

Surface Mount Schottky Barrier Rectifier

Reverse Voltage - 20 to 200 V

Forward Current – 3.0 A

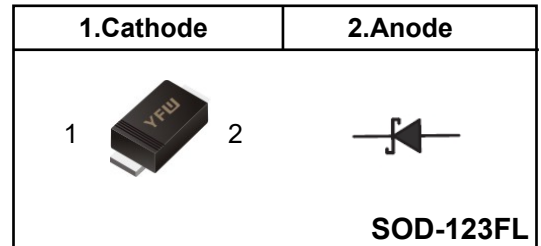
FEATURES

- ◆Metal silicon junction, majority carrier conduction
- ◆For surface mounted applications
- ◆Low power loss, high efficiency
- ◆High forward surge current capability
- ◆For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◆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 / 0.00048oz

Pinning



Marking Code

| Part Number | Marking Code | Marking Code |
|-------------|--------------|--------------|
| DS32W | YFW K32 | YFW S32 |
| DS34W | YFW K34 | YFW S34 |
| DS36W | YFW K36 | YFW S36 |
| DS38W | YFW K38 | YFW S38 |
| DS310W | YFW K310 | YFW S310 |
| DS312W | YFW K312 | YFW S312 |
| DS315W | YFW K315 | YFW S315 |
| DS320W | YFW K320 | YFW S320 |

Absolute Maximum Ratings and Electrical characteristics

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

| Parameter | Symbols | DS32W | DS34W | DS36W | DS38W | DS310W | DS312W | DS315W | DS320W | Units |
|--|-----------------|------------|-------|-------|-------|----------|--------|--------|--------|-------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 20 | 40 | 60 | 80 | 100 | 120 | 150 | 200 | V |
| Maximum RMS voltage | V_{RMS} | 14 | 28 | 42 | 56 | 70 | 84 | 105 | 140 | V |
| Maximum DC Blocking Voltage | V_{DC} | 20 | 40 | 60 | 80 | 100 | 120 | 150 | 200 | V |
| Maximum Average Forward Rectified Current | $I_{F(AV)}$ | 3.0 | | | | | | | | A |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed On Rated Load (JEDEC method) | I_{FSM} | 80 | | | | 70 | | | | A |
| Maximum Instantaneous Forward Voltage at 3 A | V_F | 0.55 | | 0.70 | | 0.85 | | 0.90 | | V |
| Maximum Instantaneous Reverse Current at Rated DC Reverse Voltage <small>$T_A = 25^{\circ}C$ $T_A = 100^{\circ}C$</small> | I_R | 0.5 10 | | | | 0.3 5 | | | | mA |
| Typical Junction Capacitance ⁽¹⁾ | C_j | 250 | | | | 160 | | | | pF |
| Typical Thermal Resistance ⁽²⁾ | $R_{\theta JA}$ | 80 | | | | | | | | °C/W |
| Operating Junction Temperature Range | T_j | -55 ~ +150 | | | | | | | | °C |
| Storage Temperature Range | T_{stg} | -55 ~ +150 | | | | | | | | °C |

