

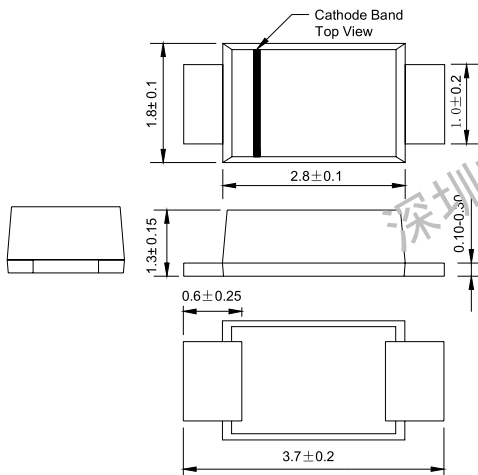
## SUFACE MOUNT FAST RECOVERY RECTIFIER

# Formosa MS

### FFM101-M THRU FFM107-M

Reverse Voltage - 50 to 1000 Volts Forward Current - 1.0Ampere

#### SOD-123FL



Dimensions in millimeters

#### FEATURES

- ◆ Glass passivated device
- ◆ Ideal for surface mouted applications
- ◆ Low reverse leakage
- ◆ Metallurgically bonded construction
- ◆ High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension

#### MECHANICAL DATA

**Case:** JEDEC SOD-123FL molded plastic body over passivated chip

**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.006 ounce, 0.02 grams

#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

	SYMBOLS	FFM101-M	FFM102-M	FFM103-M	FFM104-M	FFM105-M	FFM106-M	FFM107-M	UNITS
		MARK	F1	F2	F3	F4	F5	F6	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	VOLTS
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	VOLTS
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	VOLTS
Maximum average forward rectified current at $T_A=65^\circ\text{C}$ (NOTE 1)	$I_{(AV)}$	1.0							Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) $T_L=25^\circ\text{C}$	$I_{FSM}$	20.0							Amps
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.3							Volts
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=125^\circ\text{C}$	$I_R$	5.0 50.0							$\mu\text{A}$
Maximum reverse recovery time (NOTE 2)	$t_{rr}$	150			250		500		ns
Typical junction capacitance (NOTE 3)	$C_J$	4							pF
Typical thermal resistance (NOTE 4)	$R_{\theta JA}$	180							K/W
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$

**Note:** 1. Averaged over any 20ms period.

2. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$ .

3. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

4. Thermal resistance junction to ambient, 6.0 mm<sup>2</sup> copper pads to each terminal.



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DS-222645	2008/02/10	2010/03/10	B	2

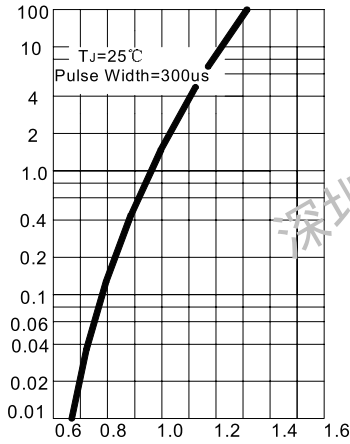
**SUFACE MOUNT FAST RECOVERY RECTIFIER**

**RATINGS AND CHARACTERISTIC CURVES FFM101-M THRU FFM107-M**

**Formosa MS**

**FIG.1 –TYPICAL FORWARD CHARACTERISTIC**

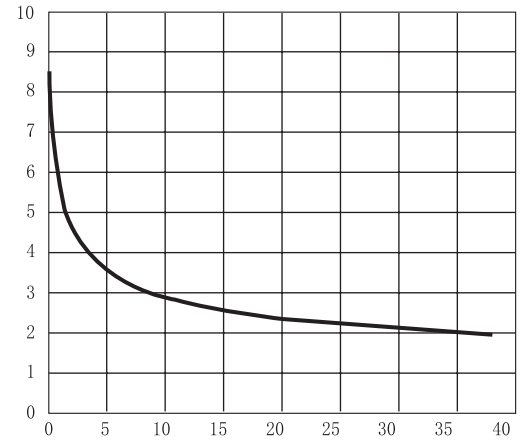
INSTANTANEOUS FORWARD CURRENT  
AMPERES



INSTANTANEOUS FORWARD VOLTAGE, V

**FIG.2 -- TYPICAL JUNCTION CAPACITANCE**

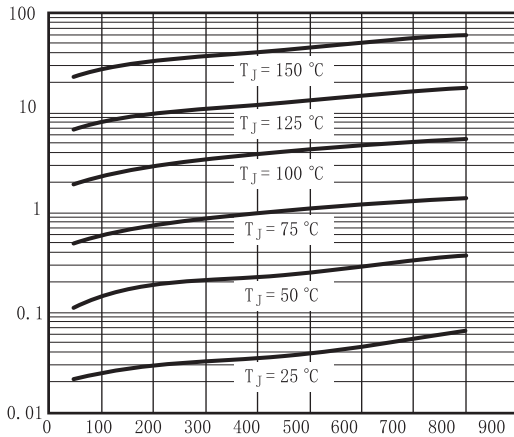
CAPACITANCE, pF



REVERSE VOLTAGE, VOLTS

**FIG.3 – TYPICAL INSTANTANEOUS REVERSE CHARACTERISTICS**

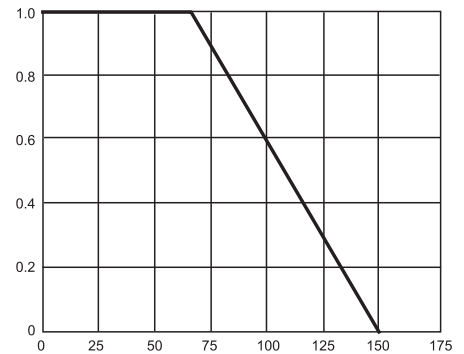
INSTANTANEOUS REVERSE CURRENT  
μAMPERES



INSTANTANEOUS REVERSE VOLTAGE, V

**FIG.4 – FORWARD DERATING CURVE**

AVERAGE FORWARD CURRENT,  
AMPERES



AMBIENT TEMPERATURE, °C



Document ID	Issued Date	Revised Date	Revision	Page.
DS-222645	2008/02/10	2010/03/10	B	2