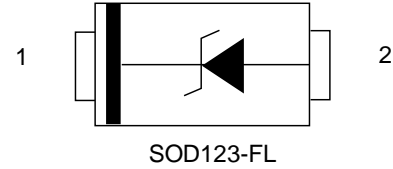


Feature

- Surface Mount Schottky Barrier Rectifier Rectifiers
- Reverse Voltage 20 to 200 V
- Forward Current 1.0 A



Maximum Ratings and Electrical characteristics per line@25°C (unless otherwise specified)
Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %

| Parameter | Symbols | 20V1H | 40V1H | 60V1H | 80V1H | 100V1H | 120V1H | 150V1H | 200V1H | 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 | 80 | 100 | 105 | 140 | V |
| Maximum DC Blocking Voltage | V_{DC} | 20 | 40 | 60 | 80 | 100 | 120 | 150 | 200 | V |
| Maximum Average Forward Rectified Current at $T_a = 65\text{ }^\circ\text{C}$ | $I_{F(AV)}$ | 1 | | | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) | I_{FSM} | 40 | | | | 30 | | | | A |
| Maximum Instantaneous Forward Voltage at 1 A | V_F | 0.55 | 0.70 | | 0.85 | | 0.90 | | V | |
| Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 125\text{ }^\circ\text{C}$ | I_R | 0.3 | | | | 0.2 | | 0.1 | | mA |
| | | 10 | | | | 5 | | 2 | | |
| Typical Junction Capacitance ¹⁾ | C_j | 110 | 80 | | | | | | | pF |
| Typical Thermal Resistance ²⁾ | $R_{\theta JA}$ | 115 | | | | | | | | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range | T_j, T_{stg} | -55~+150 | | | | | | | | $^\circ\text{C}$ |

-
- 1) Measured at 1 MHz and applied reverse voltage of 4 V D.C
- 2) Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, P.C.B. mounted

