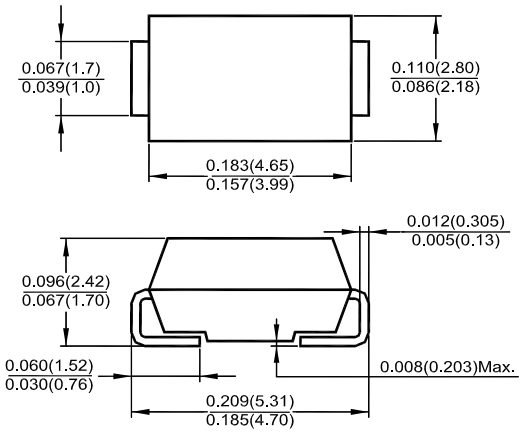
FR1AD THRU FR1MD

SURFACE MOUNT FAST RECOVERY RECTIFIER

Reverse Voltage - 50 to 1000 V
Forward Current - 1 A

SMA (DO-214AC)



Dimensions in inches and (millimeters)

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 UL Flammability Classification 94V-0

Mechanical Data

- Case: Molded plastic, SMA (DO-214AC)
- Terminals: Solder plated, solderable per MIL-STD-750, method 2026 guaranteed
- Polarity: color band denotes cathode end

Maximum Ratings and Electrical Characteristics

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

Parameter	Symbols	FR1AD	FR1BD	FR1DD	FR1GD	FR1JD	FR1KD	FR1MD	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 Current T_L = 90℃	$I_{F(AV)}$	1							A
Peak Forward Surge Current, 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	30							A
Maximum Forward Voltage at I_F = 1 A	V_F	1.3							V
Maximum Reverse Current at Rated DC Blocking Voltage T_a = 25℃ / T_a =125℃	I_R	5 150							μA
Maximum Reverse Recovery Time [1]	t_{rr}	150				250	500		ns
Typical Junction Capacitance [2]	C_J	12							pF
Typical Thermal Resistance [3]	$R_{\theta JL}$	32							℃/W
Operating and Storage Temperature Range	T_J, T_{Stg}	- 55 to + 150							℃

[1] Reverse recovery test conditions: I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A
[2] Measured at 1 MHz and applied reverse voltage of 4 V
[3] Thermal resistance from junction to lead mounted on P.C.B. with 0.3 X 0.3" (8 X 8 mm) copper pad areas

RATING AND CHARACTERISTIC CURVES

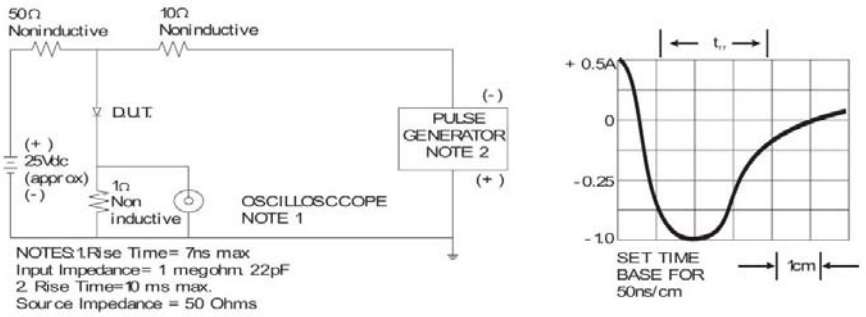


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

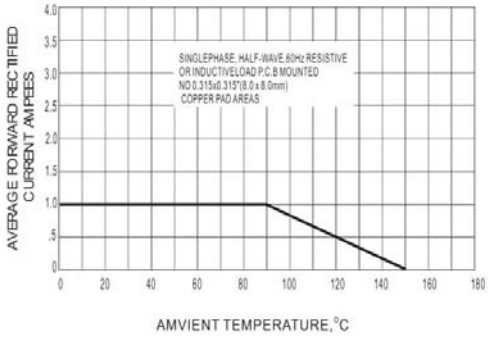


Fig. 2-MAXIMU AVERAGE FORWARD CURRENT RATING

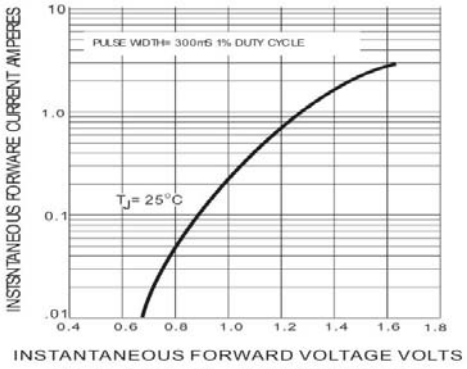


Fig. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

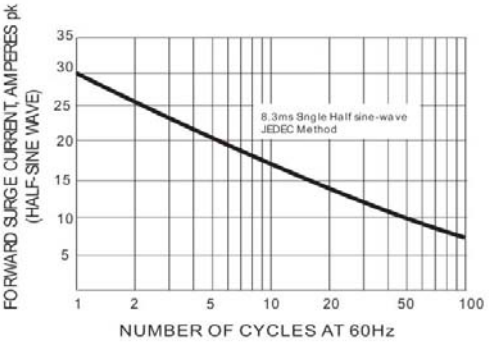


Fig.4-MAXIMUM NON-REPEITIVE SURGE CURRENT

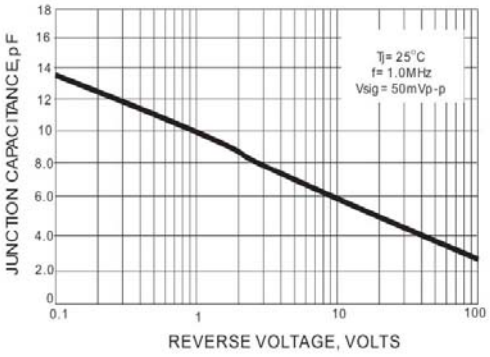


Fig.5- TYPICAL JUNCTION CAPACITANCE