

**SURFACE MOUNT GLASS PASSIVATED  
HIGH EFFICIENCY SILICON RECTIFIER**  
VOLTAGE 1200 Volts CURRENT 1.0 Ampere

**FEATURES**

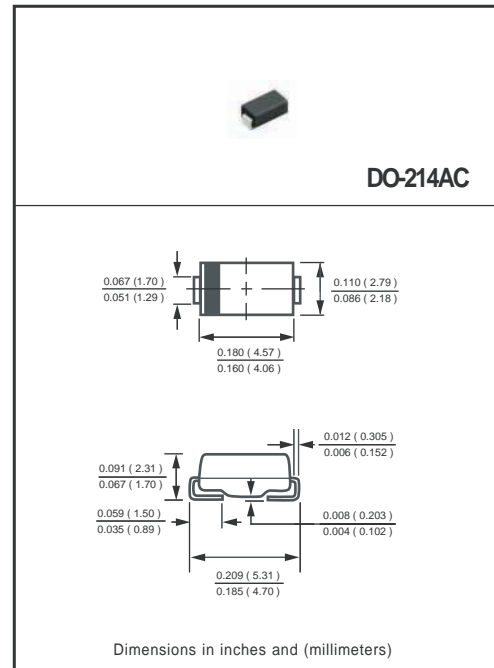
- \* Glass passivated device
- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Metallurgically bonded construction
- \* Mounting position: Any
- \* Weight: 0.057 gram

**MECHANICAL DATA**

- \* Epoxy: Device has UL flammability classification 94V-O

**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	HFM1012	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	1200	Volts
Maximum RMS Voltage	$V_{RMS}$	840	Volts
Maximum DC Blocking Voltage	$V_{DC}$	1200	Volts
Maximum Average Forward Rectified Current at $T_J = 125^\circ\text{C}$	$I_O$	1.0	Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30	Amps
Current Squared Time	$I^2t$	3.7	$\text{A}^2/\text{Sec}$
Typical Thermal Resistance (Note 1)	$R_{\theta JL}$	27	$^\circ\text{C}/\text{W}$
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	75	$^\circ\text{C}/\text{W}$
Typical Junction Capacitance (Note 2)	$C_J$	12	pF
Operating Temperature Range	$T_J$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to + 150	$^\circ\text{C}$

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

CHARACTERISTICS	SYMBOL	HFM1012	UNITS
Maximum Instantaneous Forward Voltage at 1.0A DC	$V_F$	1.9	Volts
Maximum Full Load Reverse Current, Full cycle Average $T_A = 55^\circ\text{C}$	$I_R$	50	$\mu\text{A}$
Maximum Average Reverse Current at Rated DC Blocking Voltage @ $T_A = 25^\circ\text{C}$		5	$\mu\text{A}$
@ $T_A = 125^\circ\text{C}$		100	$\mu\text{A}$
Maximum Reverse Recovery Time (Note 4)	$t_{rr}$	75	nSec

- 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. Test Conditions:  $I_F = 0.5\text{A}$ ,  $I_R = -1.0\text{A}$ ,  $I_{RR} = -0.25\text{A}$ .

