

Surface Mount Fast Recovery Rectifier

RS1A—RS1M

Features

- ◆ Low profile package
- ◆ deal for automated placement
- ◆ Glass passivated chip junction
- ◆ High forward surge capability
- ◆ Fast reverse recovery time



Mechanical Data

Case: DO-214AC (SMA) Molded plastic body

Terminals: Plated leads solderable per MIL-STD-750, Method 2026

High temperature soldering guaranteed: 260°C/10 seconds

Polarity: Cathode line denotes the cathode end

Mounting Position: Any

Maximum Ratings & Electrical Characteristics

Ratings at TA = 25°C unless otherwise specified

| Characteristic | Symbol | RS1A | RS1B | RS1D | RS1G | RS1J | RS1K | RS1M | Units |
|--|--------|------|------|------|------|------|------|------|-------|
| Peak repetitive reverse voltage | VRRM | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| RMS reverse voltage | VRMS | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| DC blocking voltage | VDC | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum average forward output current | IF(AV) | 1 | | | | | | | A |
| Peak forward surge current,8.3ms single half-sine-wave, @TJ = 25°C | IFSM | 30 | | | | | | | A |
| Rating for fusing(t<8.3ms) | I2t | 3.74 | | | | | | | A2sec |
| Maximum instantaneous forward voltage @ 1A | VF | 1.3 | | | | | | | V |
| Maximum Reverse current @TA =25°C | IR | 5 | | | | | | | μ A |
| Rated VR @TA =125°C | | 50 | | | | | | | |
| Maximum Reverse Recovery Time IF = 0.5 A, IR = 1 A, Irr = 0.25 A. | Trr | 150 | | | | 250 | 500 | | nS |

Thermal Characteristics

| Characteristic | Symbol | RS1A | RS1B | RS1D | RS1G | RS1J | RS1K | RS1M | Units |
|--------------------------------------|--------|-----------------|------|------|------|------|------|------|-------|
| Typical thermal resistance (Note 1) | R θJA | 61 | | | | | | | °C /W |
| | R θJC | 30 | | | | | | | |
| | R θJL | 6 | | | | | | | |
| Operating junction temperature range | TJ | - 55 ---- + 150 | | | | | | | °C |
| Storage temperature range | TSTG | - 55 ---- + 150 | | | | | | | °C |

Note

(1) Device mounted on PCB with 5 mm x 5mm copper pad areas

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Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

