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SMD Fast Recovery Rectifiers



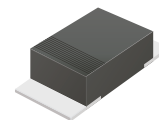
CFRM104-HF Thru. CFRM107-HF

Voltage: 400 to 1000 Volts

Current: 1.0 A

RoHS Device

Halogen Free

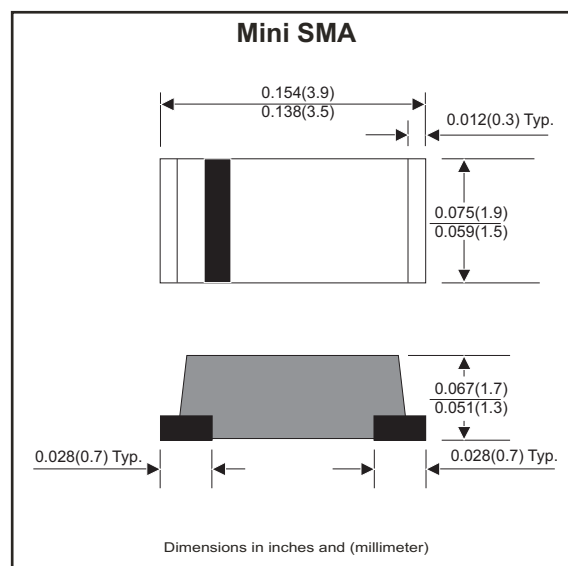


Features

- 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.



Circuit diagram



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

Parameter		Symbol	CFRM 104-HF	CFRM 105-HF	CFRM 107-HF	Unit
Repetitive peak reverse voltage		V _{RRM}	400	600	1000	V
RMS voltage		V _{RMS}	280	420	700	V
Continuous reverse voltage		V _R	400	600	1000	V
Maximum Forward rectified current		I _O	1.0			A
Maximum forward voltage @I _F = 1.0A		V _F	1.3			V
Maximum Forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)		I _{FSM}	30			A
Maximum Reverse current	V _R =V _{RRM} @T _A = 25 °C	I _R	5.0			μA
	V _R =V _{RRM} @T _A =125 °C		100			
Maximum Reverse recovery time (note 1)		t _{rr}	150	250	500	nS
Typical Thermal resistance (Junction to case)		R _{θJC}	35			°C/W
Typical 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 , $I_F=0.5A$, $I_R=1.0A$, $I_{RR}=0.25A$

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

REV:B

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Rating and Characteristic Curves (CFRM104-HF Thru. CFRM107-HF)

