

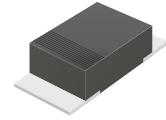
## CFRMT104-HF Thru. CFRMT107-HF

Reverse Voltage: 400 to 1000 Volts

Forward Current: 1.0 Amp

RoHS Device

Halogen Free

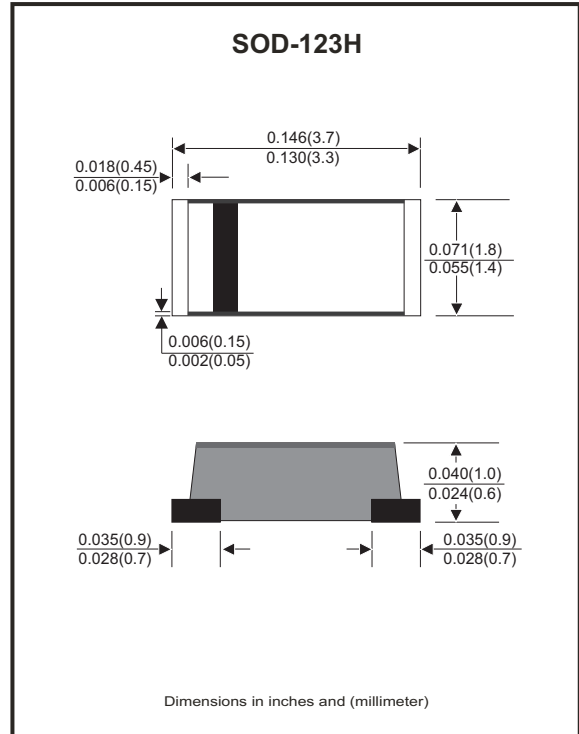


### Features

- Excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile 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.
- Lead-free parts meet RoHS requirements.

### Mechanical data

- Epoxy: UL94V-0 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 and Electrical Characteristics (at $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	CFRMT 104-HF	CFRMT 105-HF	CFRMT 107-HF	Unit
Max. Repetitive peak reverse voltage	$V_{RRM}$	400	600	1000	V
Max. Continuous reverse voltage	$V_R$	400	600	1000	V
Max. RMS voltage	$V_{RMS}$	280	420	700	V
Max. Forward rectified current (See Fig.1)	$I_o$	1.0			A
Max. Forward voltage @ $I_F=1.0A$	$V_F$	1.3			V
Max. Reverse recovery time (note 1)	$T_{rr}$	150	250	500	ns
Max. Forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	25			A
Max. Reverse current	$V_R=V_{RRM}$ $T_J=25^\circ\text{C}$	5.0			$\mu\text{A}$
	$V_R=V_{RRM}$ $T_J=125^\circ\text{C}$	100			
Typ. Thermal resistance Junction to ambient air	$R_{\theta JA}$	42			$^\circ\text{C/W}$
Typ. Diode Junction capacitance $f=1\text{MHz}$ and applied 4V DC reverse voltage	$C_J$	15			pF
Operating junction temperature	$T_J$	-55 to +150			$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-65 to +175			$^\circ\text{C}$

Note 1. Reverse recovery time test condition,  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$

Company reserves the right to improve product design, functions and reliability without notice.

