

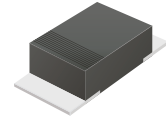
## CFRMT101-HF Thru. CFRMT107-HF

Reverse Voltage: 50 to 1000 Volts

Forward Current: 1.0 Amp

RoHS Device

Halogen Free

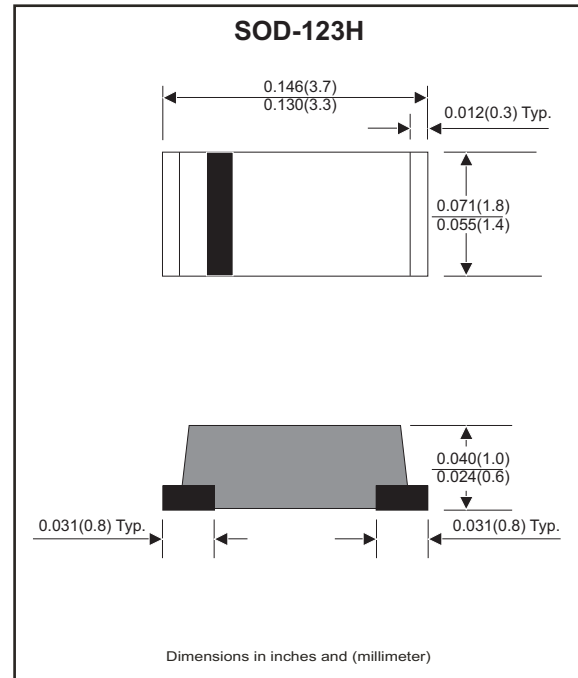


### Features

- Excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile package is 40% thinner than standards SOD-123.
- Tiny plastic SMD package.
- High current capability.
- Fast switching for high efficiency.
- High surge current capability.
- Glass passivated chip junction.
- Lead-free parts meet RoHS requirements.

### Mechanical data

- Epoxy: UL94-V0 rated flame retardant.
- Case: Molded plastic, SOD-123H/MINI SMA
- Terminals: Solderable per MIL-STD-750, Method 2026.
- Polarity: Indicated by cathode band.
- Mounting Position: any
- Weight: 0.011 grams approx.



### Maximum Ratings (at T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	CFRMT 101-HF	CFRMT 102-HF	CFRMT 103-HF	CFRMT 104-HF	CFRMT 105-HF	CFRMT 106-F	CFRMT 107-HF	Unit
Max. Repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Max. Continuous reverse voltage	V <sub>R</sub>	50	100	200	400	600	800	1000	V
Max. RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Max. Forward rectified current Ambient temperature=55°C	I <sub>O</sub>	1.0							A
Max. Forward voltage @ I <sub>F</sub> =1.0A	V <sub>F</sub>	1.3							V
Max. Reverse recovery time (note 1)	T <sub>RR</sub>	150		250	500			ns	
Max. Forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	25							A
Max. Reverse current	I <sub>R</sub>	V <sub>R</sub> =V <sub>RRM</sub> T <sub>J</sub> =25°C		5.0			μA		
		V <sub>R</sub> =V <sub>RRM</sub> T <sub>J</sub> =100°C		100					
Typ. Thermal resistance Junction to ambient air	R <sub>θJA</sub>	42			°C/W				
Typ. 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

