

EVVOSEMI[®]

THINK CHANGE DO



ESD



TVS



MOS



LDO



Diode



Sensor



DC-DC

Product Specification

| | | |
|--------------|-------------|--------------------|
| ▶ Domestic | Part Number | FR101W THRU FR107W |
| ▶ Overseas | Part Number | FR101W THRU FR107W |
| ▶ Equivalent | Part Number | FR101W THRU FR107W |

EV is the abbreviation of name EVVO

Surface Mount Fast Recovery Rectifiers
Reverse Voltage - 50 to 1000 V
Forward Current - 1 A
FEATURES

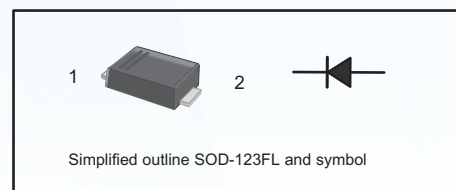
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- Fast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- Case: SOD-123FL
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 15mg 0.00053oz

PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | Cathode |
| 2 | Anode |


Absolute Maximum Ratings and Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

| Parameter | Symbols | FR101W | FR102W | FR103W | FR104W | FR105W | FR106W | FR107W | Units |
|--|------------------------------------|------------|--------|--------|--------|--------|--------|--------|---------------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Rectified Current | $I_{F(AV)}$ | 1 | | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load | I_{FSM} | 30 | | | | | | | A |
| Maximum Forward Voltage at 1 A | V_F | 1.3 | | | | | | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | I_R | 5 100 | | | | | | | μA |
| Typical Junction Capacitance at $V_R=4V$, $f=1MHz$ | C_j | 15 | | | | | | | pF |
| Maximum Reverse Recovery Time (1) | t_{rr} | 150 | | | | 250 | 500 | | ns |
| Typical Thermal Resistance (2) | $R_{\theta JA}$ $R_{\theta JC}$ | 115 25 | | | | | | | $^{\circ}C/W$ |
| Operating and Storage Temperature Range | T_j, T_{stg} | -55 ~ +150 | | | | | | | $^{\circ}C$ |

(1) Measured with $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{rr} = 0.25\text{ A}$.

(2) P.C.B. mounted with 0.2" X 0.2" (5 X 5 mm) copper pad areas.

