

Power Surface Mount Schottky Rectifier (80V/100V, 120Amp)

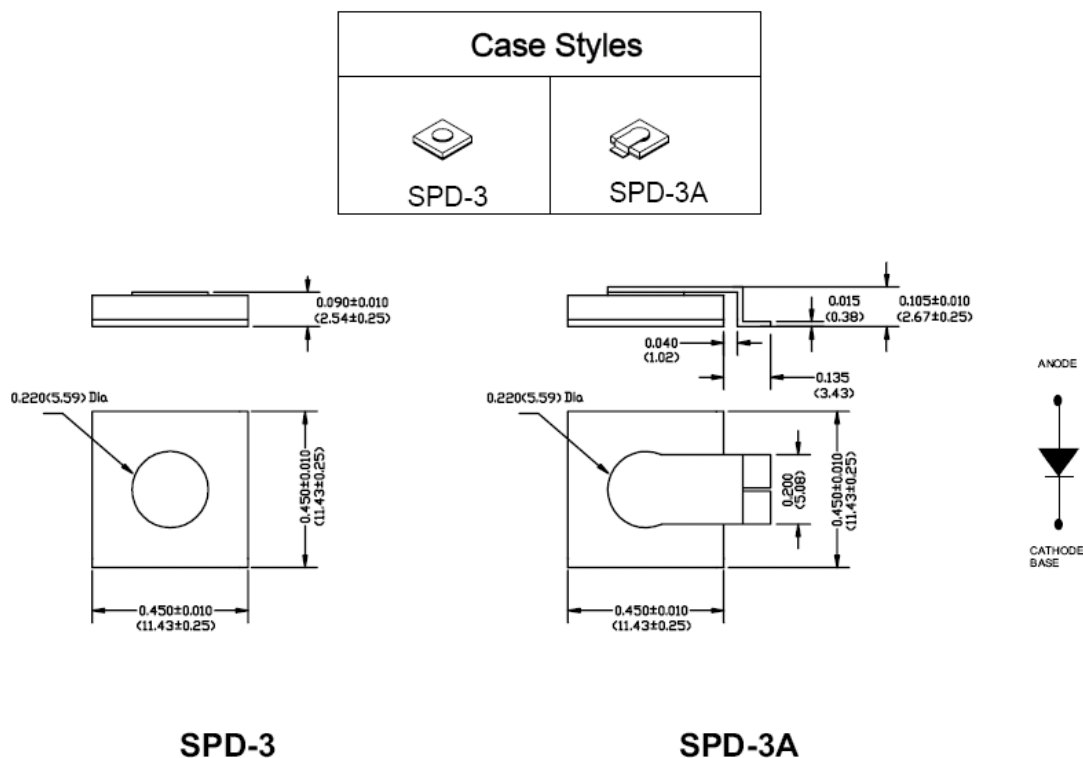
Applications:

- Switching power supply
- Converters
- Reverse battery protection
- Redundant power subsystems
- Many other high current AC/DC power supplies

Features:

- 175 °C T_J operation
- Low forward voltage drop
- High surge capacities
- High frequency operation
- Guaranteed reverse avalanche capability
- Low profile surface mount package
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Mechanical Dimensions: In mm/ Inches



Suffix "R" Denotes Reversed Polarity

Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|--|-------------|--|---------------|---------------|
| Peak Inverse Voltage | V_{RWM} | - | 80 | V |
| | | | (123SPC080/A) | |
| | | | 100 | (123SPC100/A) |
| Max. Average Forward | $I_{F(AV)}$ | 50% duty cycle, rectangular wave form | 120 | A |
| Max. Peak One Cycle Non-Repetitive Surge Current (per leg) | I_{FSM} | 8.3 ms, half Sine pulse | 1650 | A |
| Non-Repetitive Avalanche Energy(per leg) | E_{AS} | $T_J=25^{\circ}C, I_{AS}=0.75A,$ $L=40\text{ mH}$ | 11.25 | mJ |
| Repetitive Avalanche Current(per leg) | I_{AR} | I_{AS} decaying linearly to 0 in 1 μ sec Frequency limited by T_J max. $V_A=1.5 \times V_R$ | 0.75 | A |

Electrical Characteristics:

