

FR3A THRU FR3M

SURFACE MOUNT FAST RECOVERY RECTIFIER

REVERSE VOLTAGE: 50 to 1000 VOLTS

FORWARD CURRENT: 3.0 AMPERE

<http://www.njzrg.com>

FEATURES

- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Fast Recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- High temperature soldering : 260°C /10 seconds at terminals

MECHANICAL DATA

Case: Molded plastic, DO-214AB(SMC)

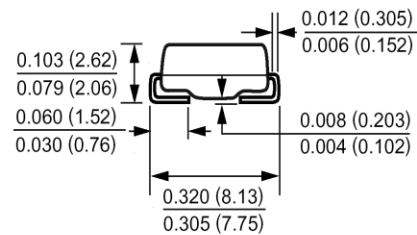
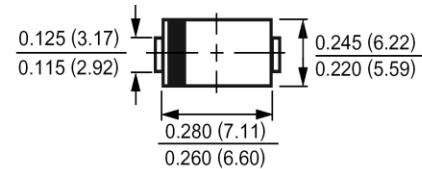
Terminals: Solder plated, solderable per MIL-STD-750, method 2026 guaranteed

Polarity: Color band denotes cathode end

Packaging: 16mm tape per EIA STD RS-481

Weight: 0.007 ounce, 0.21 gram

DO214-AB(SMC)



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

| | Symbols | FR3A | FR3B | FR3D | FR3G | FR3J | FR3K | FR3M | Units |
|---|-----------------|-------------|------|------|------|------|------|------|-----------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | Volts |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum Average Forward Rectified Current at $T_L=75$ | $I_{(AV)}$ | 3.0 | | | | | | | Amp |
| Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method) | I_{FSM} | 100 | | | | | | | Amp |
| Maximum Forward Voltage at 3.0A | V_F | 1.3 | | | | | | | Volts |
| Maximum Reverse Current at $T_A=25$ | I_R | 5.0 | | | | | | | μ Amp |
| at Rated DC Blocking Voltage $T_A=125$ | | 300 | | | | | | | |
| Typical Junction Capacitance (Note 1) | C_J | 60 | | | | | | | pF |
| Typical Thermal Resistance (Note 2) | $R_{\theta JA}$ | 50 | | | | | | | /W |
| | $R_{\theta JL}$ | 15 | | | | | | | |
| Maximum Reverse Recovery Time (Note 3) | T_{RR} | 150 | | | 250 | | 500 | | nS |
| Operating Junction Temperature Range | T_J | -55 to +150 | | | | | | | |
| Storage Temperature Range | T_{stg} | -55 to +150 | | | | | | | |

NOTES:

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3 x 0.3" (8.0 x 8.0mm) copper pad areas

3- Reverse Recovery Test Conditions : $I_F=.5A$, $I_R=1A$, $I_{RR}=.25A$.

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RATINGS AND CHARACTERISTIC CURVES