Fig.1 Forward Current Derating Curve

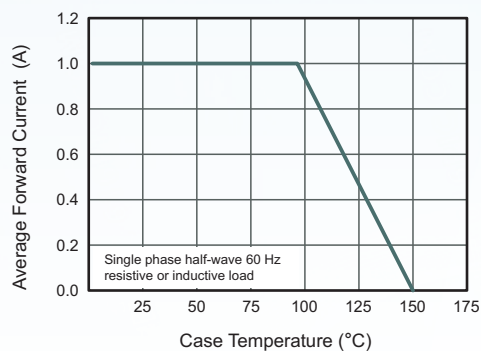


Fig.2 Typical Reverse Characteristics

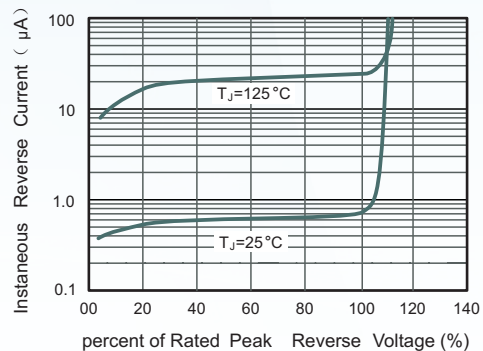


Fig.3 Typical Instantaneous Forward Characteristics

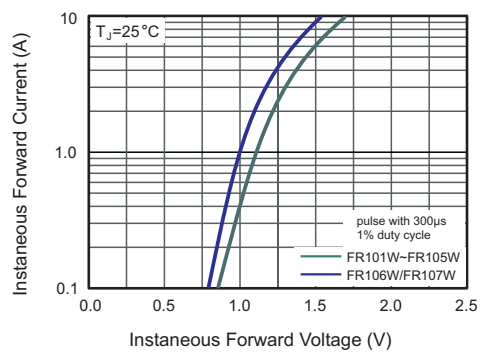


Fig.4 Typical Junction Capacitance

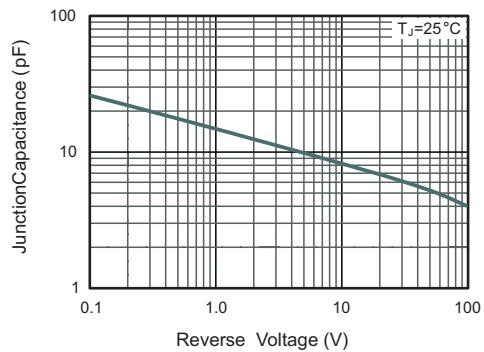
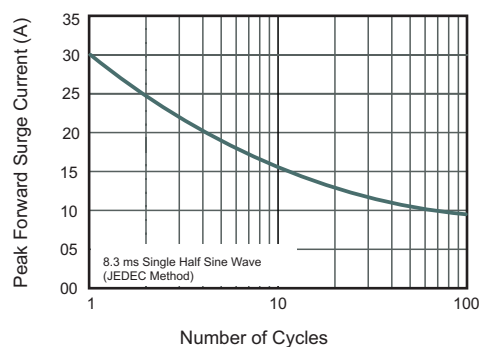


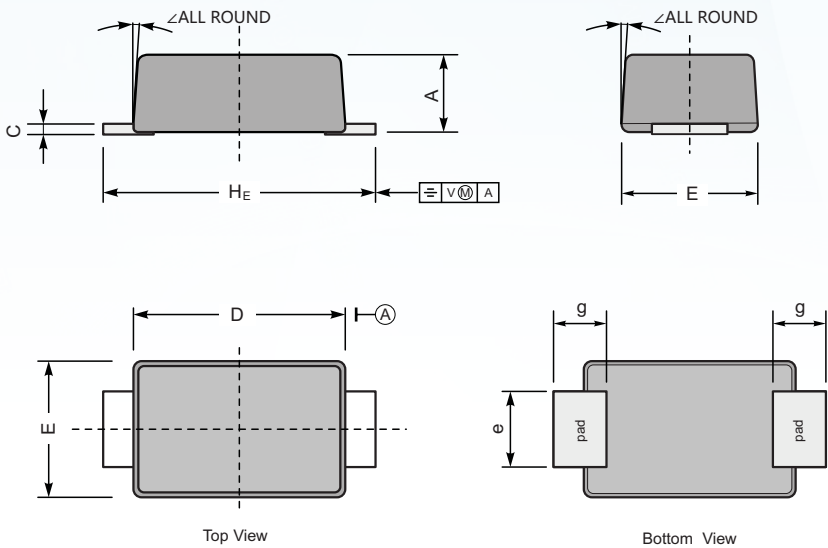
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



PACKAGE OUTLINE

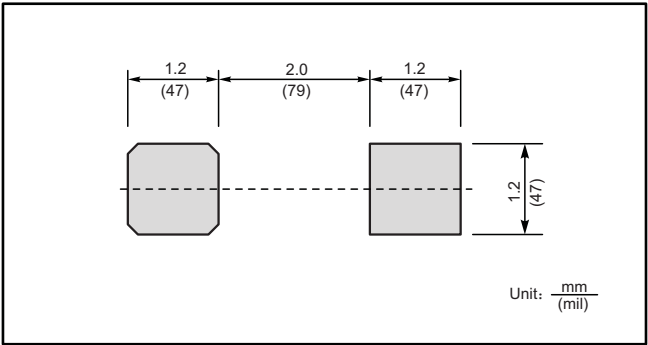
Plastic surface mounted package; 2 leads

SOD-123FL



| UNIT | | A | C | D | E | e | g | H _E | \angle |
|------|-----|-----|------|-----|-----|-----|-----|----------------|----------|
| mm | max | 1.1 | 0.20 | 2.9 | 1.9 | 1.1 | 0.9 | 3.8 | 7° |
| | min | 0.9 | 0.12 | 2.6 | 1.7 | 0.8 | 0.7 | 3.5 | |
| mil | max | 43 | 7.9 | 114 | 75 | 43 | 35 | 150 | |
| | min | 35 | 4.7 | 102 | 67 | 31 | 28 | 138 | |

The recommended mounting pad size



Marking

| Type number | Marking code |
|-------------|--------------|
| FR101W | F2 |
| FR102W | |
| FR103W | |
| FR104W | |
| FR105W | F5 |
| FR106W | F7 |
| FR107W | |

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