



### 3.0A SUFACE MOUNT FAST RECOVERY RECTIFIERS-50-1000V SMCPACKAGE

#### FEATURES

- \* Glass passivated device
- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Metallurgically bonded construction
- \* Mounting position: Any

#### MECHANICAL DATA

- \* Case: DO-214AB/SMC Molded plastic
- \* Epoxy : Device has UL flammability classification 94V-0
- \* Moisture Sensitivity Level 1
- \* **Polarity:** Color band denotes cathode end
- \* Weight: 0.225 grams (approximate)

#### PRODUCT TYPE INFORMATION

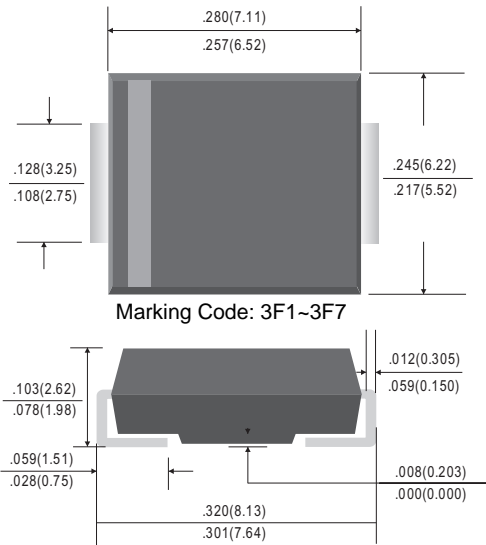
- \* RoHS product for packing code suffix "G"
- Halogen free product for packing code suffix "H"

#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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



SMC(DO-214AB)



Dimensions in inches and (millimeters)

#### MAXIMUM RATINGS (At TA = 25°C unless otherwise noted)

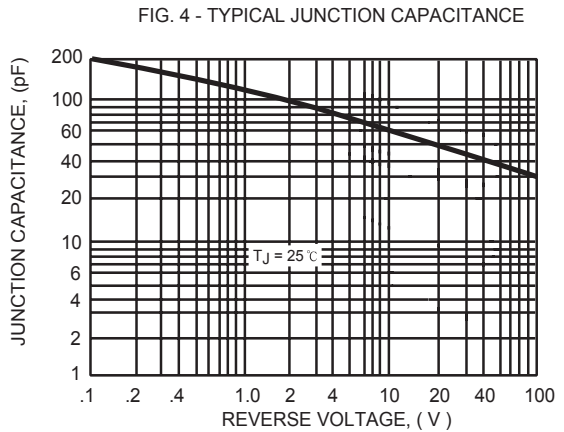
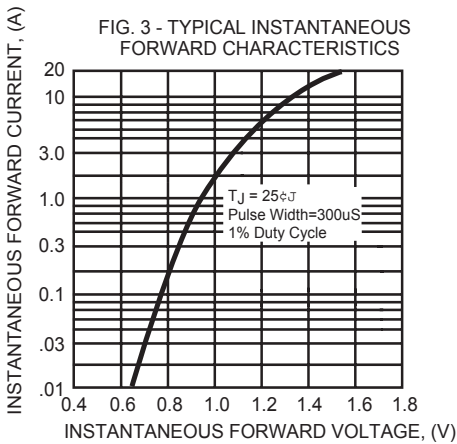
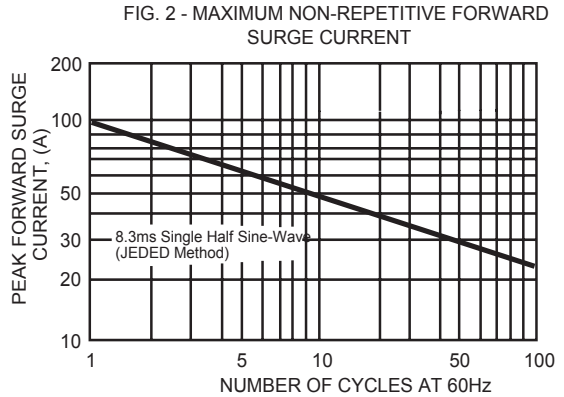
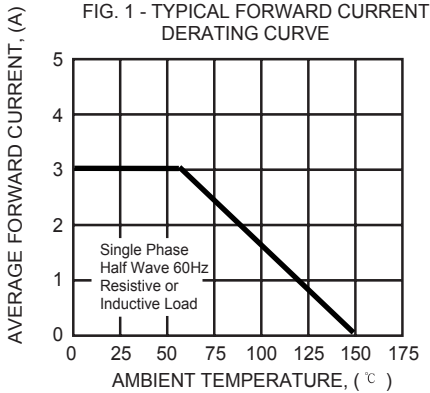
RATINGS	SYMBOL	FFM301	FFM302	FFM303	FFM304	FFM305	FFM306	FFM307	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V <sub>bc</sub>	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at TA = 55°C	I <sub>o</sub>				3.0				Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>				100				Amps
Maximum Thermal Resistance	(Note 2) R <sub>θJL</sub>				15				°C/W
	(Note 3) R <sub>θJA</sub>				50				°C/W
Typical Junction Capacitance (Note 1)	C <sub>J</sub>				80				pF
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>				-55 to +150				°C

#### ELECTRICAL CHARACTERISTICS (At TA = 25°C unless otherwise noted)

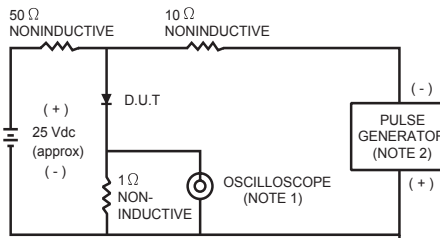
CHARACTERISTICS	SYMBOL	FFM301	FFM302	FFM303	FFM304	FFM305	FFM306	FFM307	UNITS
Maximum Forward Voltage at 3.0A DC	V <sub>F</sub>				1.3				Volts
Maximum Full Load Reverse Current, Full cycle Average at TA=55°C	I <sub>R</sub>				50				uAmps
Maximum DC Reverse Current at @TA = 25°C					10				uAmps
Rated DC Blocking Voltage @TA = 100°C					250				uAmps
Maximum Reverse Recovery Time (Note 4)	t <sub>rr</sub>	150			250	500			nSec

- NOTES : 1. Measured at 1.0 MHz and applied average voltage of 4.0VDC  
 2. Thermal resistance junction to terminal 6.0mm<sup>2</sup> copper pads to each terminal.  
 3. Thermal resistance junction to ambient, 6.0mm<sup>2</sup> copper pads to each terminal.  
 4. Test Conditions: I<sub>F</sub> = 0.5A, I<sub>R</sub> = -1.0A, I<sub>RR</sub> = -0.25A

**RATING AND CHARACTERISTIC CURVES ( FFM301 THRU FFM307 )**



**FIG. 5 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



NOTES:1 Rise Time = 7ns max. Input Impedance = 1 megohm. 22pF.  
2. Rise Time = 10ns max. Source Impedance = 50 ohms.

