新芯微电子
NewChip
Microelectronics

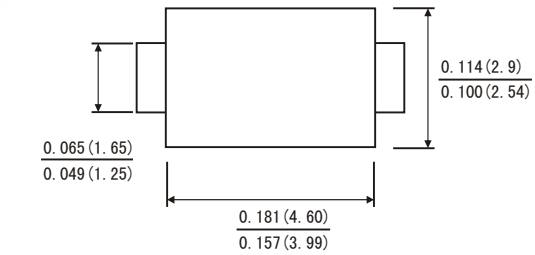
# RS2A THRU RS2M

2.0 AMPS. Surface Mount Fast Recovery Rectifiers

## Features

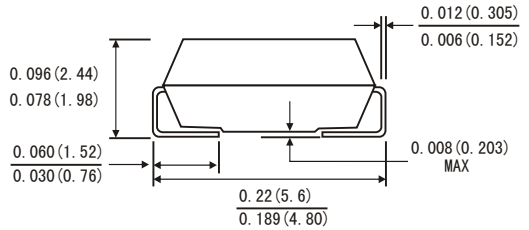
- For surface mounted application
- Glass passivated junction chip
- Built-in strain relief, ideal for automated placement
- Plastic material used carries Underwriters Laboratory Classification 94V-0
- Fast switching for high efficiency
- High temperature soldering: 260 °C / 10 seconds at terminals


SMA(DO-214AC)




## Mechanical Data

- Case Molded Plastic
- Polarity: Indicated by cathode band
- Weight: 0.002 ounces,0.064 grams
- Mounting position: Any




Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%

| Type Number | Symbol | RS 2A | RS 2B | RS 2D | RS 2G | RS 2J | RS 2K | RS 2M | Units |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Rectified Current See Fig. 1 @$T_L$=100°C | $I_{(AV)}$ | 2.0 | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method ) | $I_{FSM}$ | 50 | | | | | | | A |
| Maximum Instantaneous Forward Voltage @ 2.0A | $V_F$ | 1.3 | | | | | | | V |
| Maximum DC Reverse Current @ $T_A$ =25 °C at Rated DC Blocking Voltage @ $T_A$=125 °C | $I_R$ | 5<br>200 | | | | | | | uA<br>uA |
| Maximum Reverse Recovery Time ( Note 1 ) | Trr | 150 | | | | 250 | 500 | | nS |
| Typical Junction Capacitance ( Note 2 ) | Cj | 50 | | | | | | | pF |
| Typical Thermal Resistance (Note 3) | $R_{\theta JA}$<br>$R_{\theta JL}$ | 55<br>18 | | | | | | | °C /W |
| Operating Temperature Range | $T_J$ | -55 to +150 | | | | | | | °C |
| Storage Temperature Range | $T_{STG}$ | -55 to +150 | | | | | | | °C |

Notes:
1. Reverse Recovery Test Conditions: $I_F$=0.5A, $I_R$=1.0A, $I_{RR}$=0.25A
2. Measured at 1 MHz and Applied $V_R$=4.0 Volts
3. Thermal Resistance from Junction to Ambient and Junction to Lead Mounted on P.C.B. with 0.4" x 0.4" ( 10mm x 10 mm ) Copper Pad Areas.

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

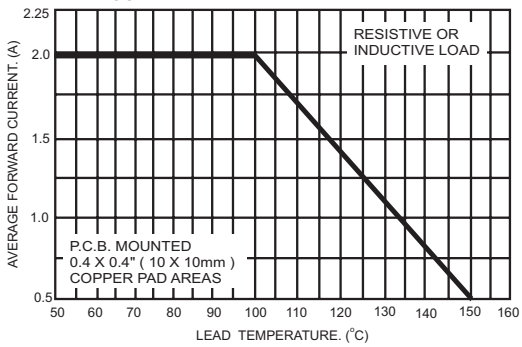



FIG.2- TYPICAL REVERSE CHARACTERISTICS

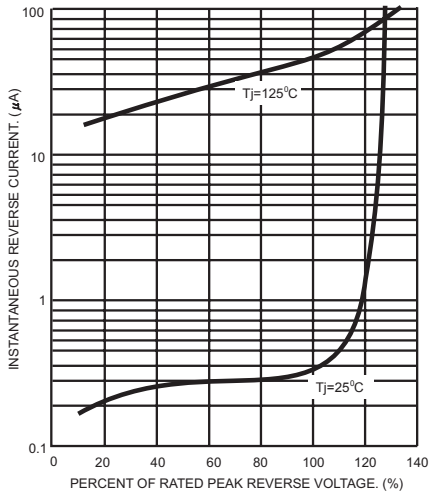



FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

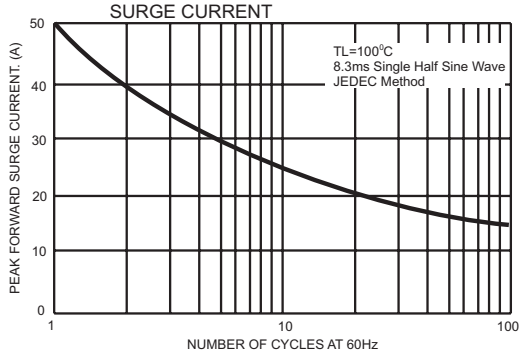



FIG.4- TYPICAL JUNCTION CAPACITANCE

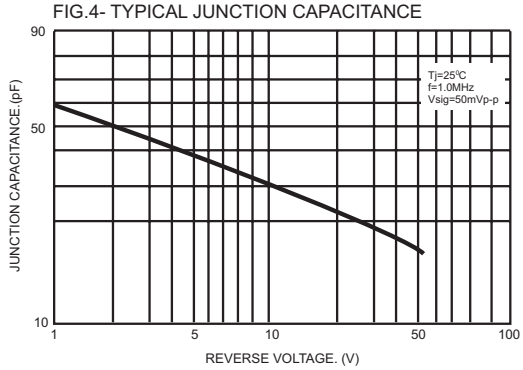



FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

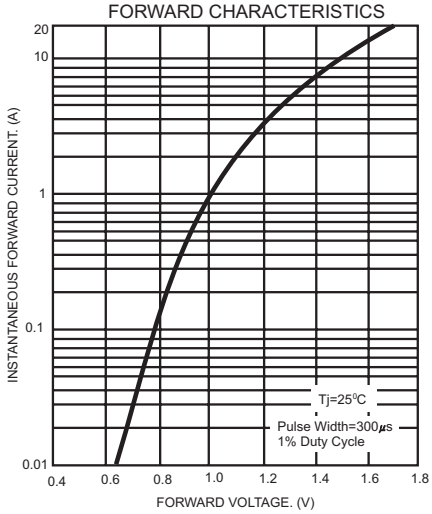



FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM