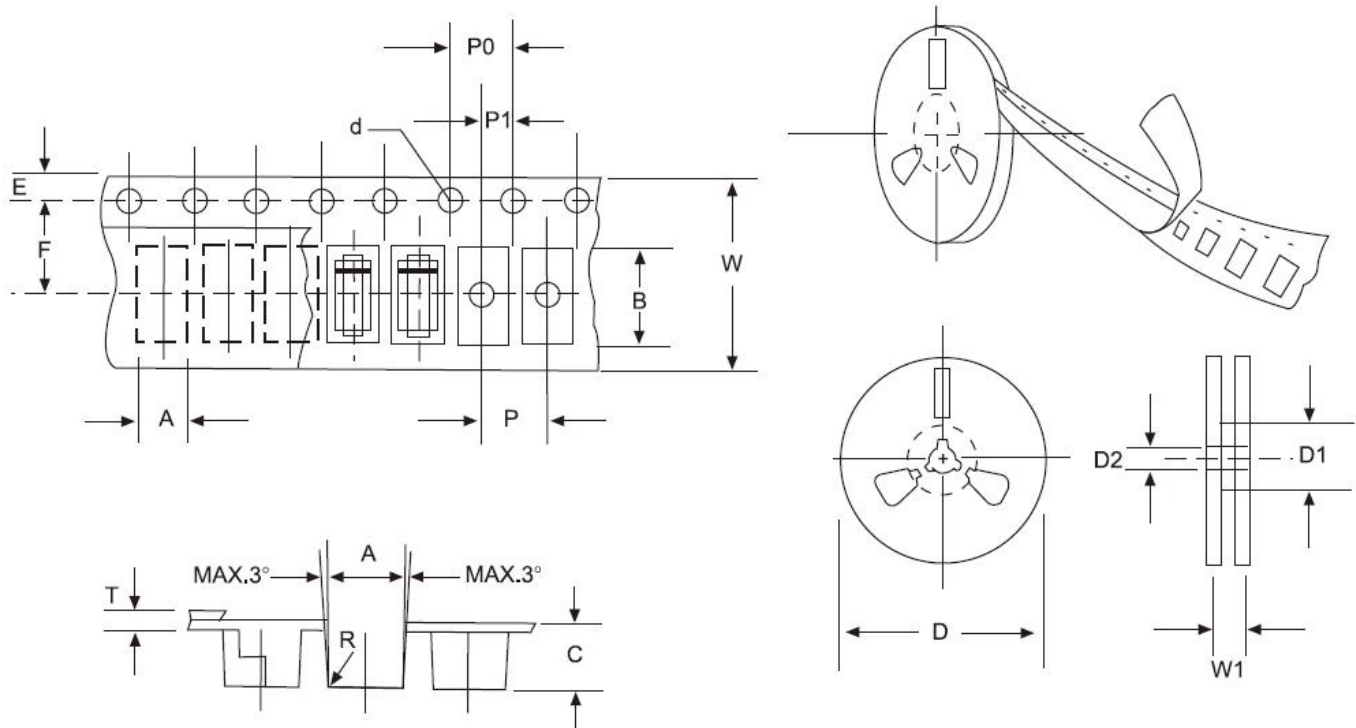


Fig:CONFIGURATION OF FLAT MELF TAPING

| 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 | 1.5±0.05(0.059±0.0002) |
| Reel outside diameter | D | 330/178±2.0(13/7.0±0.79) |
| Reel inner diameter | D1 | 75/54 ±1.0 (2.95/2.13 ±0.039) |
| Feed hole diameter | D2 | 13±0.5(0.512±0.020) |
| Strocket 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) |
| Total 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 packde in accordance with EIA standard RS-481-A and specification given above.