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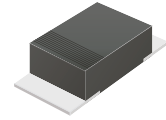
## CFRMT101-HF Thru. CFRMT107-HF

**Reverse Voltage: 50 to 1000 Volts**

**Forward Current: 1.0 Amp**

**RoHS Device**

**Halogen Free**

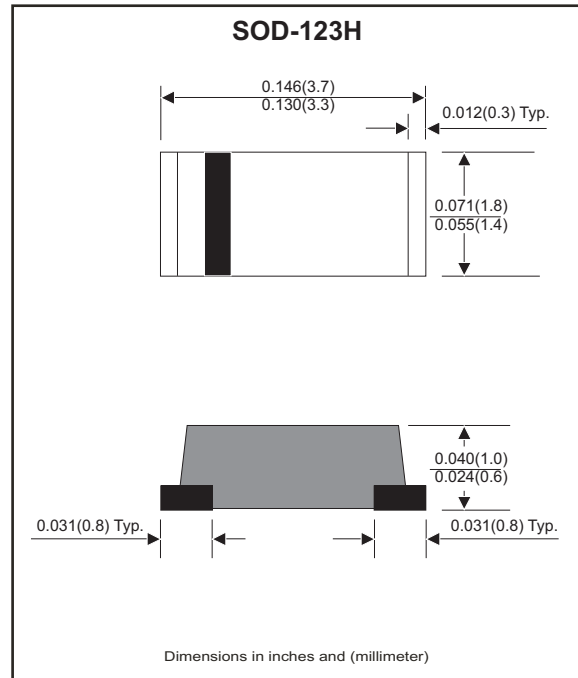


### Features

- 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 TA=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	$V_{RRM}$	50	100	200	400	600	800	1000	V
Max. Continuous reverse voltage	$V_R$	50	100	200	400	600	800	1000	V
Max. RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Max. Forward rectified current Ambient temperature=55°C	$I_o$	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	$V_R=V_{RRM}$ $T_J=25^\circ C$	5.0							$\mu A$
	$V_R=V_{RRM}$ $T_J=100^\circ C$	100							
Typ. Thermal resistance Junction to ambient air	$R_{\theta JA}$	42							°C/W
Typ. Diode Junction capacitance f=1MHz and applied 4V DC reverse voltage	$C_J$	15							pF
Operating junction temperature	$T_J$	-55 to +150							°C
Storage temperature range	$T_{STG}$	-65 to +175							°C

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

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

Fig.1- Typical Forward Current Derating Curve

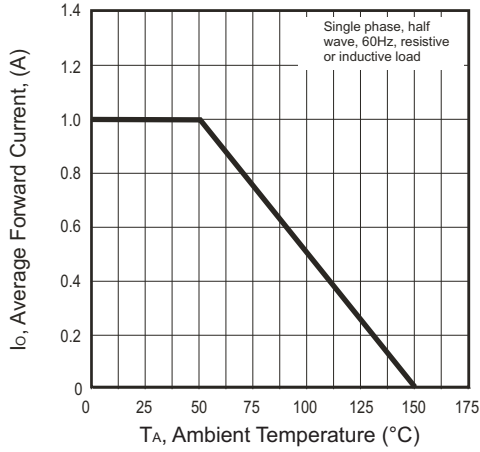


Fig.2- Typical Forward Characteristics

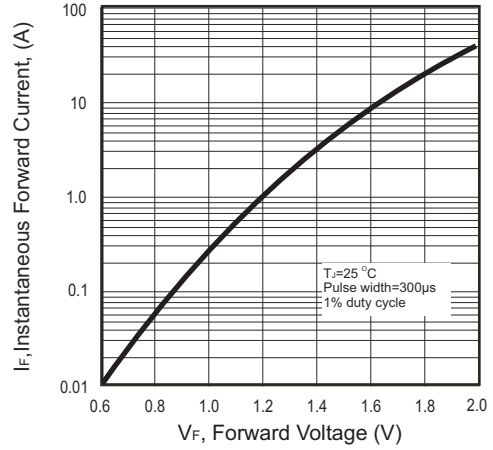
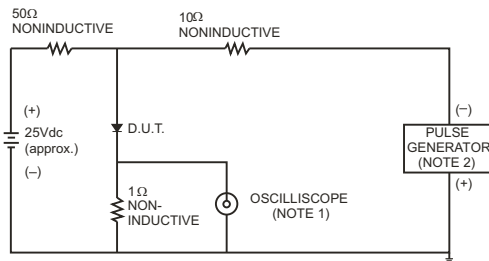


