



### 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

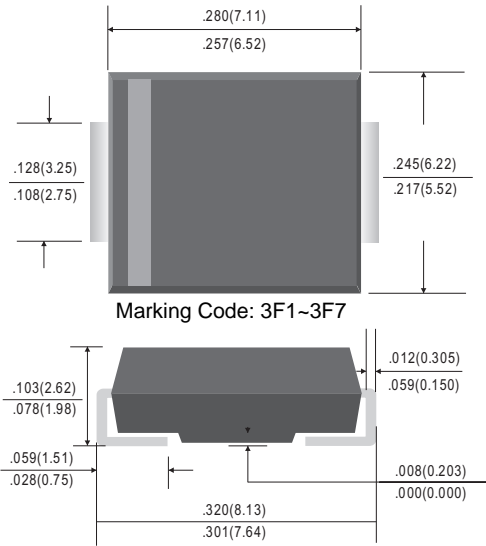
- \* RoHS product for packing code suffix "G"
- Halogen free product for packing code suffix "H"

#### 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	VRRM	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	VRMS	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	Vbc	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at TA = 55°C	Io				3.0				Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	IFSM				100				Amps
Maximum Thermal Resistance	(Note 2) RθJL				15				°C/W
	(Note 3) RθJA				50				°C/W
Typical Junction Capacitance (Note 1)	CJ				80				pF
Operating and Storage Temperature Range	TJ, TSTG				-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	VF				1.3				Volts
Maximum Full Load Reverse Current, Full cycle Average at TA=55°C	IR				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)	trr				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: IF = 0.5A, IR = -1.0A, IRR = -0.25A

RATING AND CHARACTERISTIC CURVES ( FFM301 THRU FFM307 )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

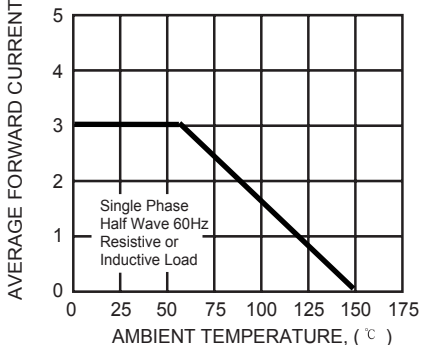


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

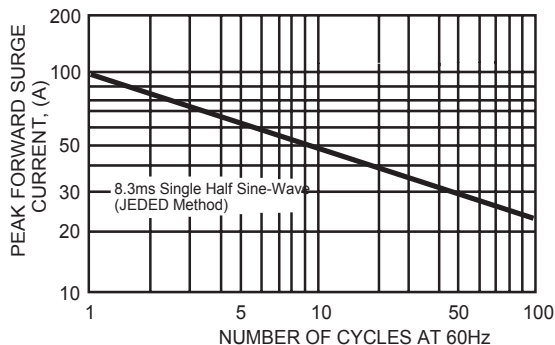


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

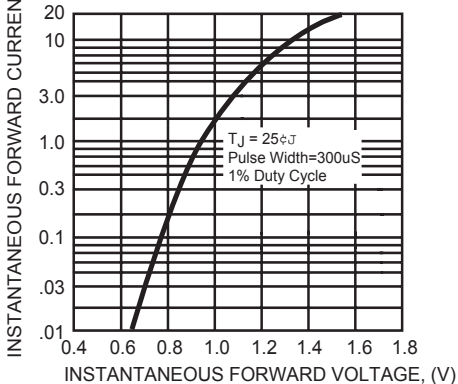


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

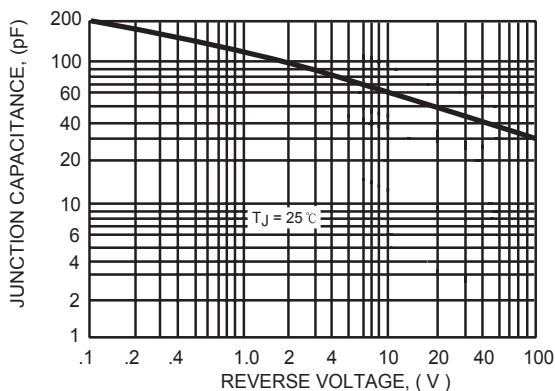
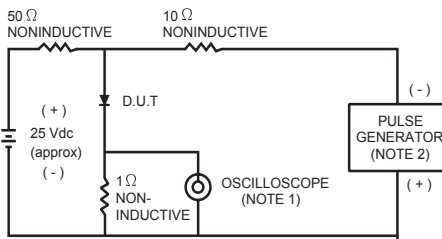


FIG. 5 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

