

# SMD Fast Recovery Rectifiers



SMD Diodes Specialist

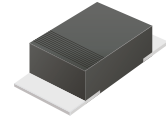
## CFRM101-HF Thru. CFRM107-HF

Voltage: 50 to 1000 Volts

Current: 1.0 A

RoHS Device

Halogen Free

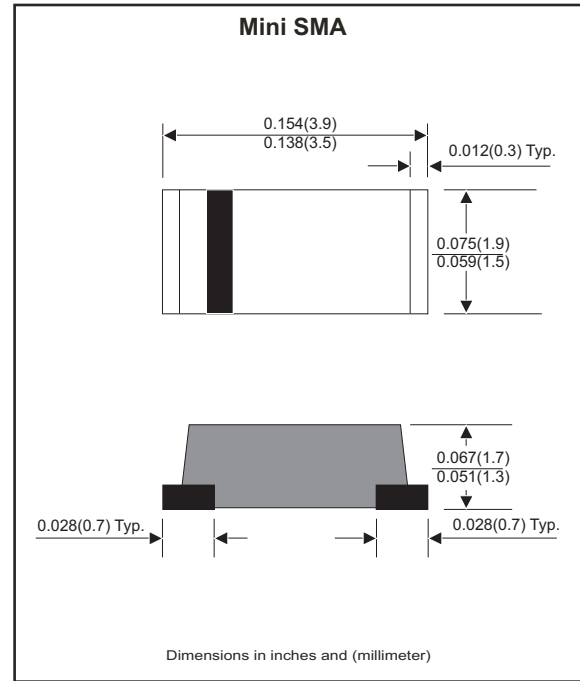


### Features

- Batch process design,excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low Profile surface mounted application in order to optimize board space.
- Tiny plastic SMD package.
- High current capability.
- Fast switching for high efficiency.
- High surge current capability.
- Glass passivated chip junction.

### Mechanical data

- Case: Molded plastic, SOD-123/Mini SMA.
- Terminals: Solder plated, solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- Weight: 0.018 grams approx.



### Maximum Ratings (at TA=25°C unless otherwise noted)

Parameter	Symbol	CFRM 101-HF	CFRM 102-HF	CFRM 103-HF	CFRM 104-HF	CFRM 105-HF	CFRM 106-HF	CFRM 107-HF	Unit
Repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Continuous reverse voltage	V <sub>R</sub>	50	100	200	400	600	800	1000	V
Maximum Forward rectified current	I <sub>o</sub>	1.0							A
Maximum forward voltage @I <sub>F</sub> = 1.0A	V <sub>F</sub>	1.3							V
Maximum Forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	30							A
Reverse current	V <sub>R</sub> =V <sub>RRM</sub> @T <sub>A</sub> = 25 °C	5.0							μA
	V <sub>R</sub> =V <sub>RRM</sub> @T <sub>A</sub> =100 °C	100							
Maximum Reverse recovery time (note 1)	t <sub>rr</sub>	150		250		500		nS	
Typical Thermal resistance (Junction to ambient )	R <sub>θJA</sub>	42							°C/W
Typical Diode junction capacitance f=1MHz and applied 4V DC reverse voltage	C <sub>J</sub>	15							pF
Operating junction temperature	T <sub>J</sub>	-55 to +150							°C
Storage temperature range	T <sub>STG</sub>	-65 to +175							°C

Note 1. Reverse recovery time test condition , I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A,I<sub>RR</sub>=0.25A

