RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

EFM101F THRU EFM107F

SURFACE MOUNT GLASS PASSIVATED SUPER FAST SILICON RECTIFIER

VOLTAGE RANGE 50 to 600 Volts CURRENT 1.0 Ampere

FEATURES

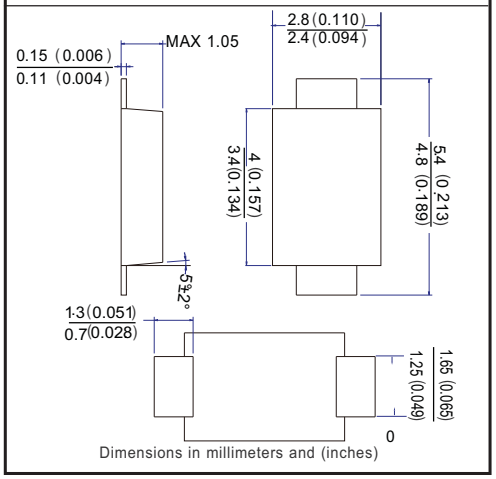
* Glass passivated device
* Ideal for surface mounted applications
* Low leakage current
* Metallurgically bonded construction
* Mounting position: Any

MECHANICAL DATA

* Epoxy : Device has UL flammability classification 94V-0



SMAF



Dimensions in millimeters and (inches)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.
Resistive or inductive load.

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

RATINGS	SYMBOL	EFM101F	EFM102F	EFM103F	EFM104F	EFM105F	EFM106F	EFM107F	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	600	Volts
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	420	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	600	Volts
Maximum Average Forward Rectified Current at T_A = 55°C	I_O	1.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	30							Amps
Typical Current Square Time	I^2T	3.7							A^2S
Typical Thermal Resistance (Note 4)	$R_{\theta JA}$	85							°C/W
	$R_{\theta JL}$	35							
Typical Junction Capacitance (Note 2)	C_J	15				10			pF
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to + 150							°C

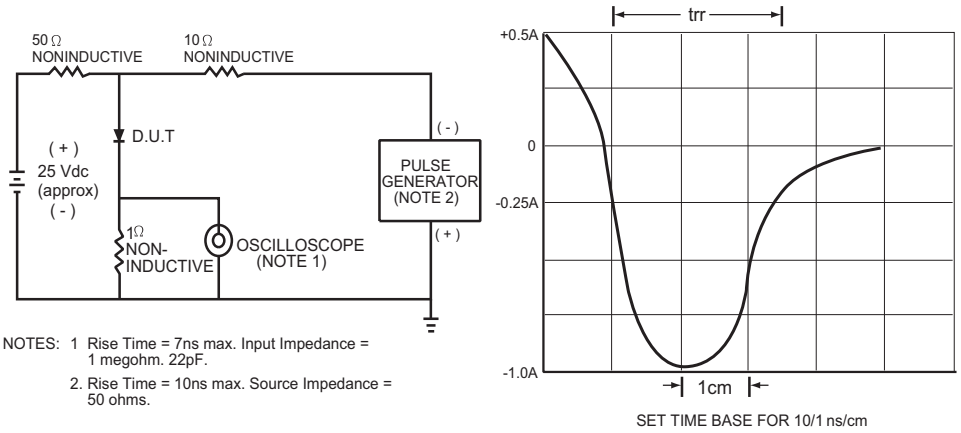
ELECTRICAL CHARACTERISTICS(@TA=25 °C unless otherwise noted)

CHARACTERISTICS		SYMBOL	EFM101F	EFM102F	EFM103F	EFM104F	EFM105F	EFM106F	EFM107F	UNITS
Maximum Instantaneous Forward Voltage at 1.0A DC		V_F	0.95				1.25		1.50	Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@T_A = 25°C	IR	5.0							µAmps
	@T_A = 100°C		100							
Maximum Reverse Recovery Time (Note 1)		trr	35						50	nSec

NOTES : 1. Reverse Recovery Test Conditions: IF = 0.5A, IR = -1.0A, IRR = -0.25A
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts
3. "Fully ROHS compliant", "100% Sn plating (Pb-free)".
4. Thermal Resistance : Mounted on PCB.

2015-10
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RATING AND CHARACTERISTICS CURVES (EFM101F THRU EFM107F)



NOTES: 1 Rise Time = 7ns max. Input Impedance = 1 megohm. 22pF.