## Rating and Characteristic Curves (CFRMT101-HF Thru. CFRMT107-HF)

Fig.1- Typical Forward Current Derating Curve

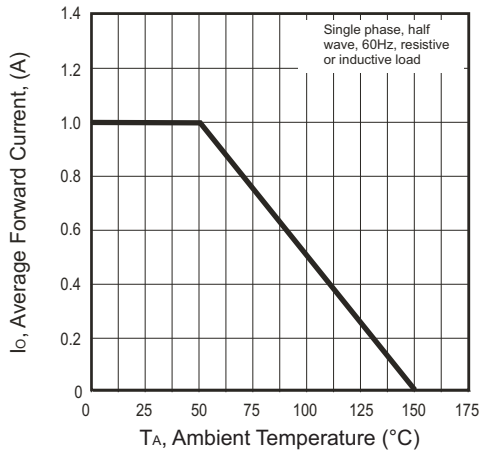


Fig.2- Typical Forward Characteristics

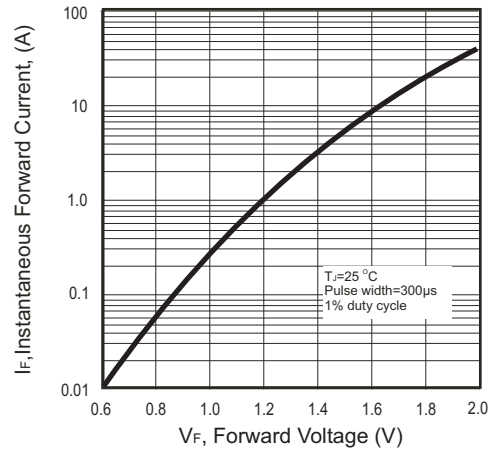
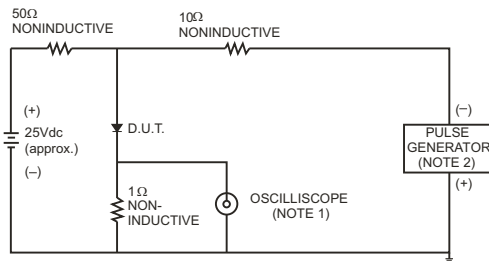


Fig.3- Test Circuit Diagram and Reverse Recovery Time Characteristics



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

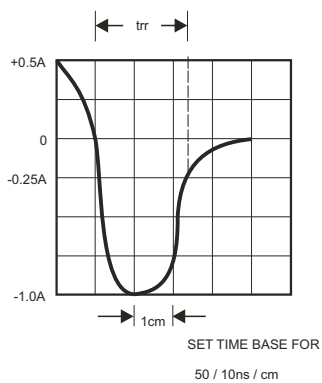


Fig.4- Maximum Non-repetitive Forward Surge Current

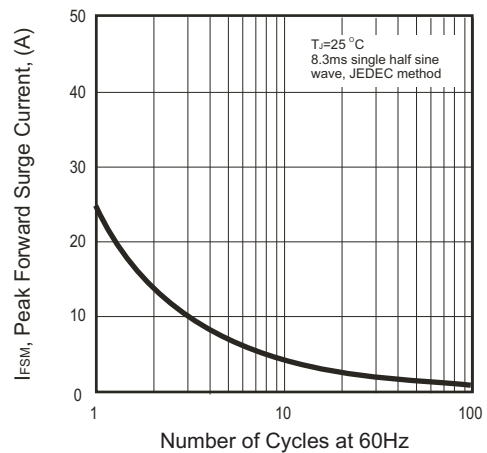
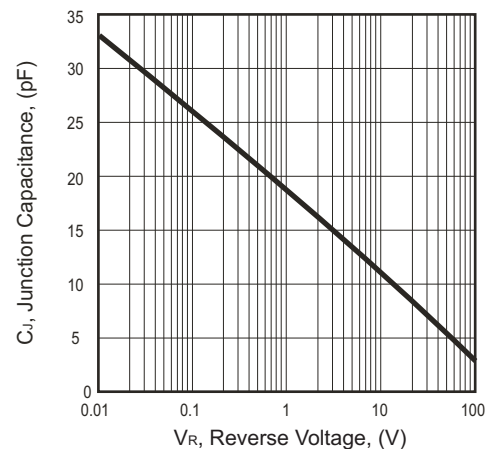
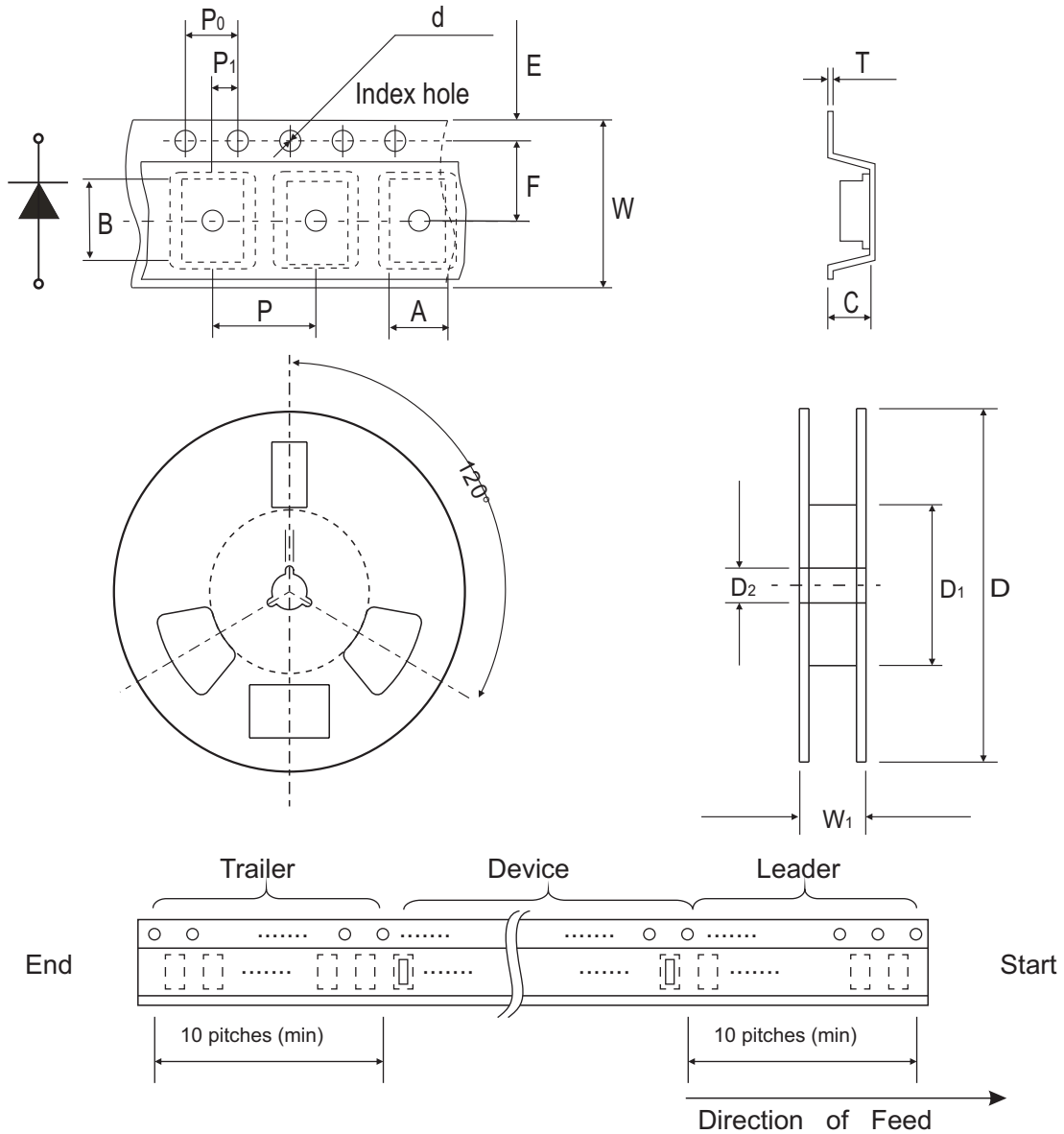