Fig.3- Test Circuit Diagram and Reverse Recovery Time Characteristics



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

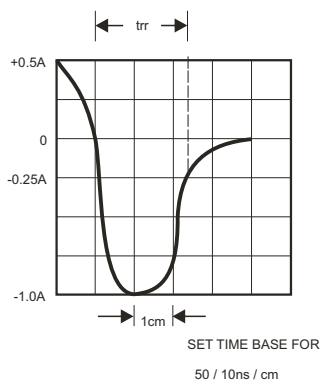


Fig.4- Maximum Non-repetitive Forward Surge Current

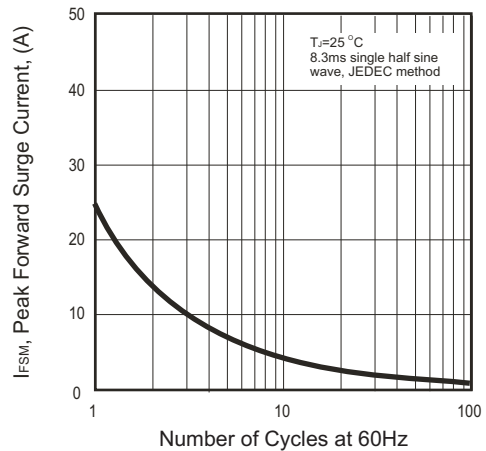
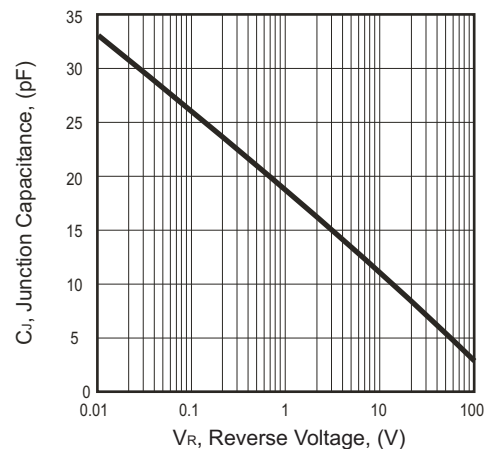
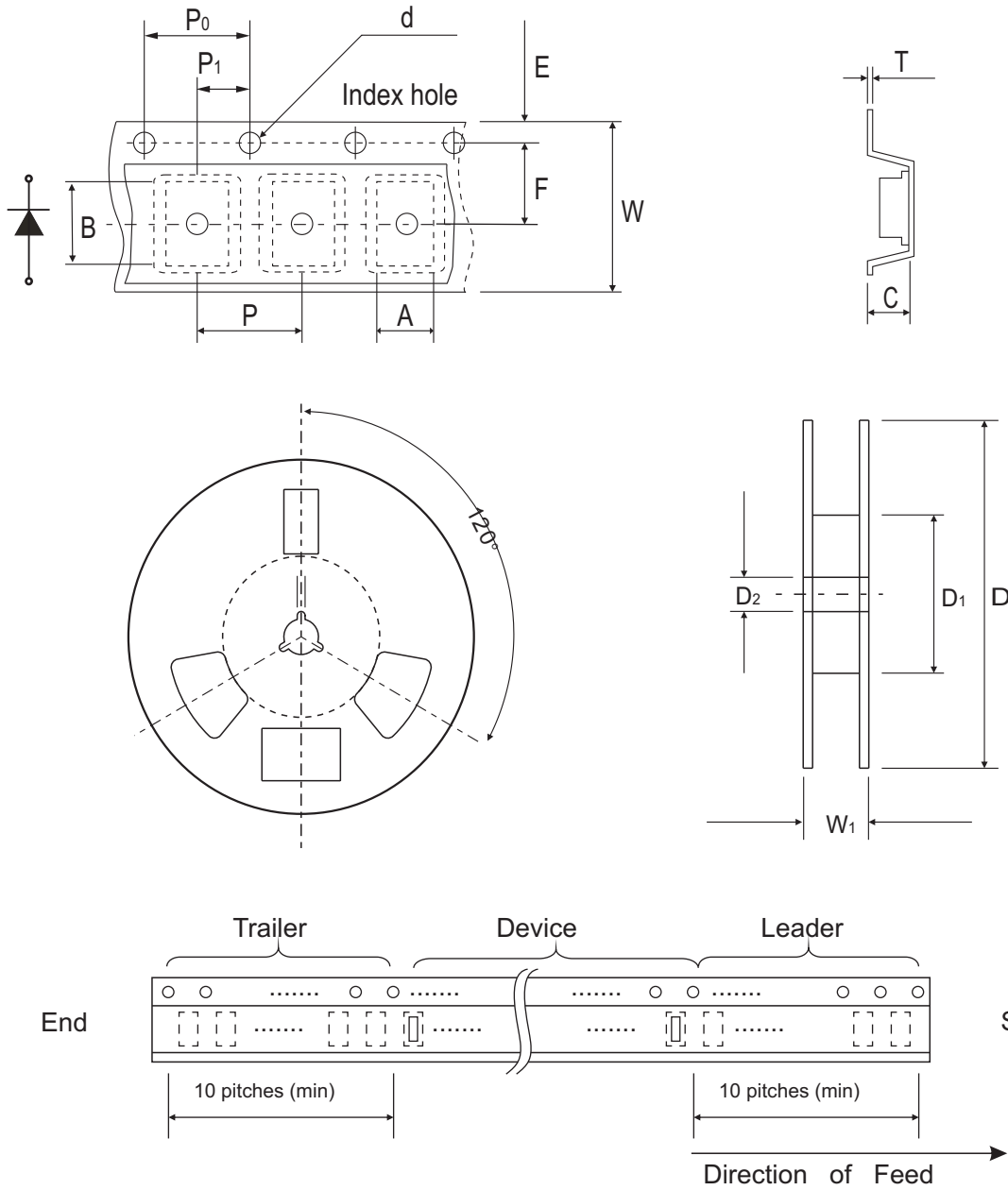


