

**SURFACE MOUNT  
GLASS PASSIVATED SILICON RECTIFIER  
VOLTAGE 600 Volts CURRENT 3.0 Amperes**

**FEATURES**

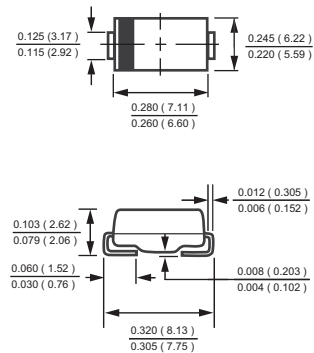
- \* Glass passivated device
- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Metallurgically bonded construction
- \* Mounting position: Any
- \* Weight: 0.24 gram

**MECHANICAL DATA**

- \* Epoxy : Device has UL flammability classification 94V-0
- \* MSL: 1 Level



SMC



Dimensions in inches and (millimeters)

**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)**

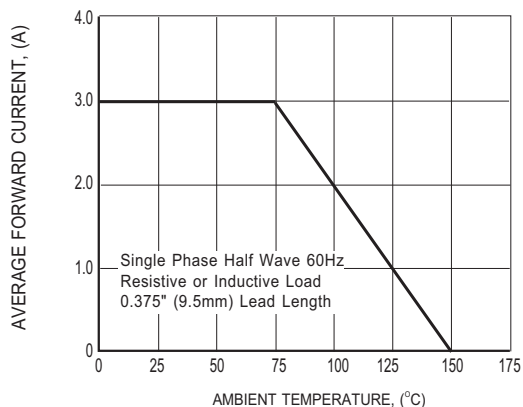
RATINGS	SYMBOL	FM305-W	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	600	Volts
Maximum RMS Voltage	$V_{RMS}$	420	Volts
Maximum DC Blocking Voltage	$V_{DC}$	600	Volts
Maximum Average Forward Rectified Current at Ambient Temperature	$I_O$	3.0	Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	150	Amps
Typical Current Squared Time	$I^2T$	93.3	A <sup>2</sup> S
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	47	°C/W
Typical Thermal Resistance (Note 1)	$R_{\theta JL}$	13	°C/W
Typical Junction Capacitance (Note 2)	$C_J$	30	pF
Operating Temperature Range	$T_J$	150	°C
Storage Temperature Range	$T_{STG}$	-55 to + 150	°C

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

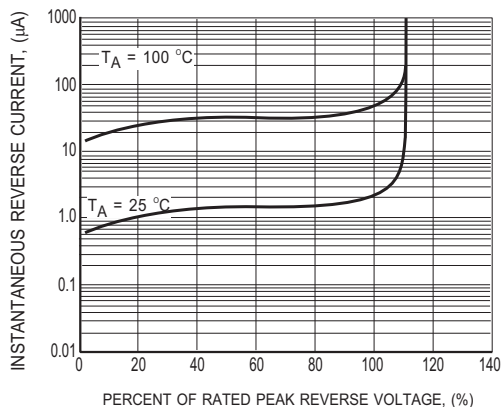
CHARACTERISTICS	SYMBOL	FM305-W	UNITS
Maximum Instantaneous Forward Voltage at 3.0A DC	$V_F$	1.0	Volts
Maximum Average Reverse Current at Rated DC Blocking Voltage	@ $T_A = 25^\circ\text{C}$	1.0	$\mu\text{A}$
	@ $T_A = 100^\circ\text{C}$	50	$\mu\text{A}$

- NOTES : 1. Thermal Resistance :Mounted on PCB.  
 2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.  
 3. "Fully ROHS compliant", "100% Sn plating (Pb-free)".  
 4. Available in Halogen-free epoxy by adding suffix -HF after the part nbr.

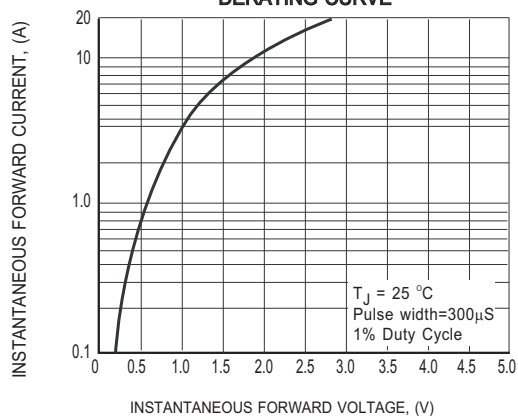
## RATING AND CHARACTERISTICS CURVES ( FM305-W )



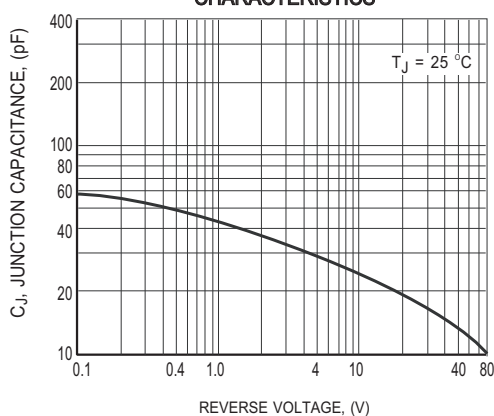
**FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE**