## RATING AND CHARACTERISTICS CURVES ( HFM1012 )

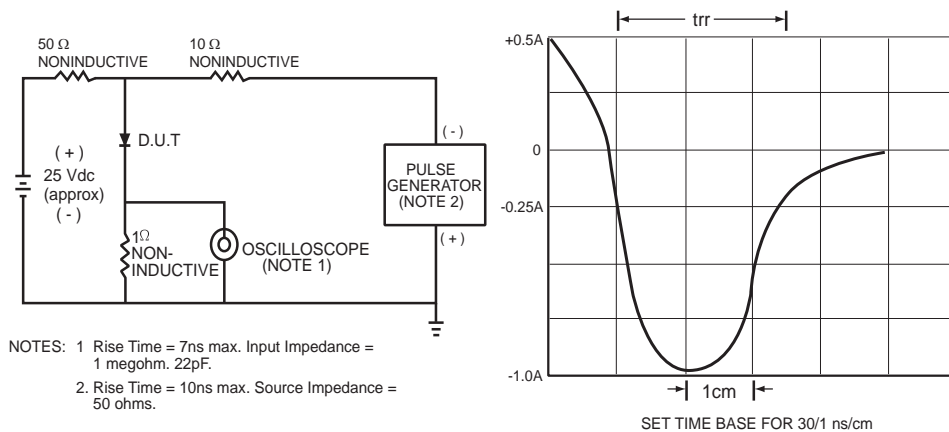


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

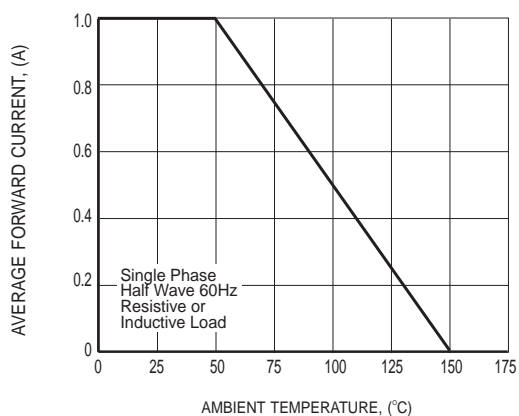


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

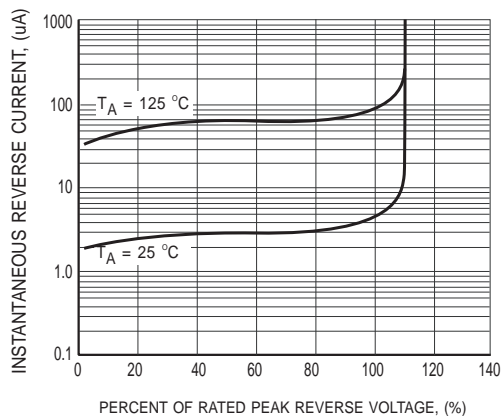
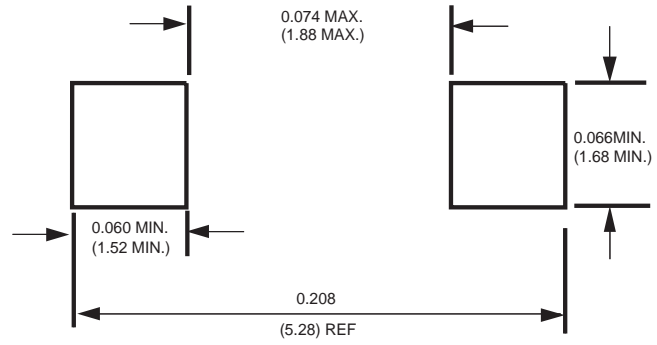


FIG.3 TYPICAL REVERSE CHARACTERISTICS

**RECTRON**

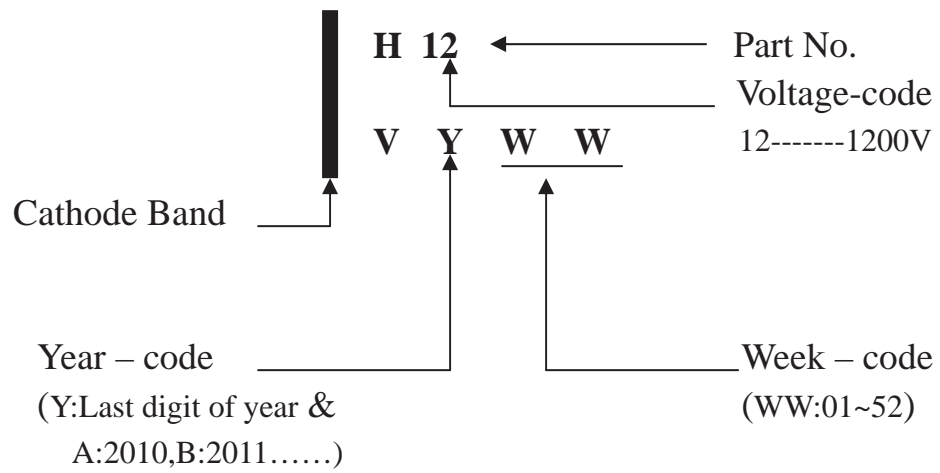
## Mounting Pad Layout



Dimensions in inches and (millimeters)



## Marking Description



# PACKAGING OF DIODE AND BRIDGE RECTIFIERS

## REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	COMPONENT SPACE(mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SMA	-T	1,500	---	---	178	390*205*310	48,000	8.40
SMA	-W	5,000	---	---	330	355*360*350	80,000	14.20