Fig.1 Typical forward characteristics

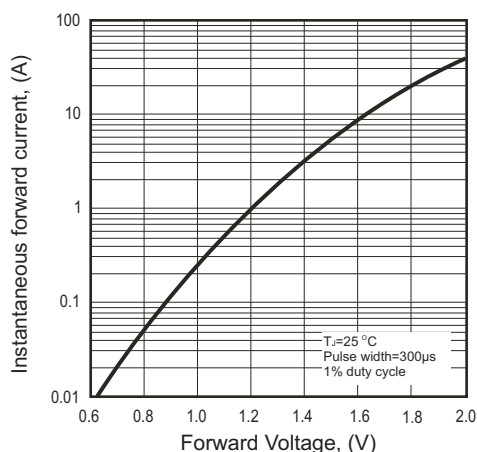


Fig.2- Typical forward current derating curve

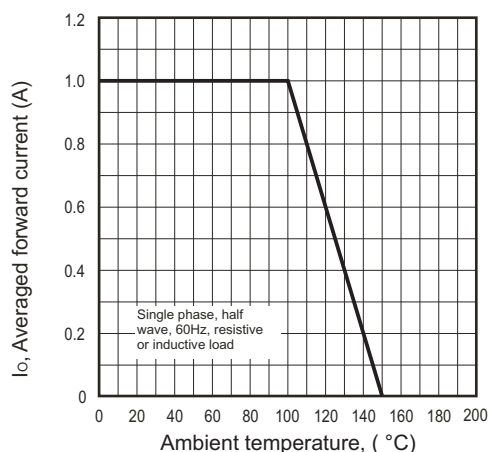


Fig.3- Test Circuit Diagram and Reverse Recovery Time Characteristics

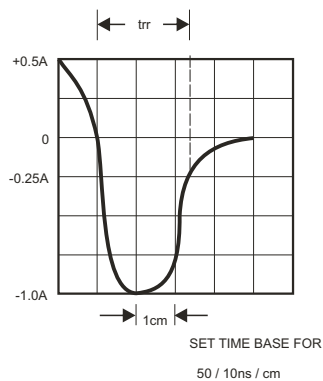
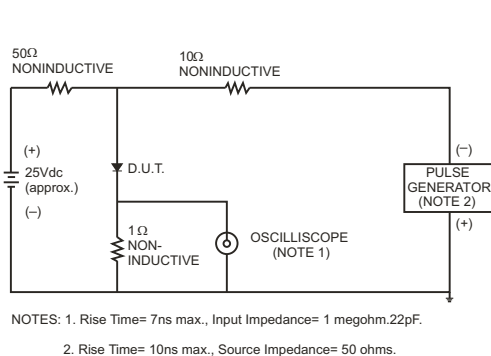