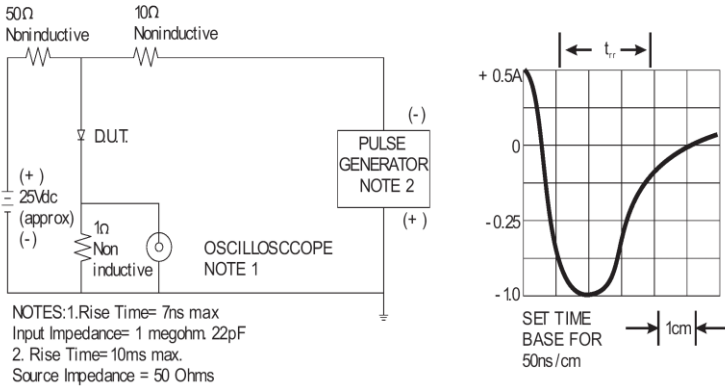


Fig. 1-REVERSERECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

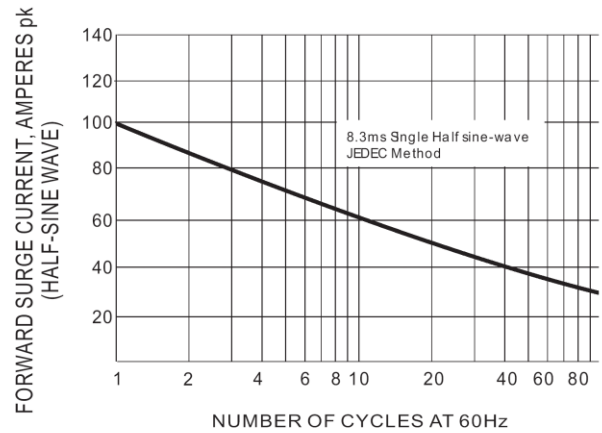


Fig. 2-MAXIMUM NON-REPEITIVE SURGE CURRENT

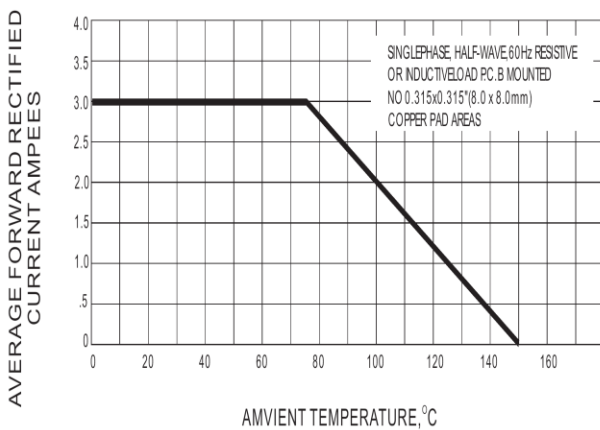


Fig. 3-MAXIMU AVERAGE FORWARD CURRENT RATING

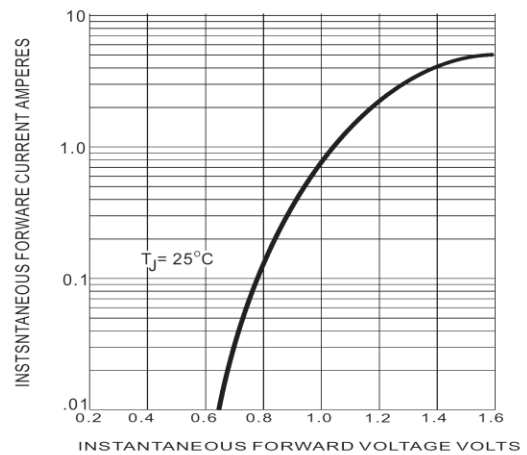


Fig. 4- FORWARD CURRENT DERATING CURV

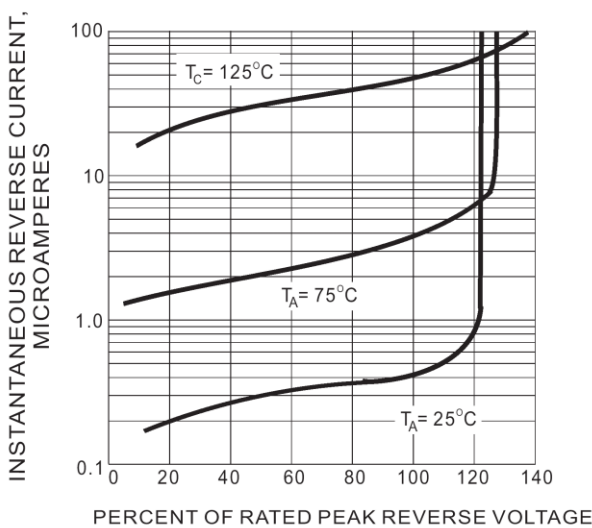


Fig. 5-TYPICAL REVERSE CHARACTERISTICS

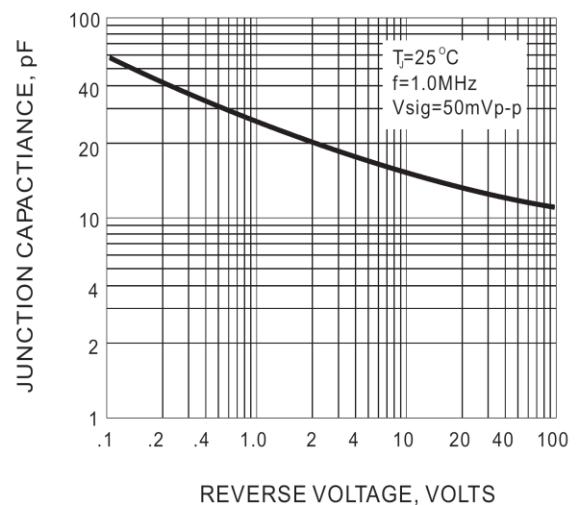


Fig. 6- TYPICAL JUNCTION CAPACITANC