



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



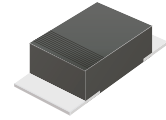
CFRMT104-HF Thru. CFRMT107-HF

Reverse Voltage: 400 to 1000 Volts

Forward Current: 1.0 Amp

RoHS Device

Halogen Free

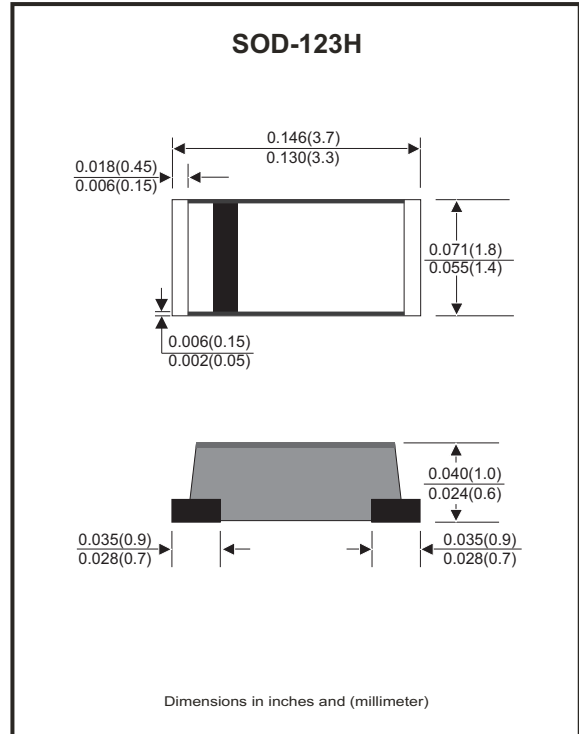


Features

- 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 | | | μA |
| | $V_R=V_{RRM}$ $T_J=125^\circ\text{C}$ | 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

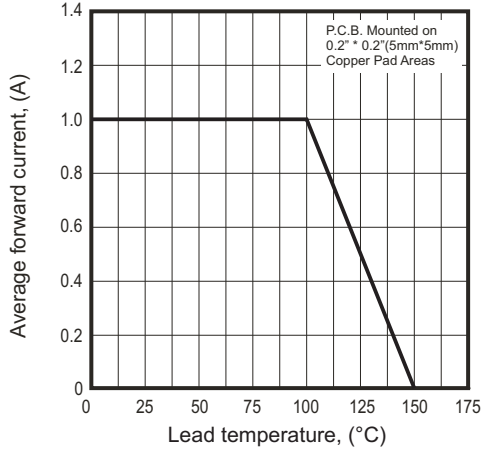


Fig.2 - Typical forward characteristics

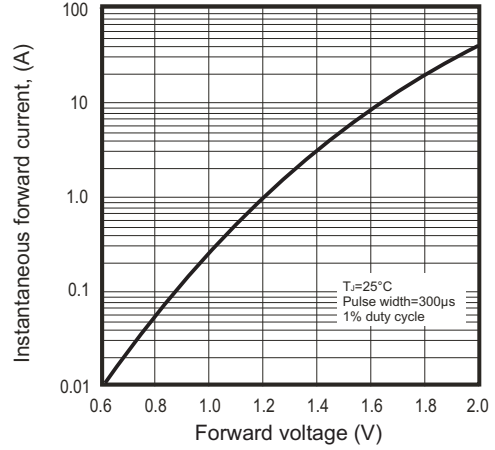
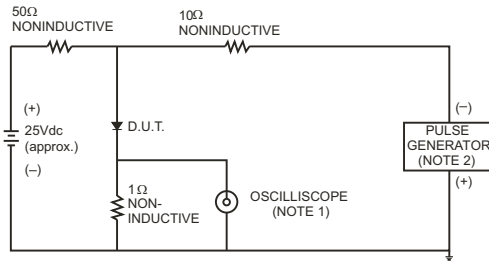


Fig.3 - Test Circuit Diagram and Reverse Recovery Time Characteristics



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

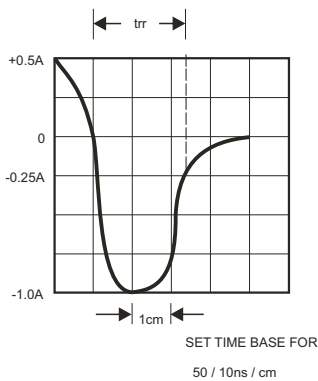


Fig.4 - Maximum Non-repetitive forward surge current

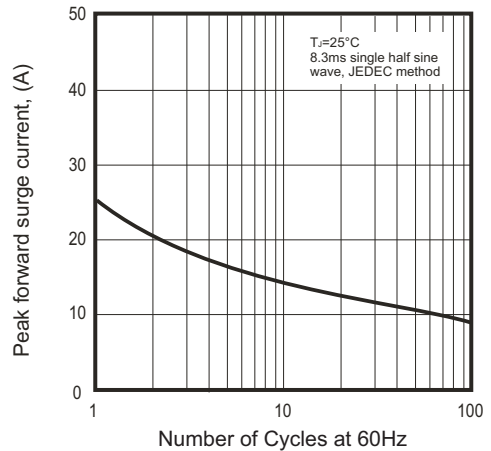
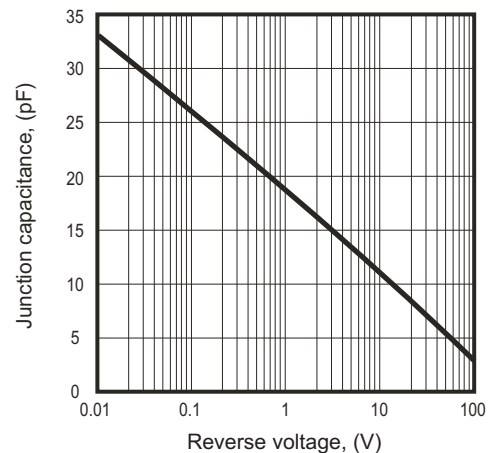
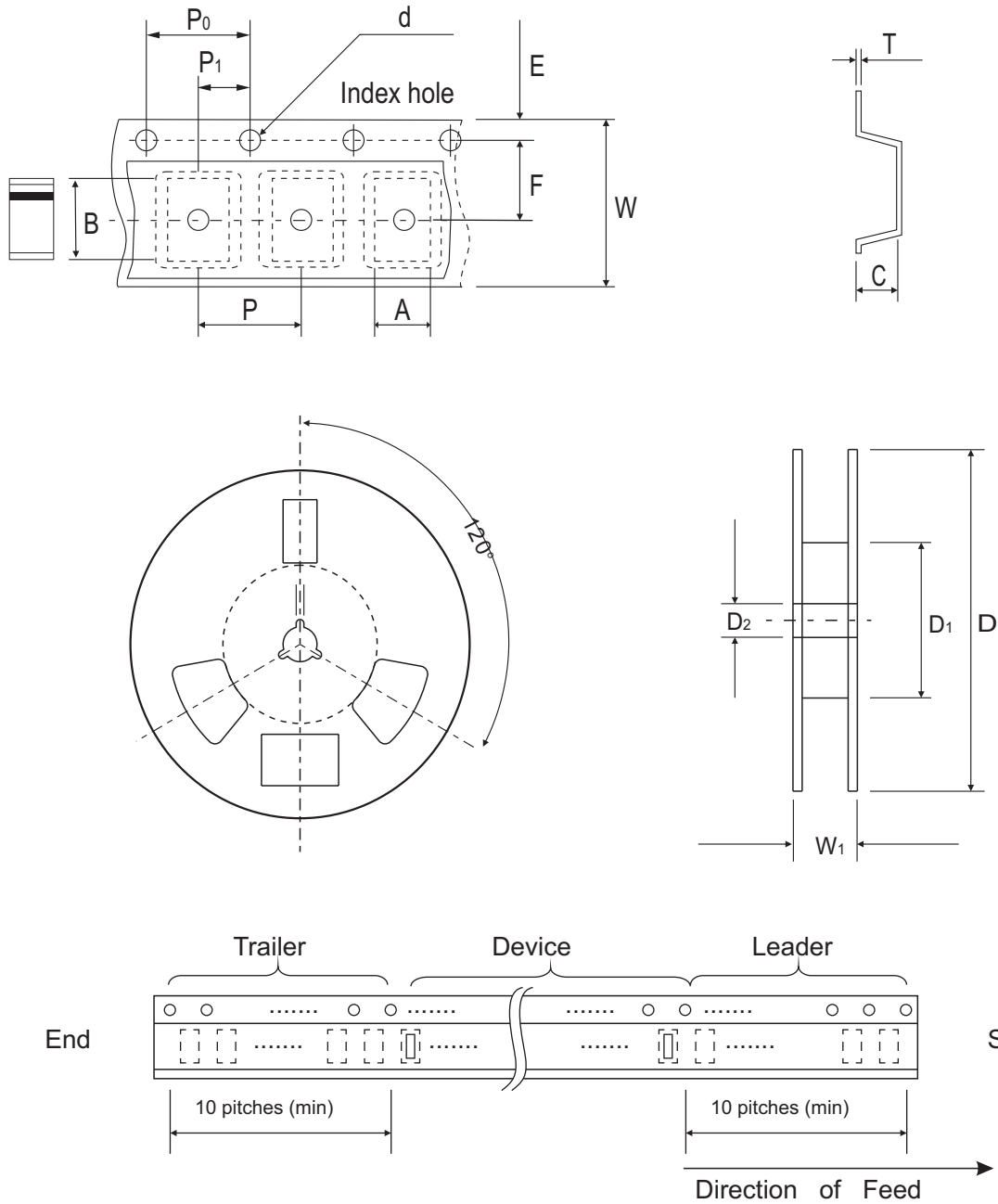


Fig.5 - Typical junction capacitance



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

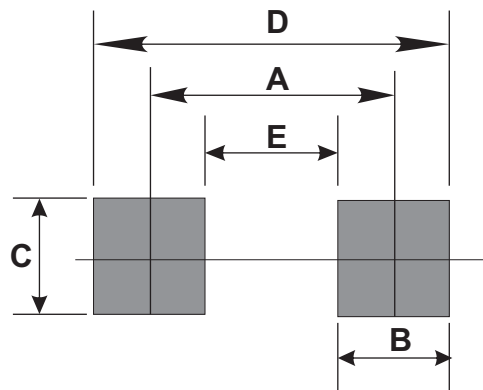
| Part Number | Marking Code |
|-------------|--------------|
| CFRMT104-HF | F4 |
| CFRMT105-HF | F5 |
| CFRMT107-HF | F7 |



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 |