2. Rise Time = 10ns max. Source Impedance = 50 ohms.

FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

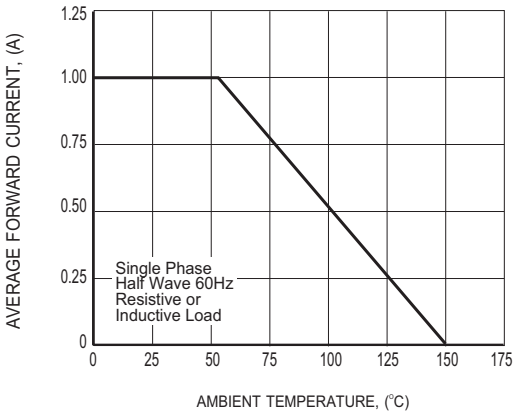


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

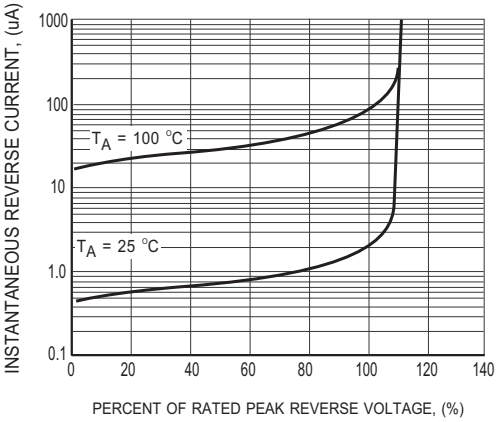


FIG.3 TYPICAL REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (EFM101F THRU EFM107F)

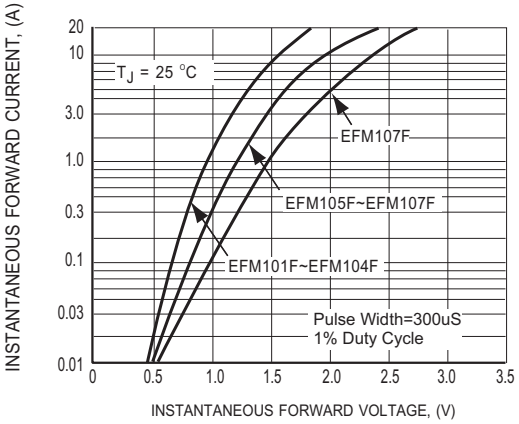


FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

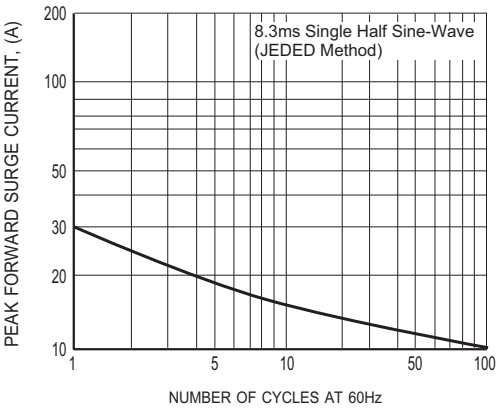


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

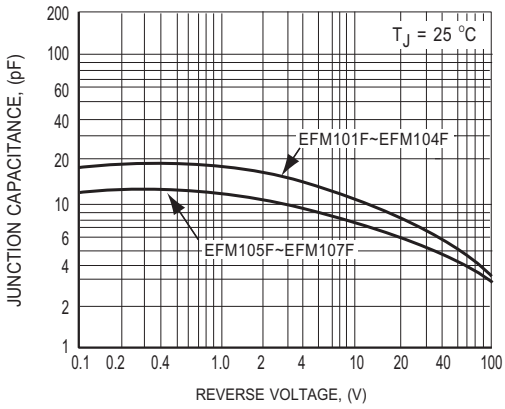
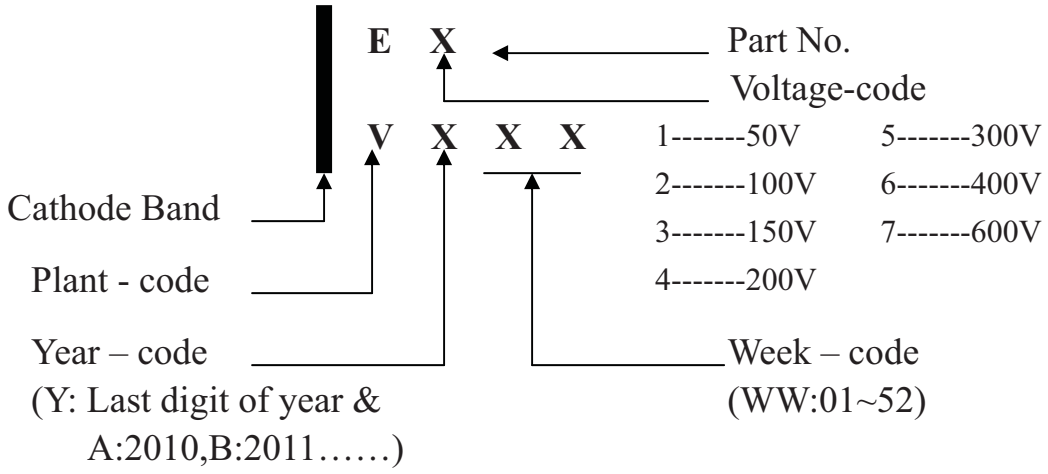


