

# FR2A THRU FR2M

## SURFACE MOUNT FAST RECOVERY RECTIFIER

Reverse Voltage – 50 to 1000 V

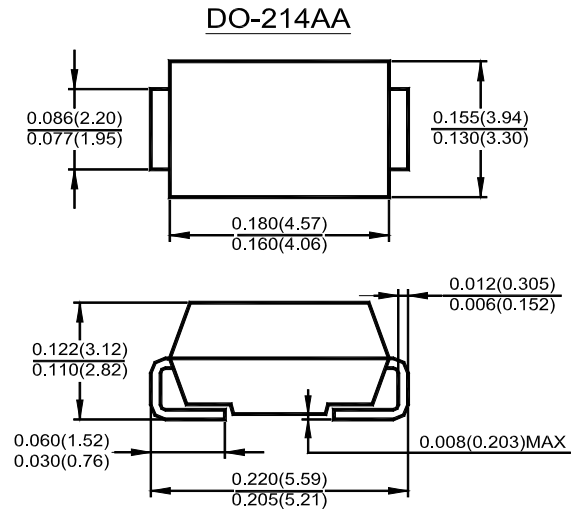
Forward Current – 2 A

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



Dimensions in inches and (millimeters)

### Absolute Maximum Ratings and Characteristics

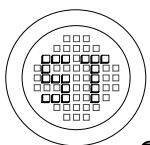
Ratings at 25 °C ambient temperature unless otherwise specified. Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20%.

Parameter	Symbols	FR2A	FR2B	FR2D	FR2G	FR2J	FR2K	FR2M	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 $T_L = 90\text{ }^\circ\text{C}$	$I_{(AV)}$	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 $T_A = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_A = 100\text{ }^\circ\text{C}$	$I_R$	5							$\mu\text{A}$
Maximum Reverse Recovery Time <sup>1)</sup>	$t_{rr}$	150			250		500		ns
Typical Junction Capacitance <sup>2)</sup>	$C_J$	50							pF
Typical Thermal Resistance <sup>3)</sup>	$R_{\theta JA}$	20							$^\circ\text{C/W}$
Operating Junction and Storage Temperature Range	$T_j, T_{stg}$	-65 to +150							$^\circ\text{C}$

<sup>1)</sup> Reverse recovery conditions:  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$

<sup>2)</sup> Measured at 1 MHz and applied reverse voltage of 4 VDC.

<sup>3)</sup> P.C.B with 0.2 X 0.2" (5 X 5 mm) copper pad areas.



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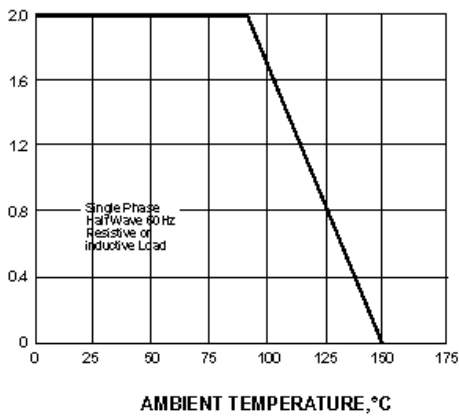
ISO/TS 16949:2002 Certificate No. 05103  
 ISO 14001:2004 Certificate No. 7116  
 ISO 9001:2000 Certificate No. 0506098

Dated : 10/03/2006 C

# FR2A THRU FR2M

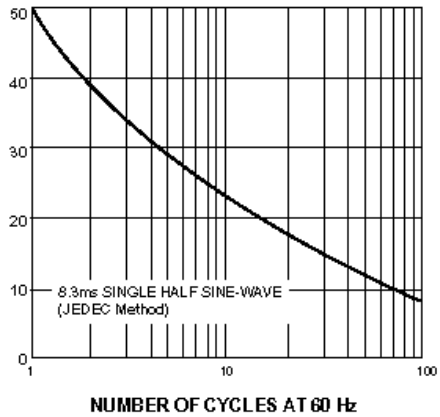
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1-FORWARD CURRENT DERATING CURVE



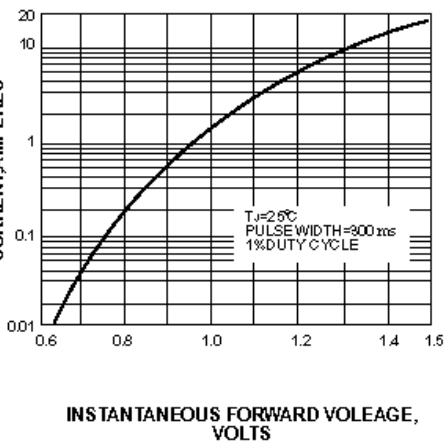
PEAK FORWARD SURGE CURRENT, AMPERES

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



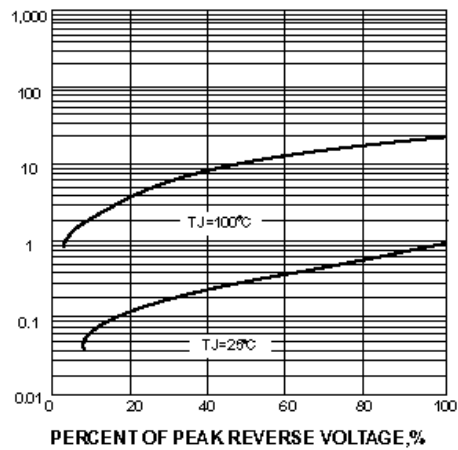
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



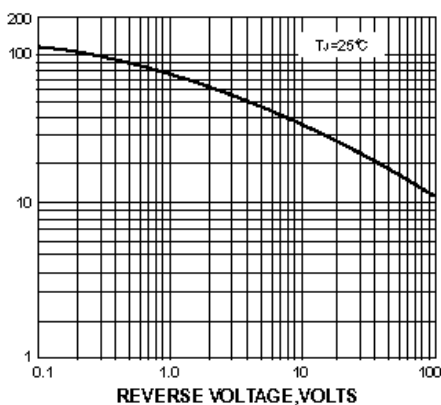
INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



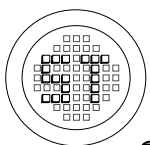
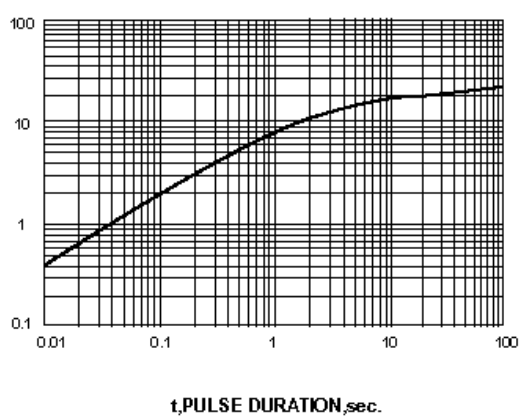
JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



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