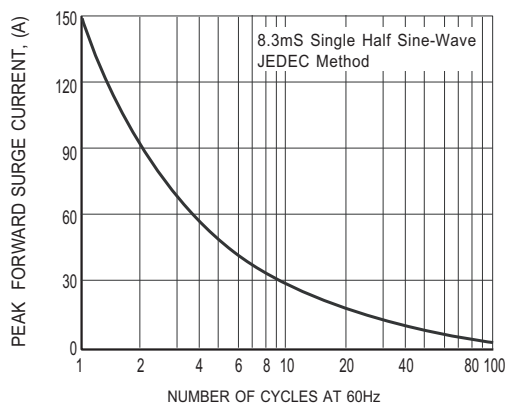
**FIG.2 TYPICAL REVERSE CHARACTERISTICS**



**FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**

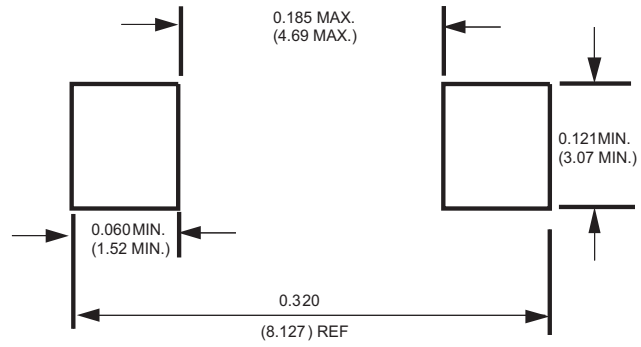


**FIG.4 TYPICAL JUNCTION CAPACITANCE**



**FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**

## Mounting Pad Layout



Dimensions in inches and (millimeters)