FIG.6 TYPICAL JUNCTION CAPACITANCE

1. Internal Circuit



2. Marking on the body



REEL TAPING SPECIFICATIONS FOR SURFACE MOUNT DEVICES-FLAT MELF (SMAF)

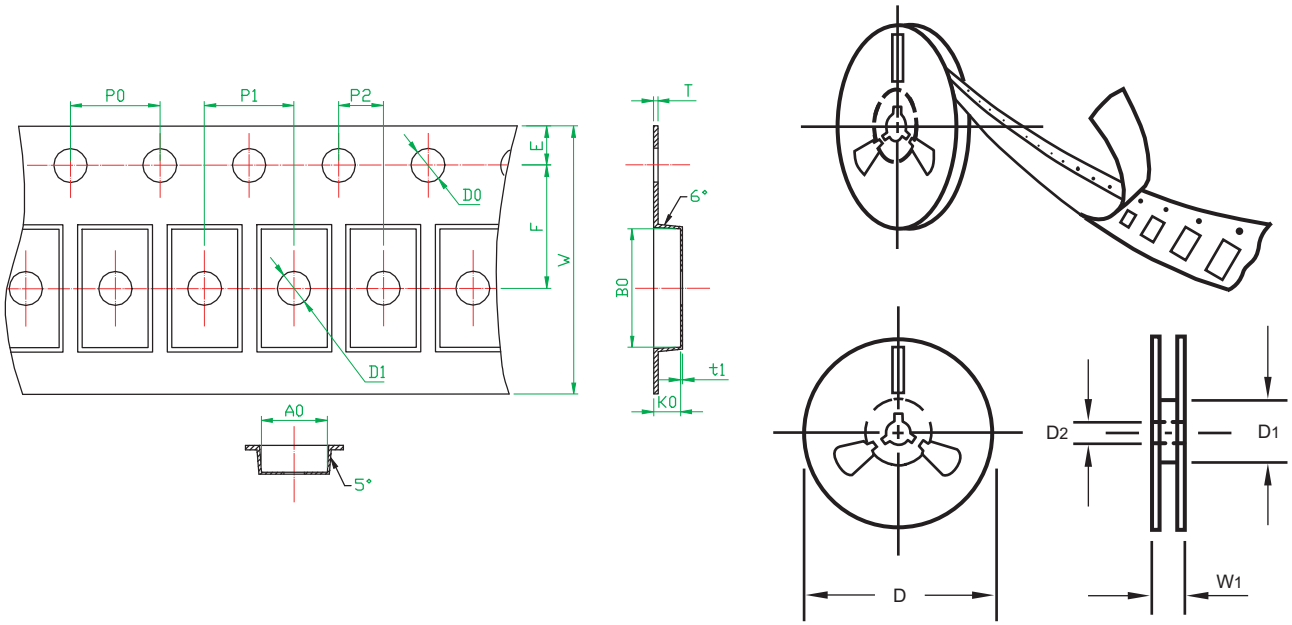


Fig.: Configuration of FLAT MELF TAPING (SMAF)

ITEM	SYMBOL	SMAF mm(inch)
Carrier width	A	2.9 ± 0.10 (0.114 ± 0.004)
Carrier length	B	5.35 ± 0.10 (0.211 ± 0.004)
Carrier depth	C	1.15 ± 0.10 (0.045 ± 0.004)
Sprocket hole	D_0	1.55 ± 0.05 (0.061 ± 0.002)
Reel outside diameter	D	178 ± 2.0 (7.0 ± 0.079)
Reel inner diameter	D_1	50 Min.
Feed hole diameter	D_2	13 ± 0.5 (0.512 ± 0.020)
Stroket hole position	E	1.75 ± 0.1 (0.069 ± 0.004)
Punch hole position	F	5.50 ± 0.05 (0.217 ± 0.002)
Punch hole pitch	P	4.0 ± 0.1 (0.157 ± 0.004)
Sprocket hole pitch	P_0	4.0 ± 0.1 (0.157 ± 0.004)
Embossment center	P_1	2.0 ± 0.05 (0.079 ± 0.002)
Totall tape thickness	T	0.23 ± 0.02 (0.009 ± 0.001)
Tape width	W	$12.0 \pm^{0.3}_{0.1}$ ($0.472 \pm^{0.012}_{0.004}$)
Reel width	W_1	16.8 ± 2.0 (0.661 ± 0.079)

Note: 1.Devices are packed in accordance with EIA standard RS-481-D and specification given above.
2.Available on 7 inch (1500 ct.) or 13 inch (5000 ct.) diameter reels.

PACKAGING OF DIODE AND BRIDGE RECTIFIERS

REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SMAF	-T	3,000	12,000	---	---	178	390*205*310	96,000	---
SMAF	-W	10,000	20,000	---	---	330	360*355*360	160,000	---

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