Fig.4- Maximum Non-repetitive forward surge current

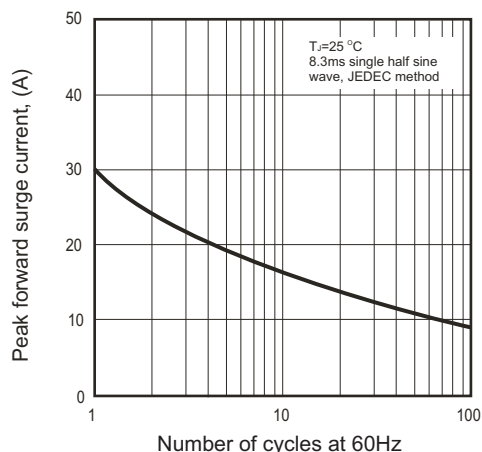
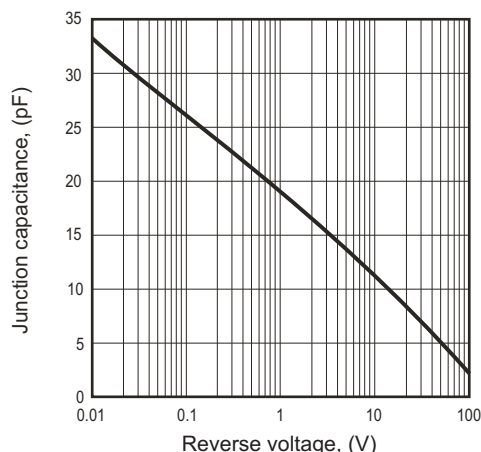
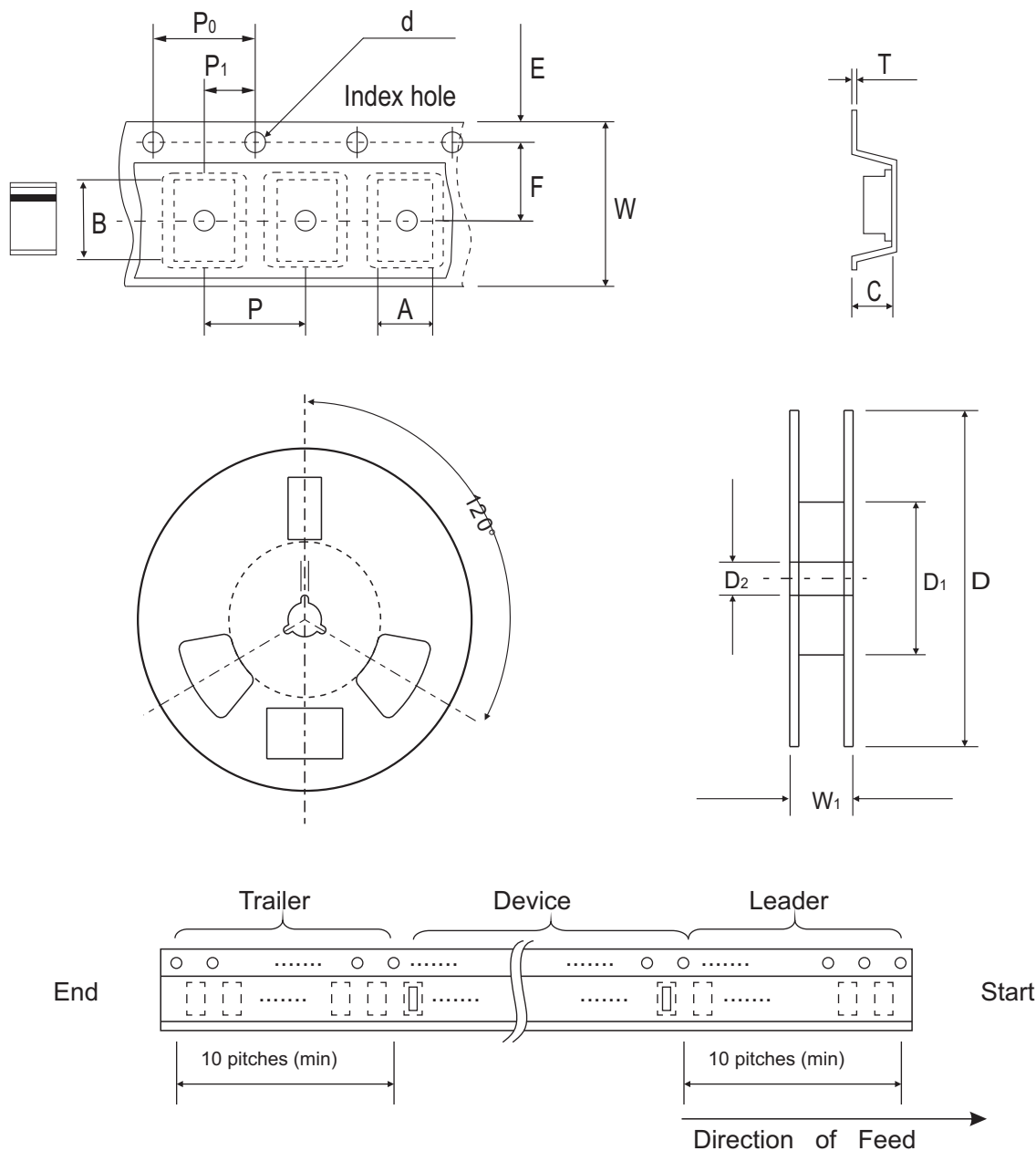


Fig.5- Typical junction capacitance



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Reel Taping Specification



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

Mini-SMA/ SOD-123	SYMBOL	E	F	P	P_0	P_1	T	W	W_1
	(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

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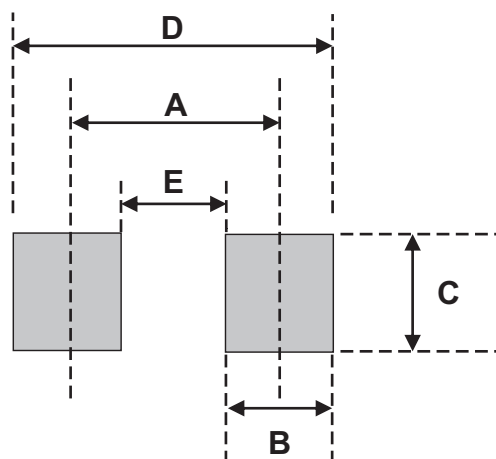
Marking Code

Part Number	Marking Code
CFRM104-HF	F4
CFRM105-HF	F5
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 Packaging

Case Type	Qty per Reel	Reel Size
	(Pcs)	(inch)
Mini-SMA/SOD-123	2,500	7