Fig.5- Typical Junction Capacitance



## Reel Taping Specification



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

SOD-123H	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)	$0.069 \pm 0.004$	$0.138 \pm 0.004$	$0.157 \pm 0.004$	$0.157 \pm 0.004$	$0.079 \pm 0.004$	$0.009 \pm 0.004$	$0.315 \pm 0.012$	$0.449 \pm 0.039$



## Pinning information

Pin	Simplified outline	Symbol
PIN 1 Cathode PIN 2 Anode		

## Marking Code

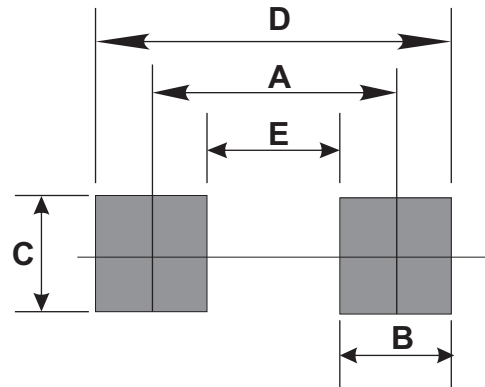
Part Number	Marking Code
CFRMT101-HF	F1
CFRMT102-HF	F2
CFRMT103-HF	F3
CFRMT104-HF	F4
CFRMT105-HF	F5
CFRMT106-HF	F6
CFRMT107-HF	F7



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 Packaging

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