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

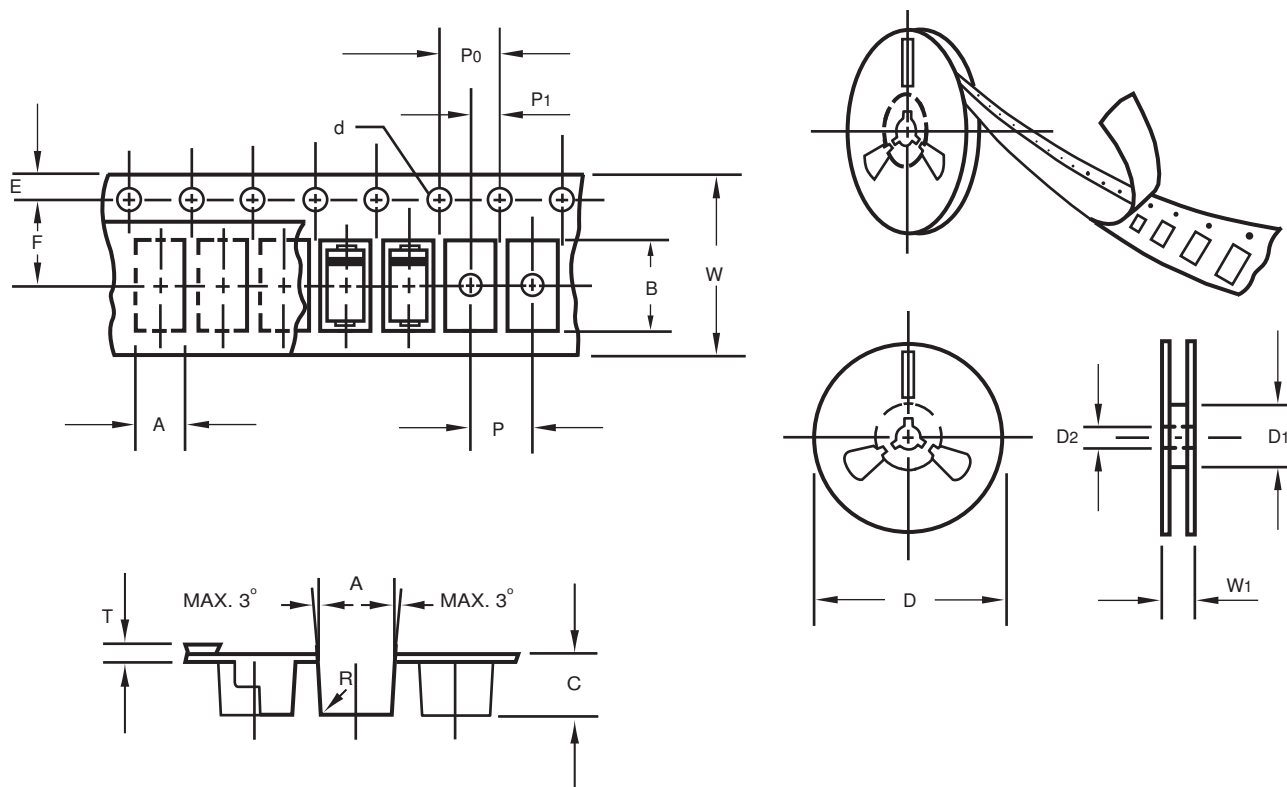


Fig.: Configuration of FLAT MELF TAPING  
(SMA/SMB/SMC)

ITEM	SYMBOL	DO214AC (SMA) mm(inch)	DO214AA (SMB) mm(inch)	DO214AB (SMC) mm(inch)
Carrier width	A	2.6 ± 0.15 (0.102 ± 0.006)	3.65 ± 0.1 (0.144 ± 0.004)	6.0 ± 0.1 (0.236 ± 0.004)
Carrier length	B	5.15 ± 0.15 (0.203 ± 0.006)	5.69 ± 0.1 (0.224 ± 0.004)	8.30 ± 0.1 (0.327 ± 0.004)
Carrier depth	C	2.3 ± 0.15 (0.091 ± 0.006)	2.67 ± 0.1 (0.105 ± 0.004)	2.5 ± 0.1 (0.098 ± 0.004)
Sprocket hole	d	1.5 ± 0.1 (0.059 ± 0.004)	1.5 ± 0.1 (0.059 ± 0.004)	1.5 ± 0.1 (0.059 ± 0.004)
Reel outside diameter	D	178 ± 2.0 (7.0 ± 0.079)	178 ± 2.0 (7.0 ± 0.079)	178 ± 2.0 (7.0 ± 0.079)
Reel inner diameter	D1	50 Min.	50 Min.	50 Min.
Feed hole diameter	D2	13 ± 0.5 (0.512 ± 0.020)	13 ± 0.5 (0.512 ± 0.020)	13 ± 0.5 (0.512 ± 0.020)
Sprocket hole position	E	1.5 ± 0.1 (0.059 ± 0.004)	1.5 ± 0.1 (0.059 ± 0.004)	1.5 ± 0.1 (0.059 ± 0.004)
Punch hole position	F	5.65 ± 0.05 (0.222 ± 0.002)	5.65 ± 0.05 (0.222 ± 0.002)	7.65 ± 0.05 (0.301 ± 0.002)
Punch hole pitch	P	4.0 ± 0.1 (0.157 ± 0.004)	8.0 ± 0.1 (0.315 ± 0.004)	8.0 ± 0.1 (0.315 ± 0.004)
Sprocket hole pitch	P0	4.0 ± 0.1 (0.157 ± 0.004)	4.0 ± 0.1 (0.157 ± 0.004)	4.0 ± 0.1 (0.157 ± 0.004)
Embossment center	P1	2.0 ± 0.1 (0.079 ± 0.004)	2.0 ± 0.1 (0.079 ± 0.004)	4.0 ± 0.1 (0.157 ± 0.004)
Total tape thickness	T	0.30 ± 0.05 (0.012 ± 0.002)	0.6 Max.	0.6 Max.
Tape width	W	12.0 ± 0.2 (0.472 ± 0.008)	12.0 ± 0.2 (0.472 ± 0.008)	16.0 ± 0.2 (0.630 ± 0.008)
Reel width	W1	16.8 ± 2.0 (0.661 ± 0.079)	16.8 ± 2.0 (0.661 ± 0.079)	24.0 ± 2.0 (0.945 ± 0.079)

Note: 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.

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