REV: C

## Rating and Characteristic Curves (CFRMT104-HF Thru. CFRMT107-HF)

Fig.1 - Typical forward current derating curve

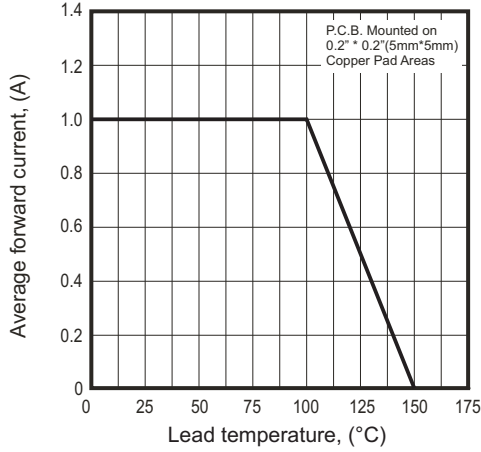


Fig.2 - Typical forward characteristics

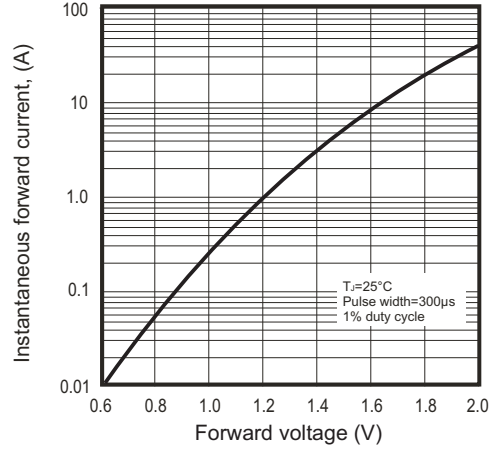
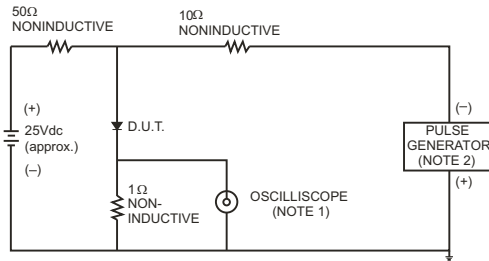