Fig.5- Typical Junction Capacitance





## Reel Taping Specification



SOD-123H	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	2.00 ± 0.10	3.85 ± 0.10	1.10 ± 0.10	1.50 ± 0.10	178 ± 2.00	62.0 MIN.	13.0 ± 0.50
	(inch)	0.079 ± 0.004	0.152 ± 0.004	0.043 ± 0.004	0.059 ± 0.004	7.00 ± 0.079	2.440 MIN.	0.512 ± 0.020

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

## Pinning information

Pin	Simplified outline	Symbol
PIN 1 Cathode PIN 2 Anode		

## Marking Code

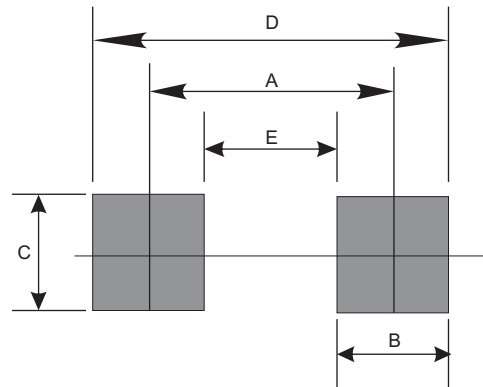
Part Number	Marking Code
CFRMT101-HF	F1
CFRMT102-HF	F2
CFRMT103-HF	F3
CFRMT104-HF	F4
CFRMT105-HF	F5
CFRMT106-HF	F6
CFRMT107-HF	F7



xx = Product type marking code

## Suggested PAD Layout

SIZE	SOD-123H	
	(mm)	(inch)
A	3.00	0.118
B	1.30	0.051
C	1.80	0.071
D	4.30	0.169
E	1.70	0.067



## Standard Package

Case Type	REEL PACK (T/R)				
	REEL (EA)	BOX (EA)	CARTON (EA)	Reel Size (inch)	Type Mat'l
SOD-123H	3000	30000	240000	7	Plastic