

RS3A THRU RS3M

Fast Recovery Surface Mount Rectifiers

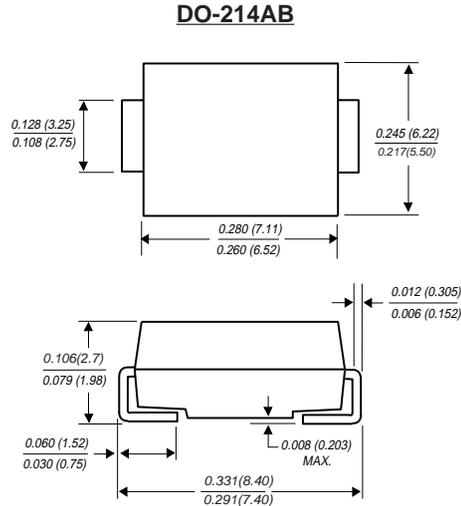
Voltage Range 50 to 1000 Volts Current 3.0 Amperes

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-O
- ✧ Fast switching for high efficiency
- ✧ High temperature soldering: 260°C /10 seconds at terminals

Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Terminals: Solder plated
- ✧ Polarity: Indicated by cathode band
- ✧ Packing: 16mm tape per E1A STD RS-481
- ✧ Weight: 0.22 gram



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 3A | RS 3B | RS 3D | RS 3G | RS 3J | RS 3K | RS 3M | 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 @ $T_L=75^\circ\text{C}$ | $I_{(AV)}$ | 3.0 | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 100 | | | | | | | A |
| Maximum Instantaneous Forward Voltage @ 3.0A | V_F | 1.3 | | | | | | | V |
| Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=125^\circ\text{C}$ | I_R | 10 250 | | | | | | | μA μA |
| Maximum Reverse Recovery Time (Note 1) | T_{rr} | 150 | | | 250 | 500 | | | nS |
| Typical Junction Capacitance (Note 2) | C_j | 60 | | | | | | | pF |
| Typical Thermal Resistance (Note 3) | $R_{\theta_{JA}}$ $R_{\theta_{JL}}$ | 50.0 15.0 | | | | | | | $^\circ\text{C}/\text{W}$ $^\circ\text{C}/\text{W}$ |
| Operating Temperature Range | T_J | -55 to +150 | | | | | | | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -55 to +150 | | | | | | | $^\circ\text{C}$ |

Notes: 1. Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

2. Measured at 1 MHz and Applied $V_R=4.0$ Volts

3. Thermal Resistance from Junction to Ambient and from Junction to Lead Mounted on P.C.B. with 0.6"x0.6" (16 x 16 mm) Copper Pad Areas.

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FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

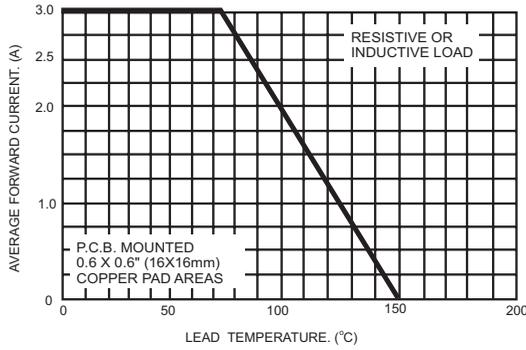


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

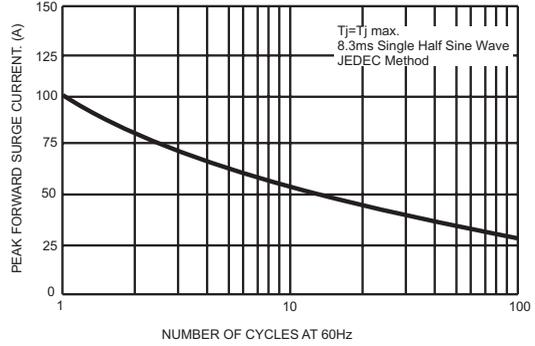


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

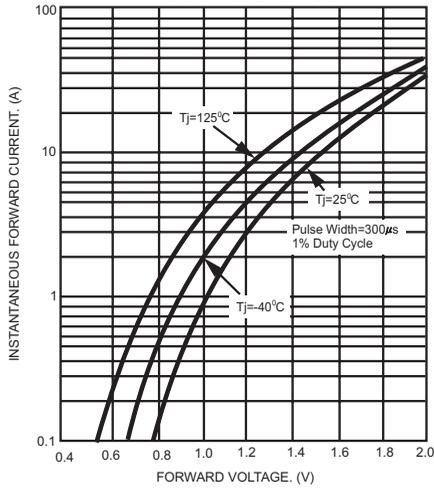


FIG.4- TYPICAL REVERSE CHARACTERISTICS

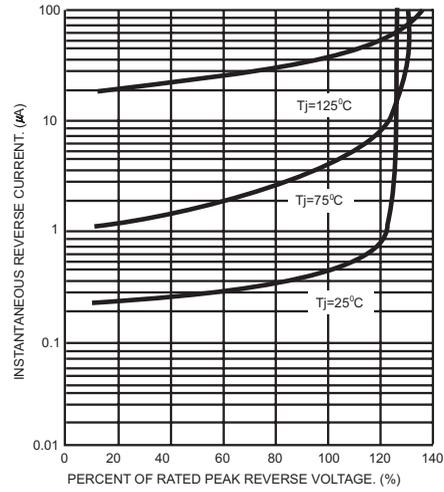


FIG.5- TYPICAL JUNCTION CAPACITANCE