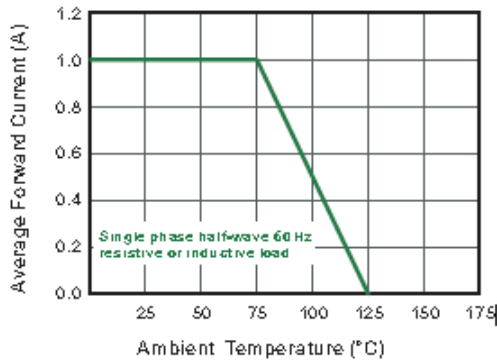


Fig.1 Forward Current Derating Curve

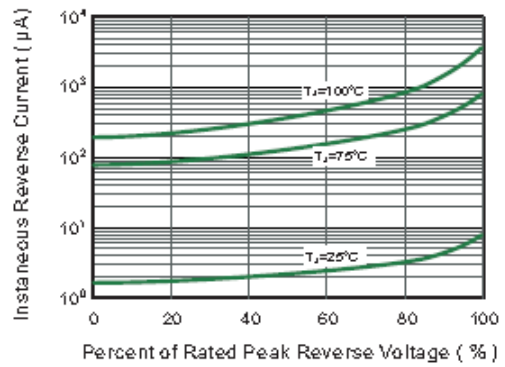


Fig.2 Typical Reverse Characteristics

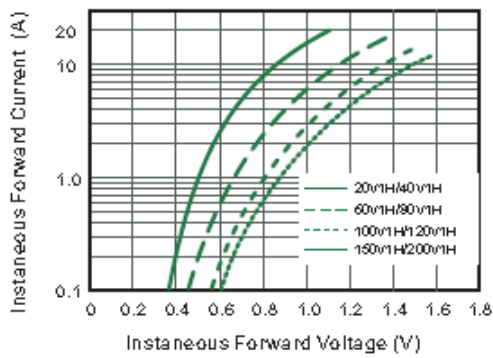


Fig.3 Typical Forward Characteristic

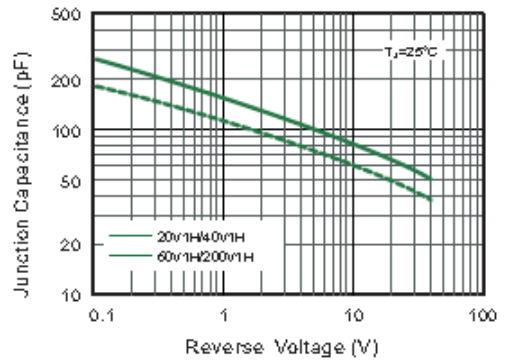


Fig.4 Typical Junction Capacitance

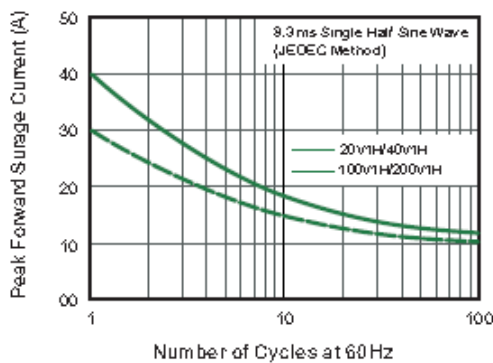


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

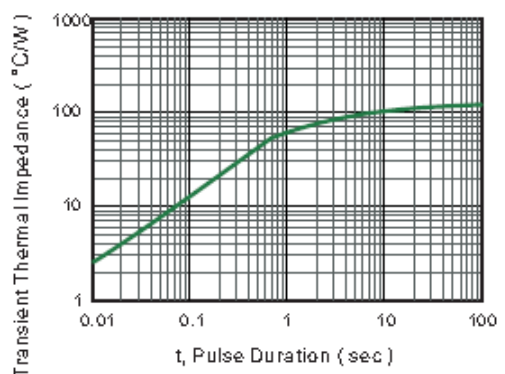
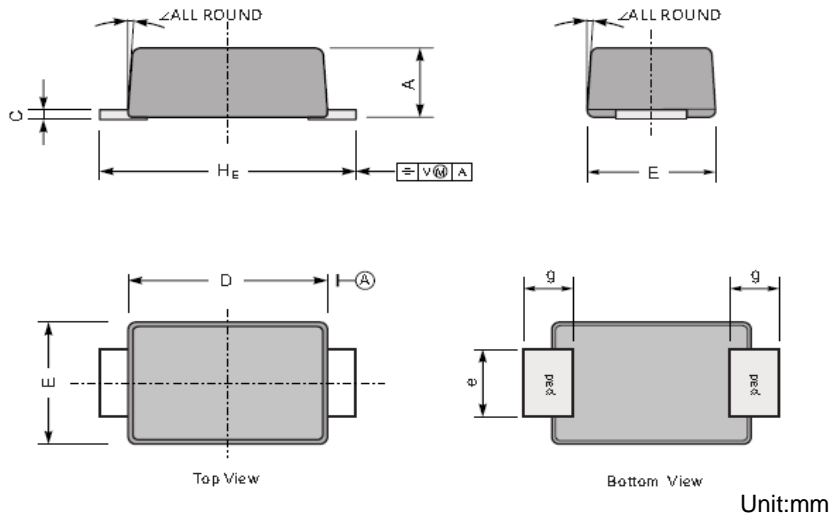


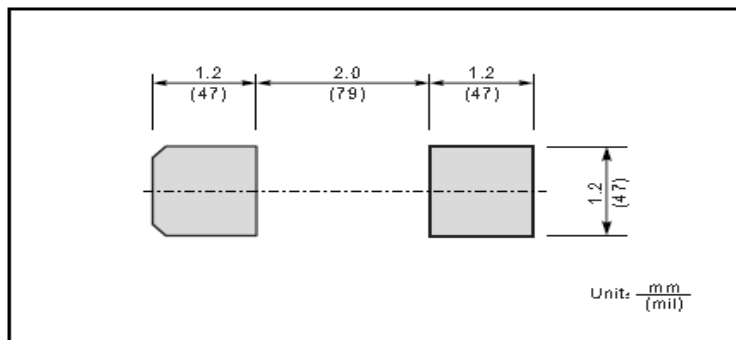
Fig.6 Typical Transient Thermal Impedance

Product dimension (SOD-123FL)