Fig.1-Forward Current Derating Curve

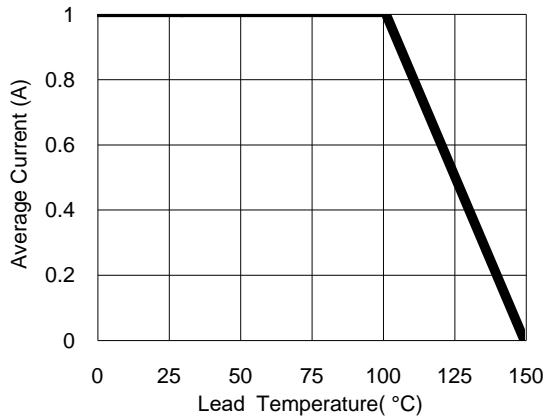


Fig.2- Surge Current Derating Curve

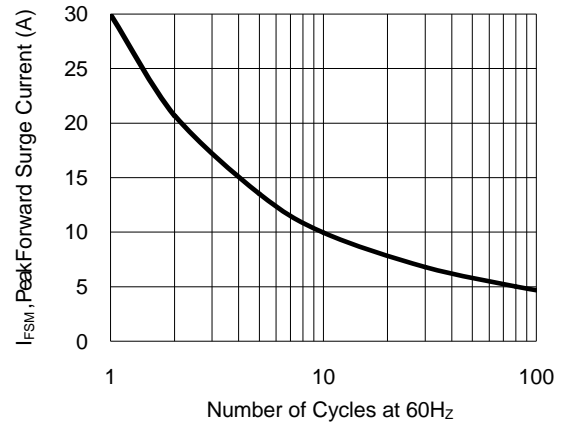


Fig.3- Typical Forward Voltage Characteristic

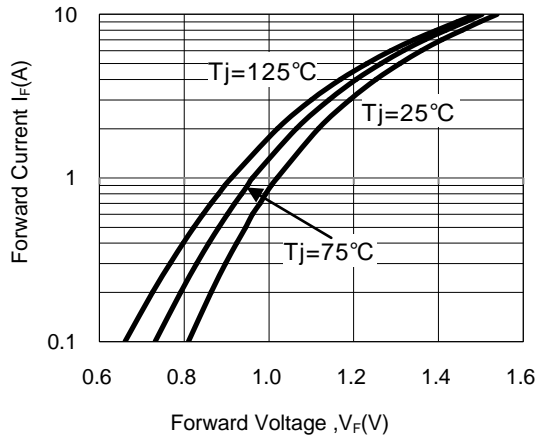
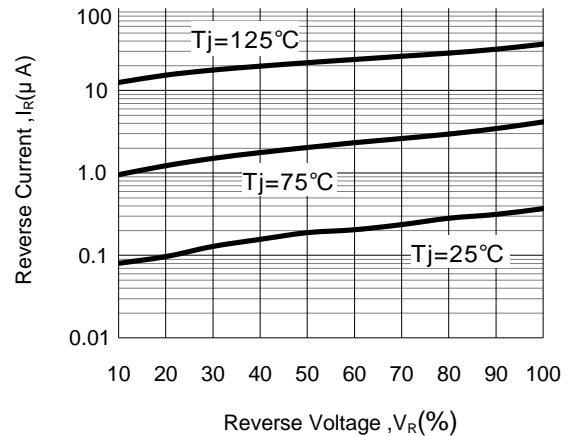


Fig.4- Typical Reverse Characteristic

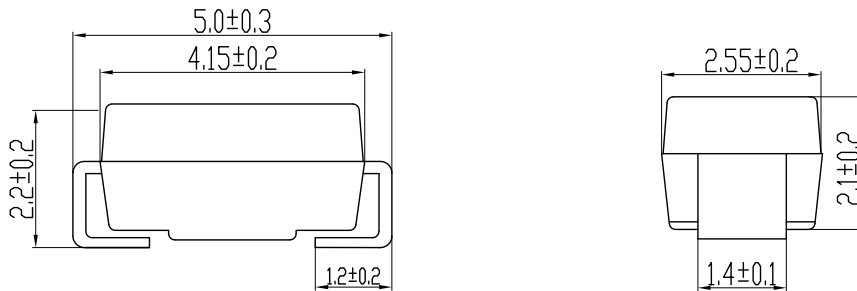


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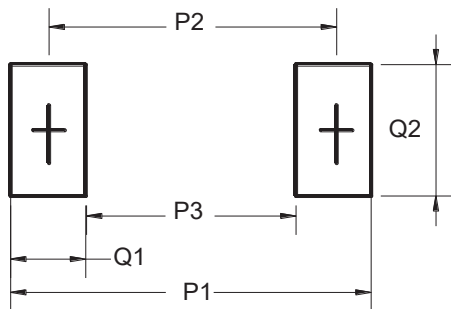
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Package Outline Dimensions(unit:mm)

DO-214AC (SMA)



Mounting Pad Layout(unit:mm)



| Dim | Millimeters |
|-----|-------------|
| P1 | 6.50 |
| P2 | 4.00 |
| P3 | 1.50 |
| Q1 | 2.50 |
| Q2 | 1.70 |

Ordering Information

| Part No. | Marking | Package | Shipping |
|----------|---------|---------|--------------------|
| RS1A | RS1A | SMA | 5000PCS /Tape&Reel |
| RS1B | RS1B | SMA | 5000PCS /Tape&Reel |
| RS1D | RS1D | SMA | 5000PCS /Tape&Reel |
| RS1G | RS1G | SMA | 5000PCS /Tape&Reel |
| RS1J | RS1J | SMA | 5000PCS /Tape&Reel |
| RS1K | RS1K | SMA | 5000PCS /Tape&Reel |
| RS1M | RS1M | SMA | 5000PCS /Tape&Reel |