(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

(2) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

Fig.1 Forward Current Derating Curve

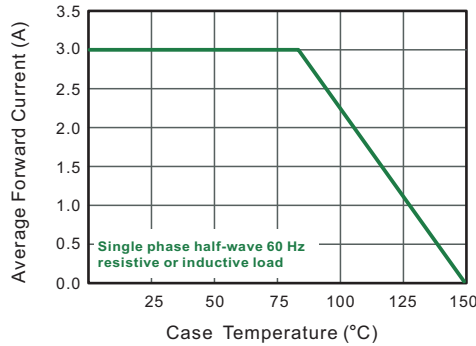


Fig.2 Typical Reverse Characteristics

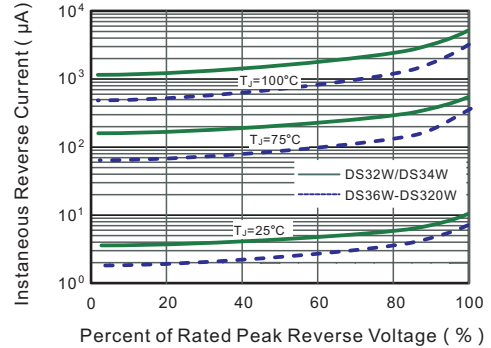


Fig.3 Typical Forward Characteristic

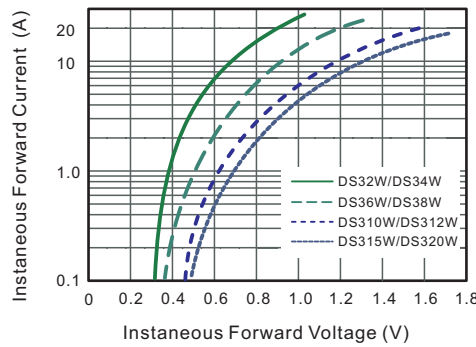


Fig.4 Typical Junction Capacitance

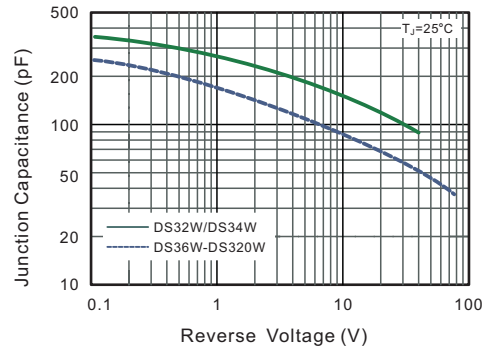


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

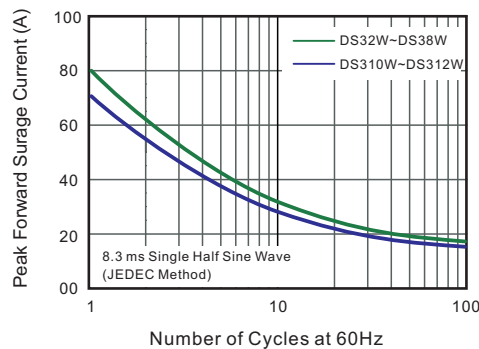
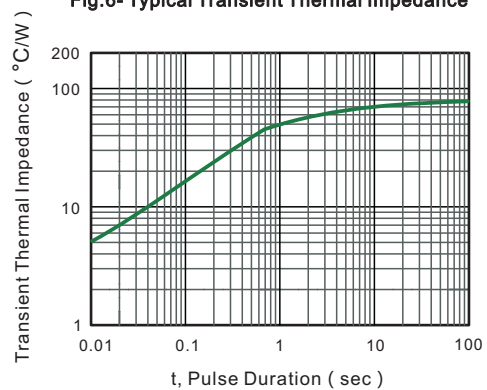
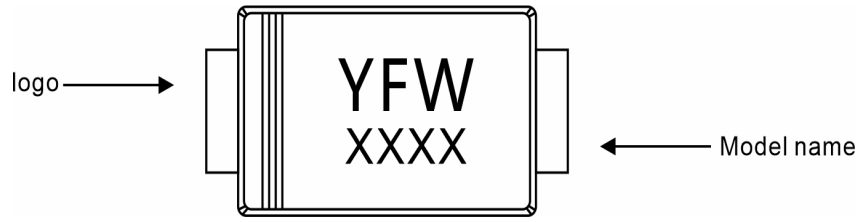


Fig.6- Typical Transient Thermal Impedance



Marking Diagram



Ordering information

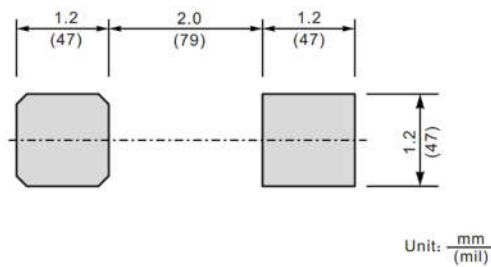
| Package | Packing Description | Packing Quantity |
|-----------|---------------------|--------------------------------|
| SOD-123FL | Tape/Reel, 13" reel | 10000PCS/Reel 100000PCS/Carton |
| | Tape/Reel, 7" reel | 3000PCS/Reel 120000PCS/Carton |

Package Dimensions

SOD-123FL

| Dim. | Millimeter(mm) | | mil | |
|------|----------------|------|------|------|
| | Min. | Max. | Min. | Max. |
| A | 0.9 | 1.3 | 35 | 43 |
| C | 0.12 | 0.20 | 4.7 | 7.9 |
| D | 2.6 | 2.9 | 102 | 114 |
| E | 1.7 | 1.9 | 67 | 75 |
| e | 0.8 | 1.1 | 31 | 43 |
| g | 0.7 | 0.9 | 28 | 35 |
| HE | 3.5 | 3.8 | 138 | 150 |
| ∠ | 7° | | | |

The recommended mounting pad size



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