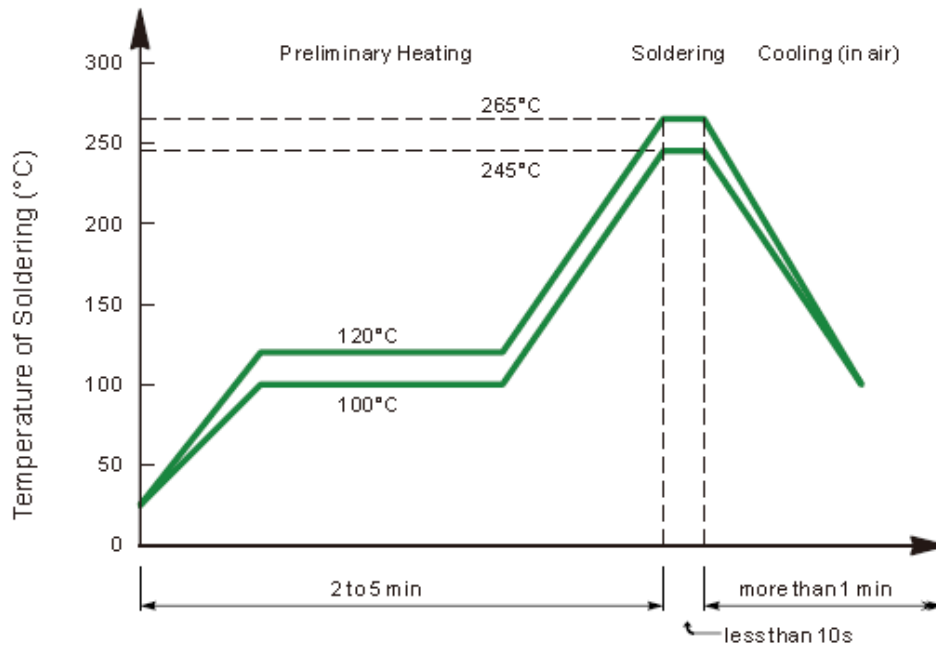


| UNIT | | A | C | D | E | e | g | H _E | ∠ |
|------|-----|-----|------|-----|-----|-----|-----|----------------|----|
| mm | max | 1.1 | 0.20 | 2.9 | 1.9 | 1.1 | 0.9 | 3.8 | 7° |
| | min | 0.9 | 0.12 | 2.6 | 1.7 | 0.8 | 0.7 | 3.5 | |
| mil | max | 43 | 7.9 | 114 | 75 | 43 | 35 | 150 | |
| | min | 35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

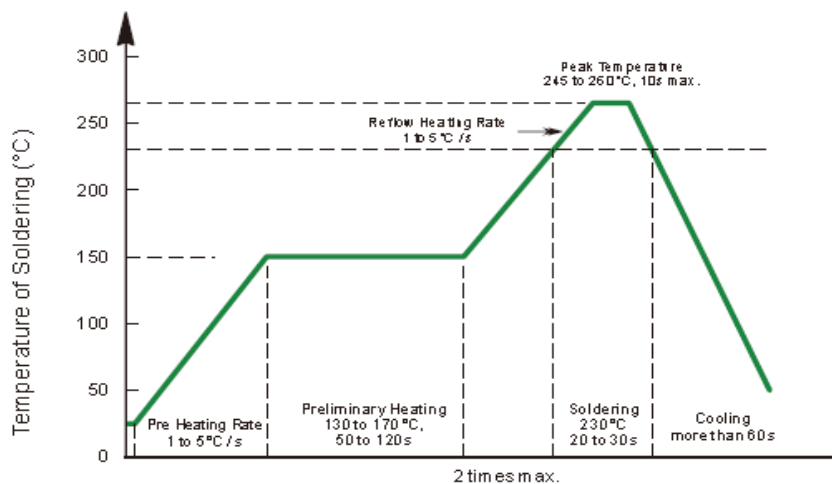
The recommended mounting pad size



• Recommended condition of flow soldering



• Recommended condition of reflow soldering



Recommended peak temperature is over 245 °C. If peak temperature is below 245 °C, you may adjust the following parameters; time length of peak temperature (longer), time length of soldering (longer), thickness of solder paste (thicker)

• Condition of hand soldering

Temperature: 370°C
 Time: 3s max.
 Times: one time

• Remark:

Lead free solder paste (98.5Sn/3.0Ag/0.5Cu)


Marking information

| Device | Marking |
|--------------|---------|
| PSBD1DF20V1H | S12 |
| PSBD1DF40V1H | 14A |

Ordering information

| Device | Package | Reel | Shipping |
|--------------|---------------------|------|--------------------|
| PSBD1DFXXV1H | SOD-123FL (Pb-Free) | 7" | 3000 / Tape & Reel |

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