REV:A

## Rating and Characteristic Curves (CFRM101-HF Thru. CFRM107-HF)

Fig.1 Typical Forward Characteristics

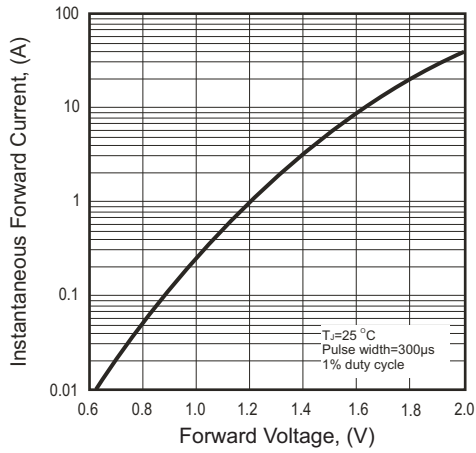


Fig.2- Typical Forward Current Derating Curve

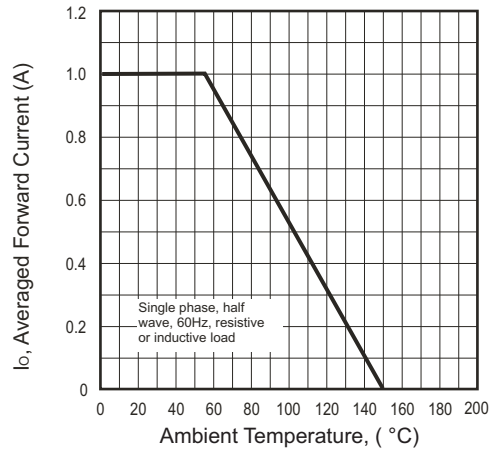


Fig.3- Maximum Non-repetitive Forward Surge Current

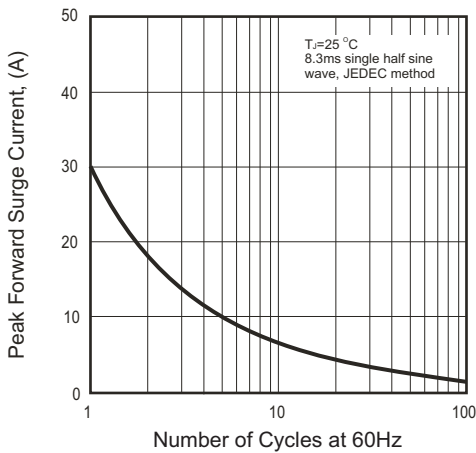


Fig.4- Typical Junction Capacitance

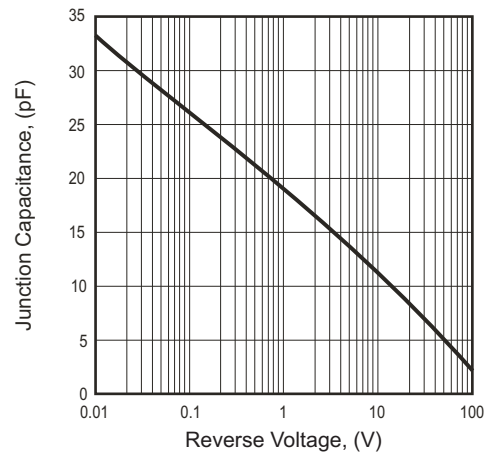
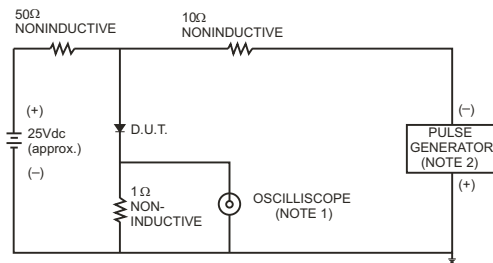
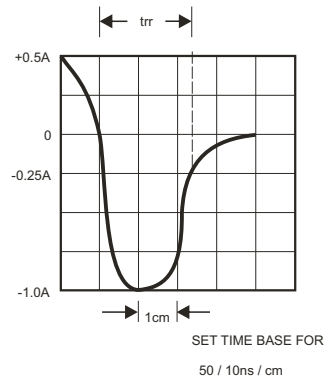


