FR2AD THRU FR2MD

Surface Mount Fast Recovery Rectifier

Reverse Voltage - 50 to 1000 V
Forward Current - 2 A

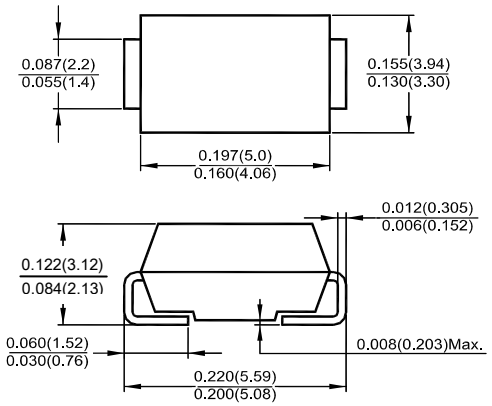
Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Fast switching for high efficiency
- Low reverse leakage
- High forward surge current capability
- For surface mounted applications

Mechanical Data

- **Case:** Molded plastic, SMB (DO-214AA)
- **Terminals:** Solder plated, solderable per MIL-STD-750, method 2026
- **Polarity:** Color band denotes cathode end

SMB (DO-214AA)



Dimensions in inches and (millimeters)

Absolute Maximum Ratings and Characteristics

Ratings at T_a = 25 °C ambient temperature unless otherwise specified. Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20%.

Parameter	Symbols	FR2AD	FR2BD	FR2DD	FR2GD	FR2JD	FR2KD	FR2MD	Units
Maximum Repetitive 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
Average Forward Rectified Current at T_L = 90 °C	$I_{F(AV)}$	2							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 at 2 A	V_F	1.3							V
Maximum Reverse Current T_a = 25 °C at Rated DC Blocking Voltage T_a = 100 °C	I_R	5 50							μA
Maximum Reverse Recovery Time [1]	t_{rr}	150				250	500		ns
Typical Junction Capacitance [2]	C_J	50							pF
Typical Thermal Resistance [3]	$R_{\theta JA}$	20							°C/W
Operating Junction and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150							°C

[1] Reverse recovery 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] P.C.B with 0.2 X 0.2" (5 X 5 mm) copper pad areas.

FIG. 1- FORWARD CURRENT DERATING CURVE

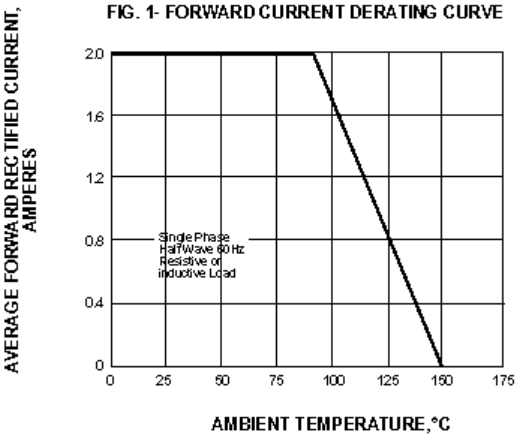


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

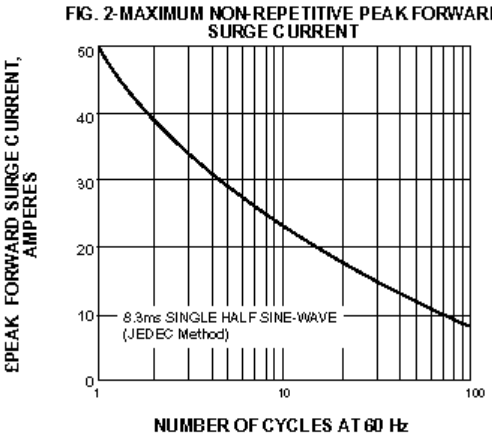


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

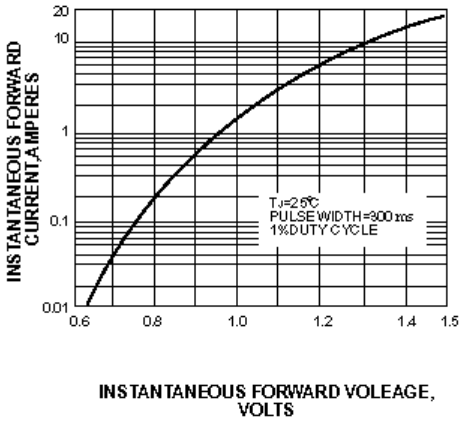


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

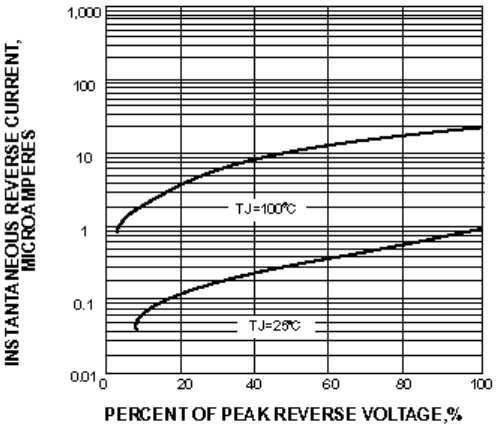


FIG. 5-TYPICAL JUNCTION CAPACITANCE

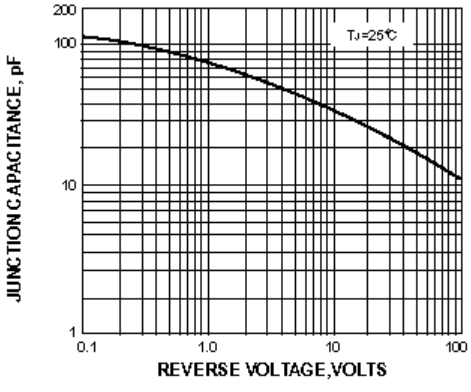


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE