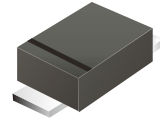


CSFMS101-HF Thru. CSFMS107-HF

Reverse Voltage: 50 to 600 Volts

Forward Current: 1.0 Amp

RoHS Device
Halogen Free

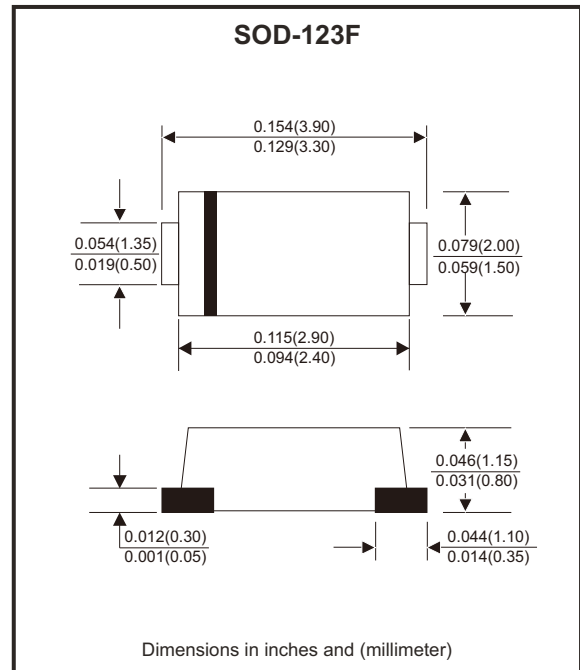


Features

- High current capability.
- High surge current capability.
- Low reverse current.

Mechanical data

- Epoxy: UL 94V-0 rated flame retardant.
- Case: SOD-123F, molded plastic.
- Terminals: Lead free plating (Tin Finish).
Solderable per MIL-STD-202, method 208.
- Polarity: Cathode band.
- Weight: 0.035 grams (approx.)



Circuit Diagram



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

| Parameter | Symbol | CSFMS | | | | | | | Unit |
|------------------------------------------------------------------------------------------------|-----------------|-------------|--------|--------|----------|--------|--------|--------|--------------|
| | | 101-HF | 102-HF | 103-HF | 104-HF | 105-HF | 106-HF | 107-HF | |
| Max. Repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Max. RMS voltage | V_{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | 420 | V |
| Max. DC blocking voltage | V_{DC} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Max. Average forward rectified current | I_F | 1 | | | | | | | A |
| Max. Instantaneous forward voltage $I_F=1A @ 25^\circ C$ | V_F | 0.98 | | | 1.3 | | 1.7 | | V |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 30 | | | | | | | A |
| Max. DC reverse current @ $T_A=25^\circ C$ at rated DC blocking voltage @ $T_A=100^\circ C$ | I_R | | | | 5 100 | | | | μA |
| Typical junction capacitance (Note 1) | C_j | 12 | | | | | | | pF |
| Typical thermal resistance | $R_{\theta JA}$ | 110 | | | | | | | $^\circ C/W$ |
| Operating temperature range | T_J | -55 to +150 | | | | | | | $^\circ C$ |
| Storage temperature range | T_{STG} | -55 to +150 | | | | | | | $^\circ C$ |
| Max. Reverse recovery time (Note 2) | T_{rr} | 35 | | | | | | | ns |

Notes: 1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC
2. Measured with $I_F=0.5A$, $I_R=1A$, $IRR=0.25A$

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

REV:A

Rating and Characteristic Curves (CSFMS101-HF Thru. CSFMS107-HF)

Fig.1 - Typical Forward Current Derating Curve

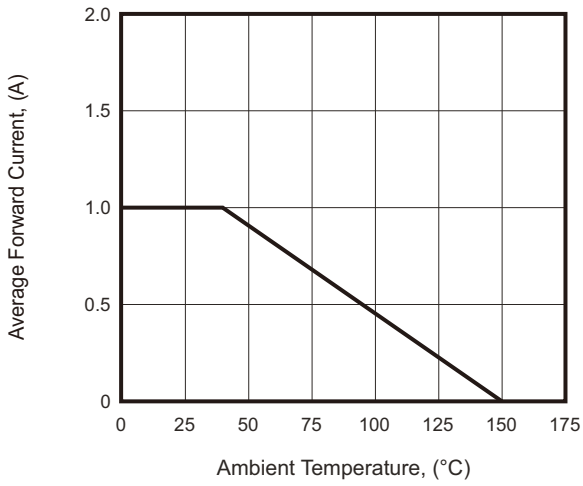


Fig.2 - Typical Forward Characteristics

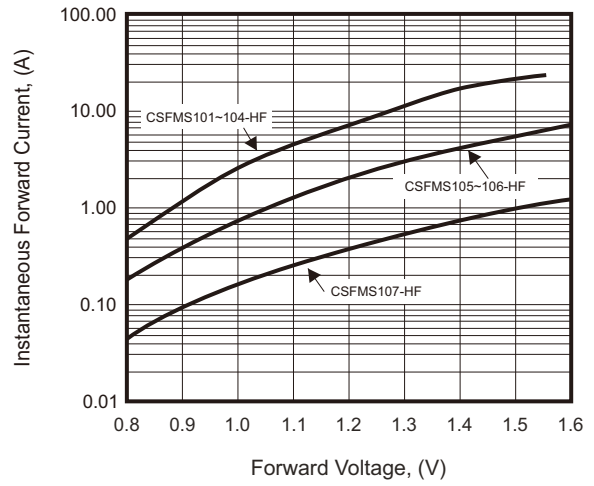


Fig.3 - Maximum Non-Repetitive Forward Surge Current

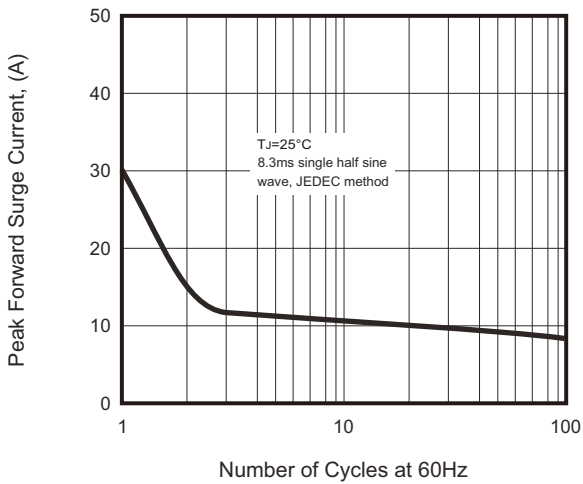


Fig.4 - Typical Reverse Characteristics

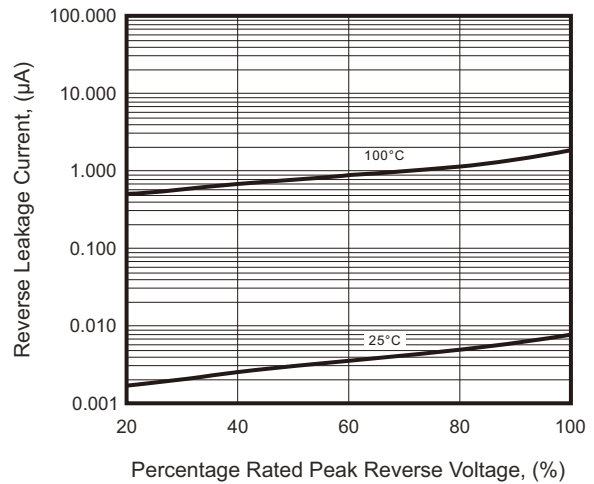
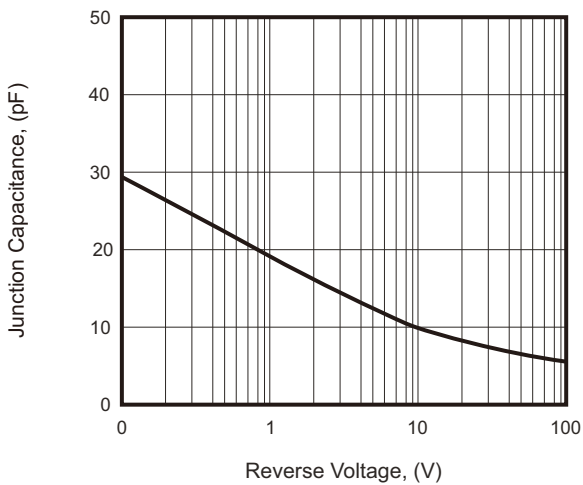
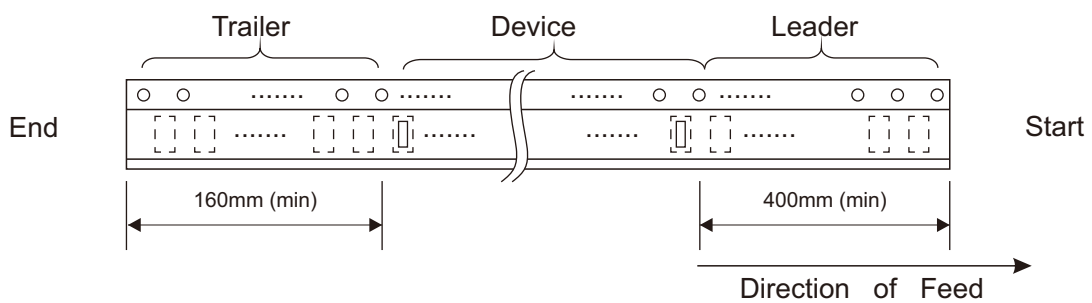
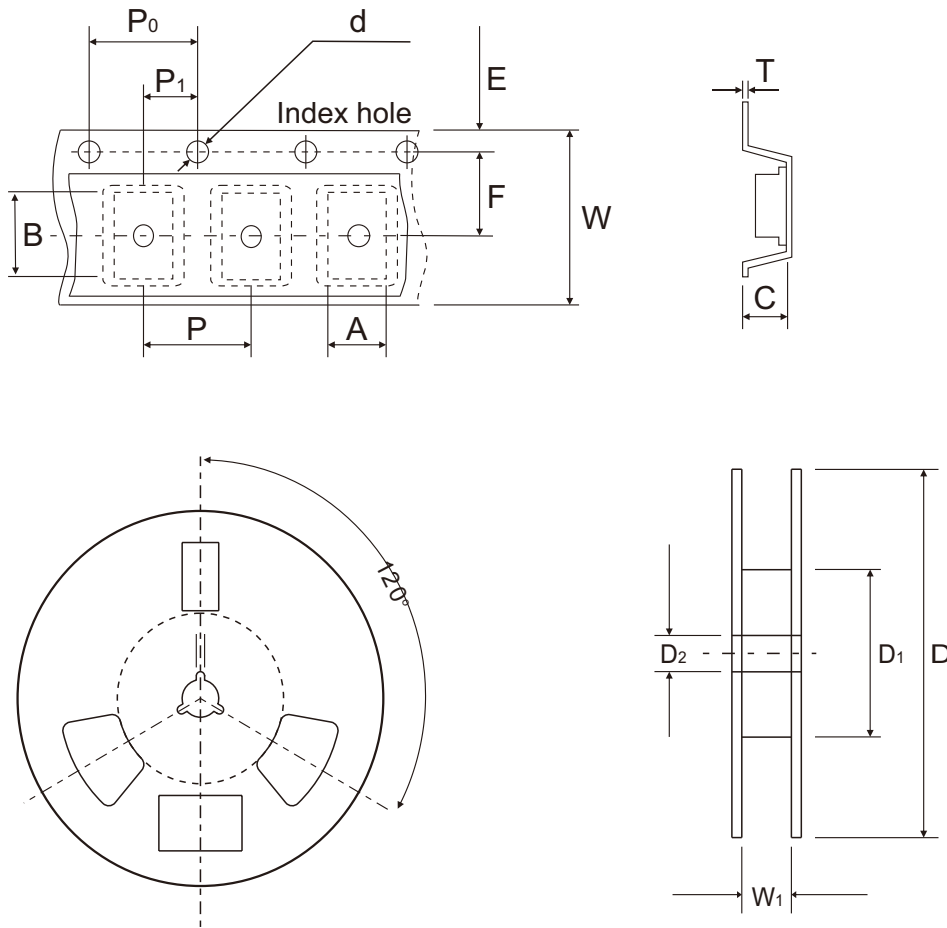


Fig.5 - Typical Junction Capacitance



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Reel Taping Specification



| SOD-123F | SYMBOL | A | B | C | d | D | D1 | D2 |
|----------|---------------|---------------|---------------|---------------|-------------|------------|---------------|--------------|
| | (mm) | 2.05 ± 0.10 | 4.01 ± 0.10 | 1.32 ± 0.10 | 2.00 ± 0.10 | 178 Max. | 50 Min. | 13.30 ± 1.00 |
| (inch) | 0.081 ± 0.004 | 0.158 ± 0.004 | 0.052 ± 0.004 | 0.079 ± 0.004 | 7.008 Max. | 1.969 Min. | 0.524 ± 0.039 | |

| SOD-123F | 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 ± 0.05 | 0.24 ± 0.03 | 8.00 ± 0.30 | 9.30 ± 1.00 |
| (inch) | 0.069 ± 0.004 | 0.138 ± 0.004 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.002 | 0.009 ± 0.001 | 0.315 ± 0.012 | 0.366 ± 0.039 | |

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

REV:A

Marking Code

| Part Number | Marking Code |
|-------------|--------------|
| CSFMS101-HF | E1. |
| CSFMS102-HF | E2. |
| CSFMS103-HF | E3. |
| CSFMS104-HF | E4. |
| CSFMS105-HF | E5. |
| CSFMS106-HF | E6. |
| CSFMS107-HF | E8. |



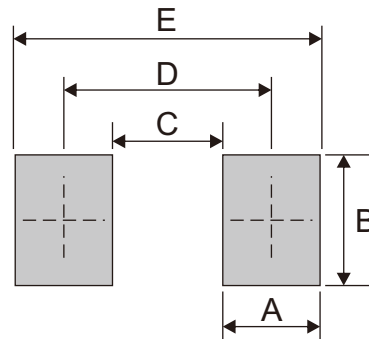
XX = Product type marking code

“.” = Halogen Free

| = Cathode Band

Suggested PAD Layout

| SIZE | SOD-123F | |
|------|----------|--------|
| | (mm) | (inch) |
| A | 1.34 | 0.053 |
| B | 1.80 | 0.071 |
| C | 1.52 | 0.060 |
| D | 2.86 | 0.113 |
| E | 4.25 | 0.167 |



Standard Packaging

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