

Features

- High Surge Capability
- Low Forward Voltage
- Low Profile Package
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix Designates Compliant. See Ordering Information)

Maximum Ratings

- Operating Junction Temperature Range: -65°C to +125°C
- Storage Temperature Range: -65°C to +125°C
- Typical Thermal Resistance(Note2):88°C/W Junction to Ambient
- Typical Thermal Resistance(Note2):43°C/W Junction to Case
- Typical Thermal Resistance(Note2):30°C/W Junction to Lead

| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|--|---------------------|-----------------------------|
| SM5817PL | K2 | 20V | 14V | 20V |
| SM5818PL | K3 | 30V | 21V | 30V |
| SM5819PL | K4 | 40V | 28V | 40V |

Electrical Characteristics @ 25°C Unless Otherwise Specified

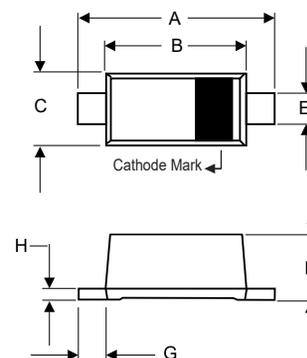
| | | | |
|---|-------------|---|---|
| Average Forward Current | $I_{F(AV)}$ | 1.0A | $T_L=90^\circ\text{C}$ |
| Repetitive Peak Forward Current | I_{FRM} | 1.2A(Min) 1.5A(Max) | |
| Peak Forward Surge Current | I_{FSM} | 30A | $t=8.3\text{ms}$ |
| Power Dissipation | P_D | 1.14W | |
| Forward Voltage | V_F | 0.45V(Max) 0.53V(Max) 0.33V(Typ) 0.375V(Max) 0.45V(Max) | $I_F=1\text{A}$ $I_F=1\text{A}$ $I_F=0.1\text{A}$ $I_F=0.1\text{A}$ $I_F=0.5\text{A}$ |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | I_R | 0.05mA 9.0mA 20µA | $T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$ $V_R=15\text{V}$ |
| Typical Junction Capacitance | C_J | 50pF | $f=1.0\text{MHz}$, $V_r=4\text{V}$ |

Note :1. High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7a.

2. Thermal Resistance:PC Board Mounted on 0.2*0.2"(5*5mm) copper pad area.

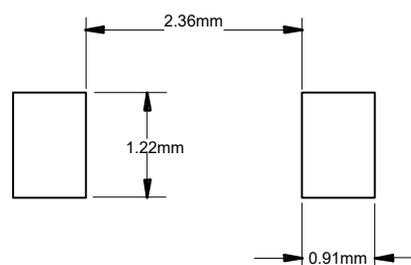
Schottky Barrier Diodes 20 to 40 Volts

SOD-123FL



| DIM | DIMENSIONS | | | | NOTE |
|-----|------------|-------|------|------|------|
| | INCHES | | MM | | |
| | MIN | MAX | MIN | MAX | |
| A | 0.130 | 0.152 | 3.30 | 3.85 | |
| B | 0.100 | 0.122 | 2.55 | 3.10 | |
| C | 0.055 | 0.075 | 1.40 | 1.90 | |
| D | 0.035 | 0.053 | 0.90 | 1.35 | |
| E | 0.020 | 0.041 | 0.50 | 1.05 | |
| G | 0.010 | ---- | 0.25 | ---- | |
| H | ---- | 0.010 | ---- | 0.25 | |