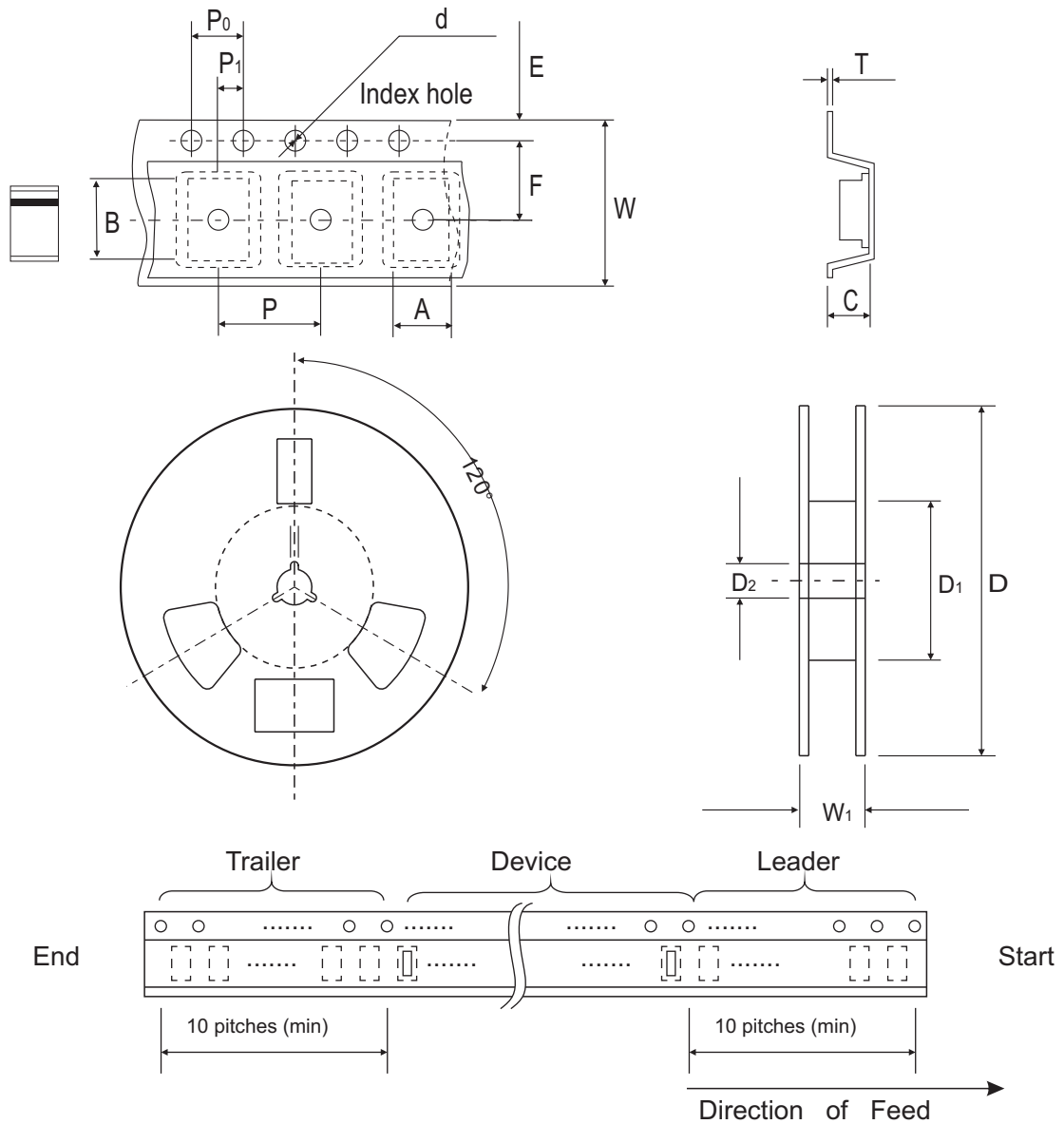
Fig.5 Test Circuit Diagram and Reverse Recovery Time Characteristics



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



## Reel Taping Specification



Mini-SMA/SOD-123	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	$1.90 \pm 0.10$	$3.90 \pm 0.10$	$1.68 \pm 0.10$	$1.50 \pm 0.10$	$178 \pm 2.00$	62.0 MIN.	$13.0 \pm 0.50$
	(inch)	$0.075 \pm 0.004$	$0.153 \pm 0.004$	$0.066 \pm 0.004$	$0.059 \pm 0.004$	$7.007 \pm 0.079$	2.441 MIN.	$0.512 \pm 0.020$

Mini-SMA/SOD-123	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	$1.75 \pm 0.10$	$3.50 \pm 0.10$	$4.00 \pm 0.10$	$4.00 \pm 0.10$	$2.00 \pm 0.10$	$0.23 \pm 0.10$	$8.00 \pm 0.30$	$11.40 \pm 1.0$
	(inch)	$0.069 \pm 0.004$	$0.138 \pm 0.004$	$0.157 \pm 0.004$	$0.157 \pm 0.004$	$0.079 \pm 0.004$	$0.009 \pm 0.004$	$0.315 \pm 0.012$	$0.449 \pm 0.039$

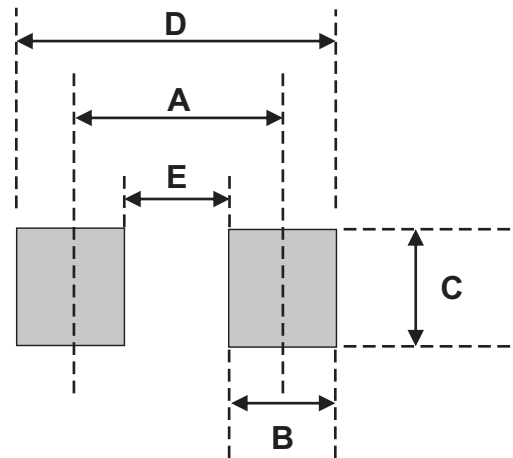
## Marking Code

Part Number	Marking Code
CFRM101-HF	F1
CFRM102-HF	F2
CFRM103-HF	F3
CFRM104-HF	F4
CFRM105-HF	F5
CFRM106-HF	F6
CFRM107-HF	F7



## Suggested PAD Layout

SIZE	Mini-SMA/SOD-123	
	(mm)	(inch)
A	3.30	0.130
B	1.40	0.055
C	1.90	0.075
D	4.70	0.185
E	1.90	0.075



## Standard Package

Case Type	Qty per Reel	Reel Size
	(Pcs)	(inch)
Mini-SMA/SOD-123	2500	7