Fig.3 - Test Circuit Diagram and Reverse Recovery Time Characteristics



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

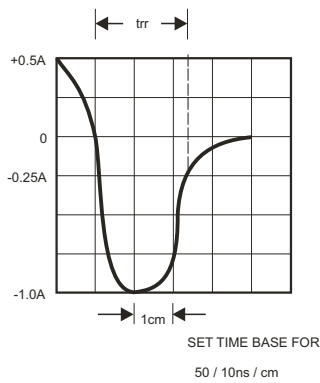


Fig.4 - Maximum Non-repetitive forward surge current

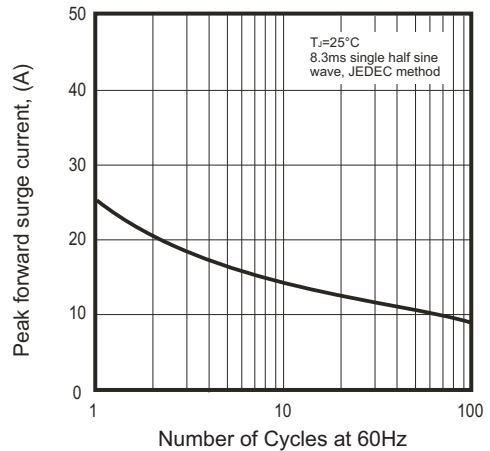
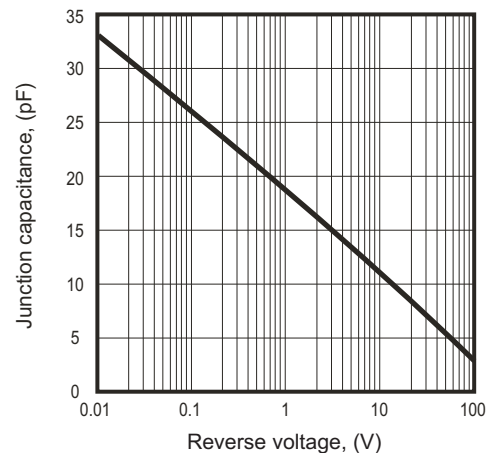
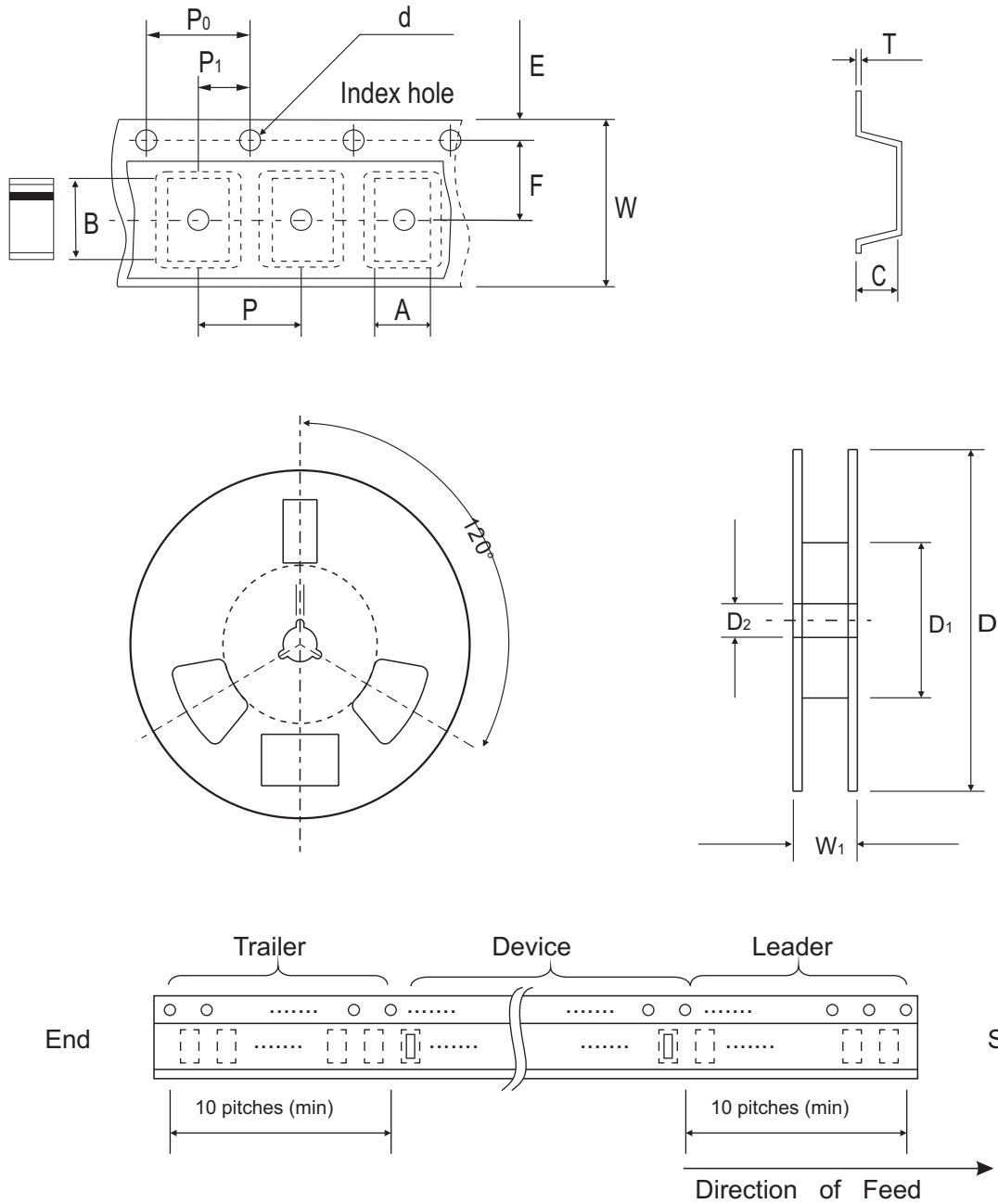


Fig.5 - Typical junction capacitance



## 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	178.00 ± 2.00	62.00 (min)	13.00 ± 0.50
	(inch)	0.079 ± 0.004	0.152 ± 0.004	0.043 ± 0.004	0.059 ± 0.004	7.007 ± 0.079	2.441 (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 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.009 ± 0.04	0.315 ± 0.012	0.449 ± 0.039

## Pinning information

Pin	Simplified outline	Symbol
PIN 1 Cathode PIN 2 Anode		

## Marking Code

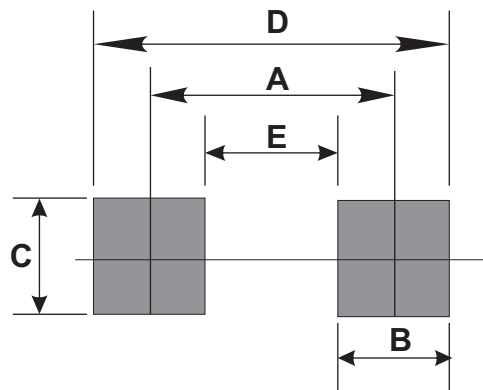
Part Number	Marking Code
CFRMT104-HF	F4
CFRMT105-HF	F5
CFRMT107-HF	F7



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 Packaging

Case Type	REEL PACK	
	REEL ( pcs )	Reel Size (inch)
SOD-123H	3,000	7