SUGGESTED SOLDER PAD LAYOUT



Curve Characteristics

Fig. 1 - Forward Current Derating Curve

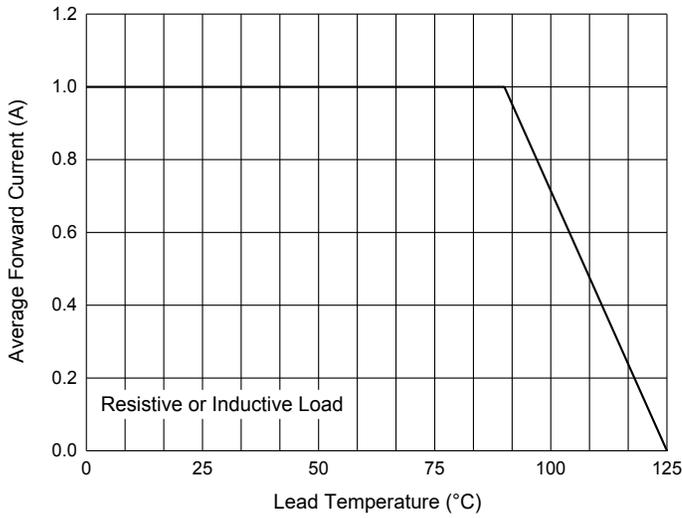


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

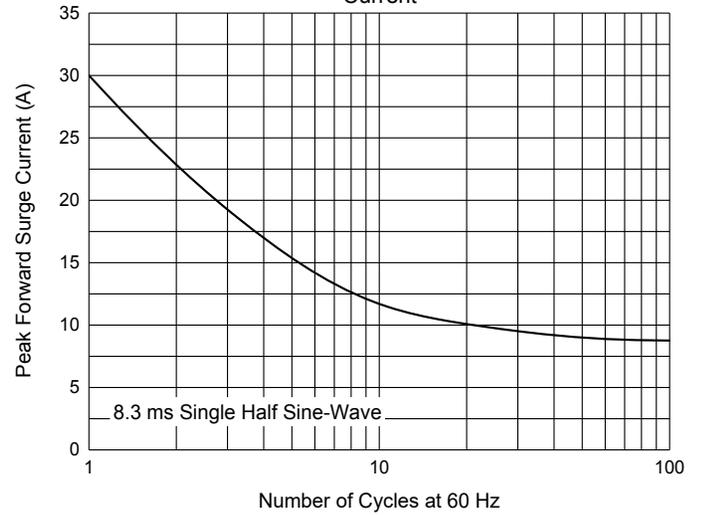


Fig. 3 - Typical Instantaneous Forward Characteristics

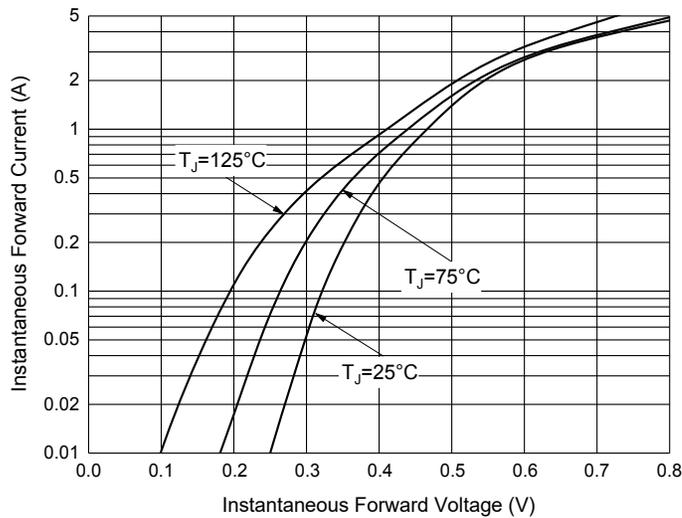
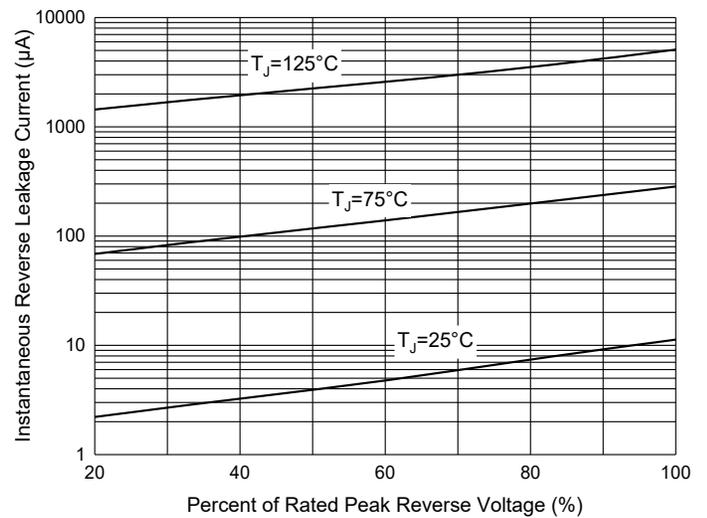


Fig. 4 - Typical Reverse Leakage Characteristics



Ordering Information

| Device | Packing |
|----------------|-------------------------|
| Part Number-TP | Tape&Reel: 2.5Kpcs/Reel |

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-TP-HF

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