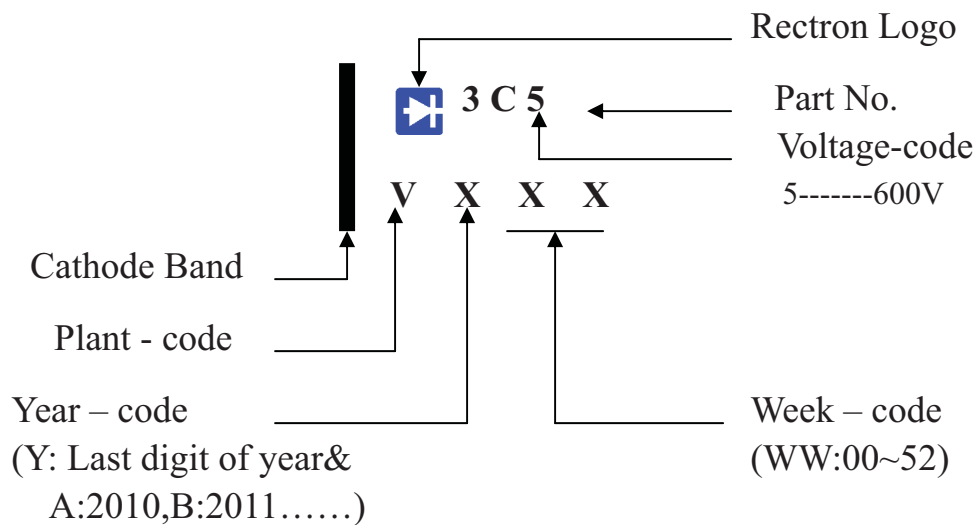


## Attachment information about FM305-W

### 1. Internal Circuit



### 2. Marking on the body



# REEL TAPING SPECIFICATIONS FOR SURFACE MOUNT DEVICES-FLAT MELF ( SMA/SMB/SMC )

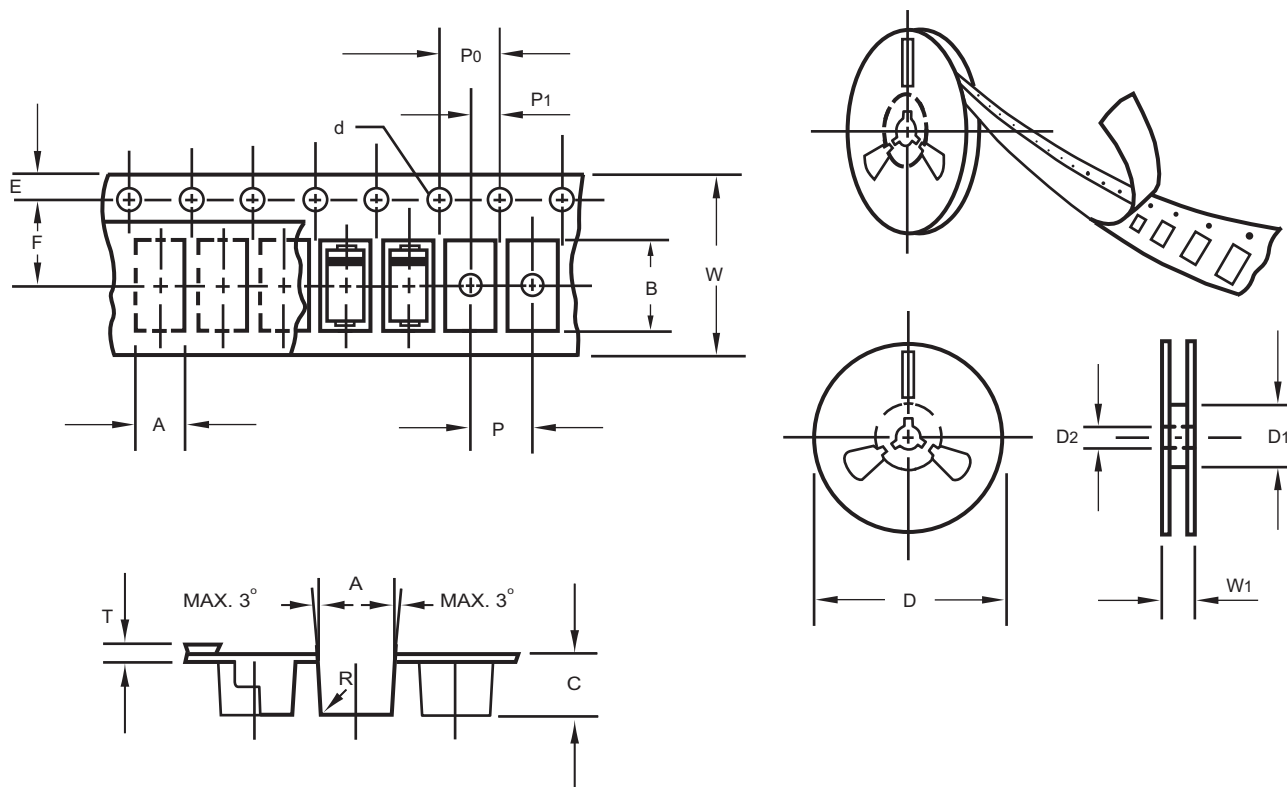


Fig.: Configuration of FLAT MELF TAPING  
( SMA/SMB/SMC )

ITEM	SYMBOL	DO214AC (SMA) mm(inch)	DO214AA (SMB) mm(inch)	DO214AB (SMC) mm(inch)
Carrier width	A	2.6 ± 0.15 (.102 ± .006)	3.65 ± 0.1 (.144 ± .004)	6.0 ± 0.1 (.236 ± .004)
Carrier length	B	5.15 ± 0.15 (.203 ± .006)	5.69 ± 0.1 (.224 ± .004)	8.30 ± 0.1 (.327 ± .004)
Carrier depth	C	2.3 ± 0.15 (.091 ± .006)	2.67 ± 0.1 (.105 ± .004)	2.5 ± 0.1 (.098 ± .004)
Sprocket hole	d	1.5 ± 0.1 (.059 ± .004)	1.5 ± 0.1 (.059 ± .004)	1.5 ± 0.1 (.059 ± .004)
Reel outside diameter	D	178 ± 2.0 (7.0 ± .079)	178 ± 2.0 (7.0 ± .079)	178 ± 2.0 (7.0 ± .079)
Reel inner diameter	D1	50 Min.	50 Min.	50 Min.
Feed hole diameter	D2	13 ± 0.5 (.512 ± .020)	13 ± 0.5 (.512 ± .020)	13 ± 0.5 (.512 ± .020)
Sprocket hole position	E	1.5 ± 0.1 (.059 ± .004)	1.5 ± 0.1 (.059 ± .004)	1.5 ± 0.1 (.059 ± .004)
Punch hole position	F	5.65 ± 0.05 (.222 ± .002)	5.65 ± 0.05 (.222 ± .002)	7.65 ± 0.05 (.301 ± .002)
Punch hole pitch	P	4.0 ± 0.1 (.157 ± .004)	8.0 ± 0.1 (.315 ± .004)	8.0 ± 0.1 (.315 ± .004)
Sprocket hole pitch	P0	4.0 ± 0.1 (.157 ± .004)	4.0 ± 0.1 (.157 ± .004)	4.0 ± 0.1 (.157 ± .004)
Embossment center	P1	2.0 ± 0.1 (.079 ± .004)	2.0 ± 0.1 (.079 ± .004)	4.0 ± 0.1 (.157 ± .004)
Total tape thickness	T	0.30 ± .05 (.012 ± .002)	0.6 Max.	0.6 Max.
Tape width	W	12.0 ± 0.2 (.472 ± .008)	12.0 ± 0.2 (.472 ± .008)	16.0 ± 0.2 (.630 ± .008)
Reel width	W1	16.8 ± 2.0 (.661 ± .079)	16.8 ± 2.0 (.661 ± .079)	24.0 ± 2.0 (.945 ± .079)

Notes: 1.Devices are packed in accordance with EIA standard RS-481-A 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)
SMC	-W	3,000	3,000	---	---	330	360*355*360	24,000	11.50

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