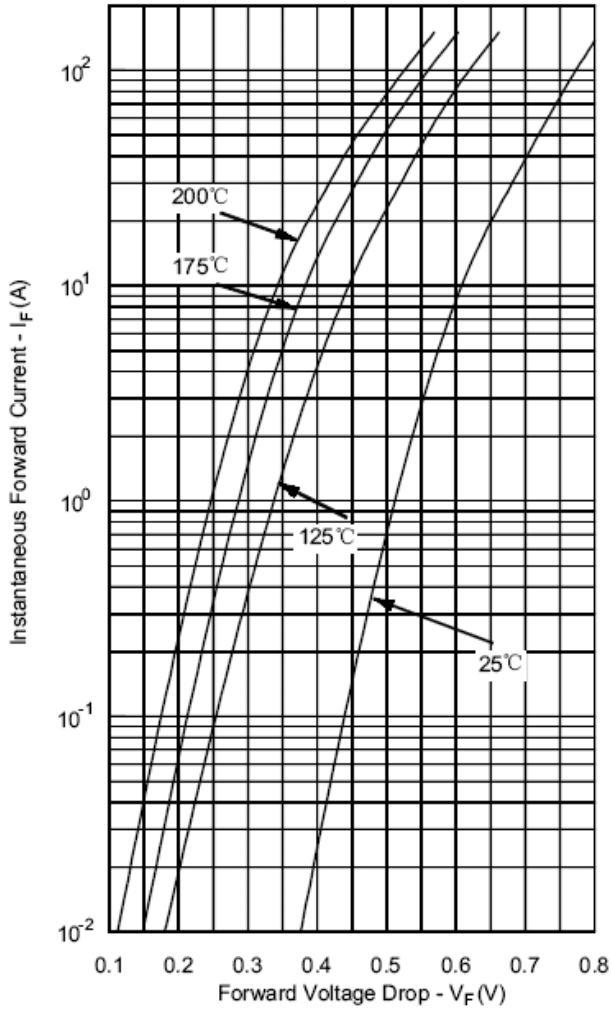
| Characteristics | Symbol | Condition | Max. | Units |
|-------------------------------------|----------|--|--------|------------|
| Max. Forward Voltage Drop* | V_{F1} | @ 120A, Pulse, $T_J = 25^{\circ}C$ | 0.87 | V |
| | V_{F2} | @ 120A, Pulse, $T_J = 125^{\circ}C$ | 0.72 | V |
| Max. Reverse Current (per leg) * | I_{R1} | @ $V_R = \text{rated } V_R$ $T_J = 25^{\circ}C$ | 2.0 | mA |
| | I_{R2} | @ $V_R = \text{rated } V_R$ $T_J = 125^{\circ}C$ | 48.0 | mA |
| Max. Junction Capacitance (per leg) | C_J | @ $V_R = 5V, T_C = 25^{\circ}C$ $f_{SIG} = 1\text{MHz}$ | 3000 | pF |
| Max. Voltage Rated of Change | dv/dt | - | 10,000 | V/ μ s |

* Pulse Width < 300 μ s, Duty Cycle <2%

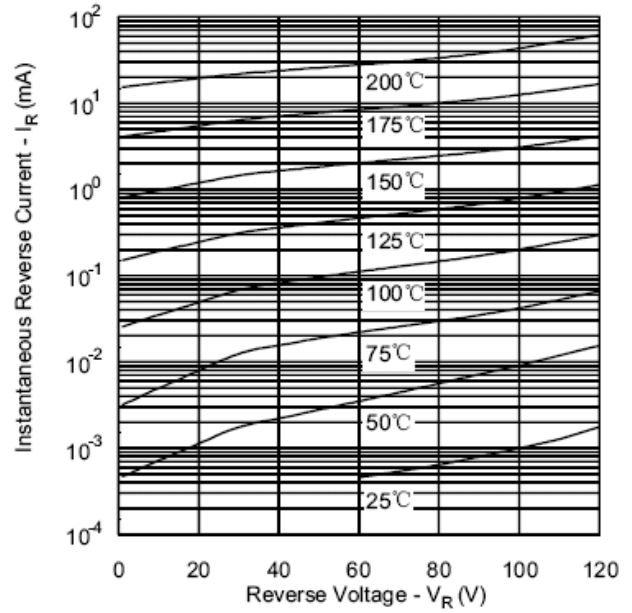
Thermal-Mechanical Specifications:

| Characteristics | Symbol | Condition | Specification | Units |
|---|-----------------|--------------|---------------|---------------|
| Max. Junction Temperature | T_J | - | -55 to +175 | $^{\circ}C$ |
| Max. Storage Temperature | T_{stg} | - | -55 to +175 | $^{\circ}C$ |
| Maximum Thermal Resistance Junction to Case | $R_{\theta JC}$ | DC operation | 0.20 | $^{\circ}C/W$ |
| Case Style | SPD-3/A | | | |

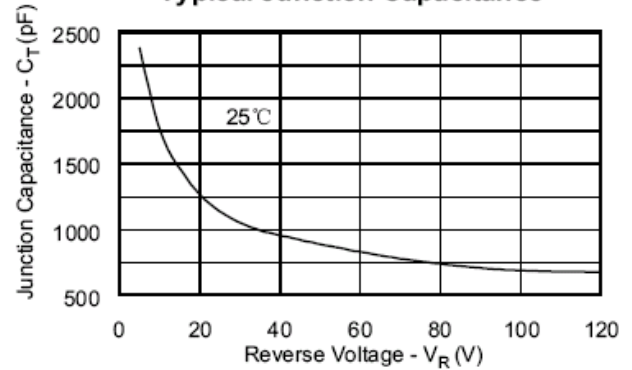
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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