

FR1A THRU FR1M

SURFACE MOUNT FAST RECOVERY RECTIFIER



REVERSE VOLTAGE: 50 to 1000 VOLTS

FORWARD CURRENT: 1.0 AMPERE

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Low profile package
- Easy pick and place
- Built-in strain relief
- Fast Recovery times for high efficiency
- High temperature soldering : 250°C /10 seconds at terminals

MECHANICAL DATA

Case: Molded plastic, DO-214AA(SMB)

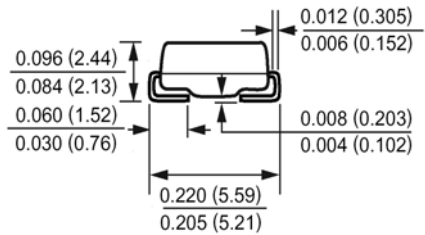
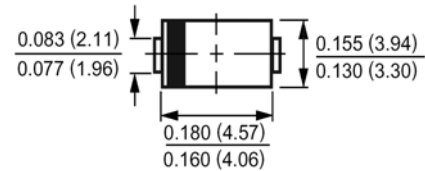
Terminals: Solder plated, solderable per MIL-STD-750, method 2026 guaranteed

Polarity: Color band denotes cathode end

Packaging: 12mm tape per EIA STD RS-481

Weight: 0.003 ounce, 0.093 gram

DO214-AA(SMB)



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	FR1A	FR1B	FR1D	FR1G	FR1J	FR1K	FR1M	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 $T_L=90^\circ\text{C}$	$I_{(AV)}$	1.0							Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	30							Amp
Maximum Forward Voltage at 1.0A	V_F	1.3							Volts
Maximum Reverse Current at $T_A=25^\circ\text{C}$	I_R	5.0							μAmp
at Rated DC Blocking Voltage $T_A=125^\circ\text{C}$		150							
Typical Junction Capacitance (Note 1)	C_J	10							pF
Typical Thermal Resistance (Note 2)	$R_{\theta JL}$	32							$^\circ\text{C/W}$
Maximum Reverse Recovery Time (Note 3)	T_{RR}	150				250	500	nS	
Operating Junction Temperature Range	T_J	-55 to +150							$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150							$^\circ\text{C}$

NOTES:

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

2- Thermal resistance 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: $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{RR}=0.25\text{A}$.

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RATINGS AND CHARACTERISTIC CURVES

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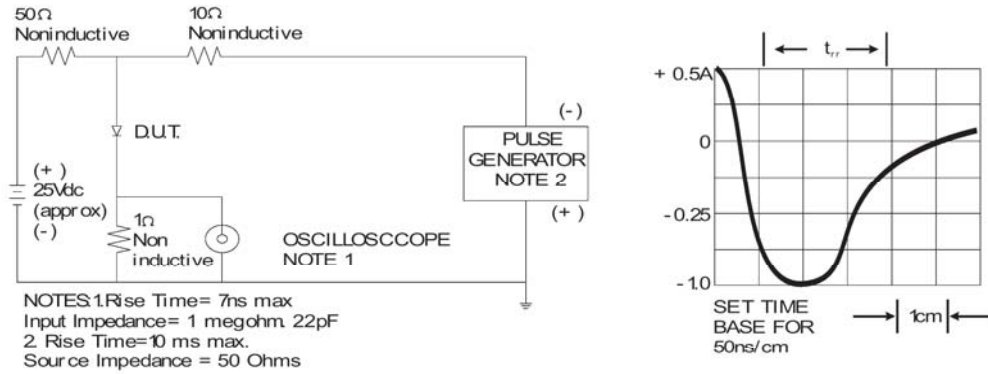


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

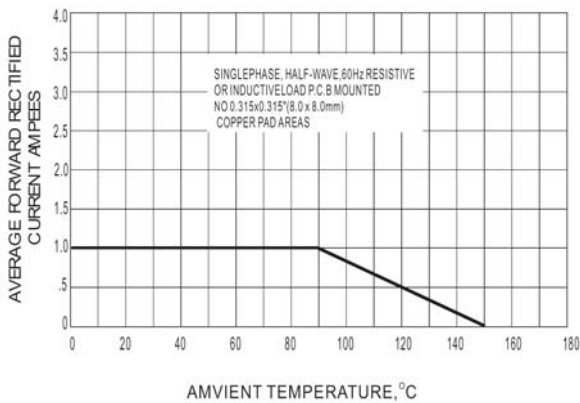


Fig. 2-MAXIMU AVERAGE FORWARD CURRENT RATING

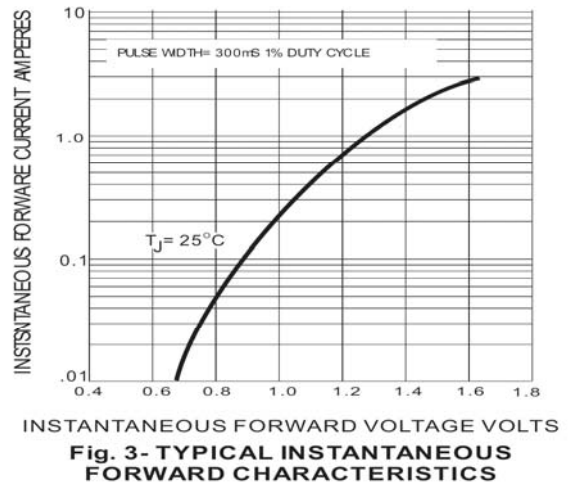


Fig. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

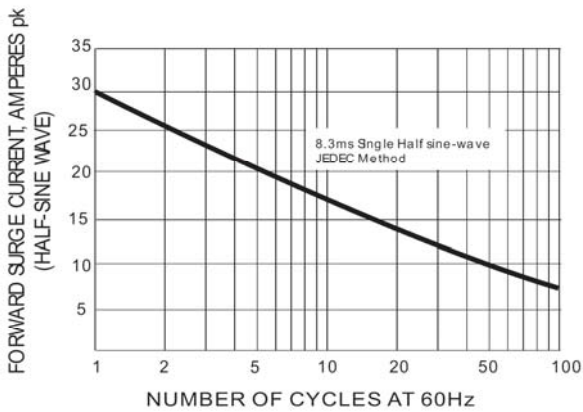


Fig.4-MAXIMUM NON-REPEITIVE SURGE CURRENT

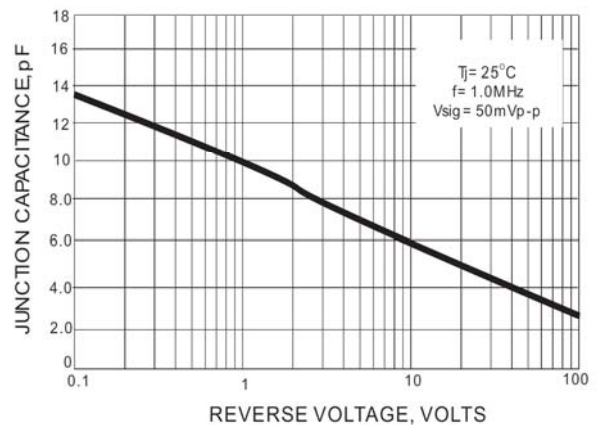


Fig.5- TYPICAL JUNCTION CAPACITANCE