

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

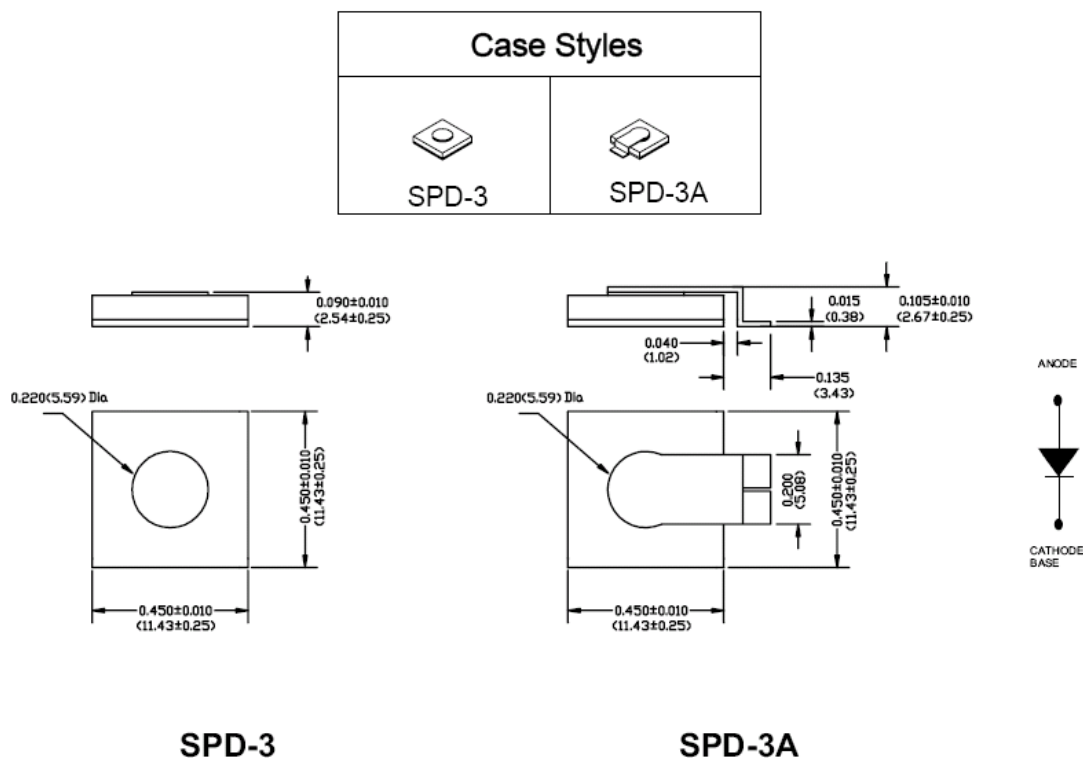
### Applications:

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

### Features:

- 175 °C T<sub>J</sub> 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 $\mu$ sec Frequency limited by $T_J$ max. $V_A=1.5 \times V_R$	0.75	A

**Electrical Characteristics:**

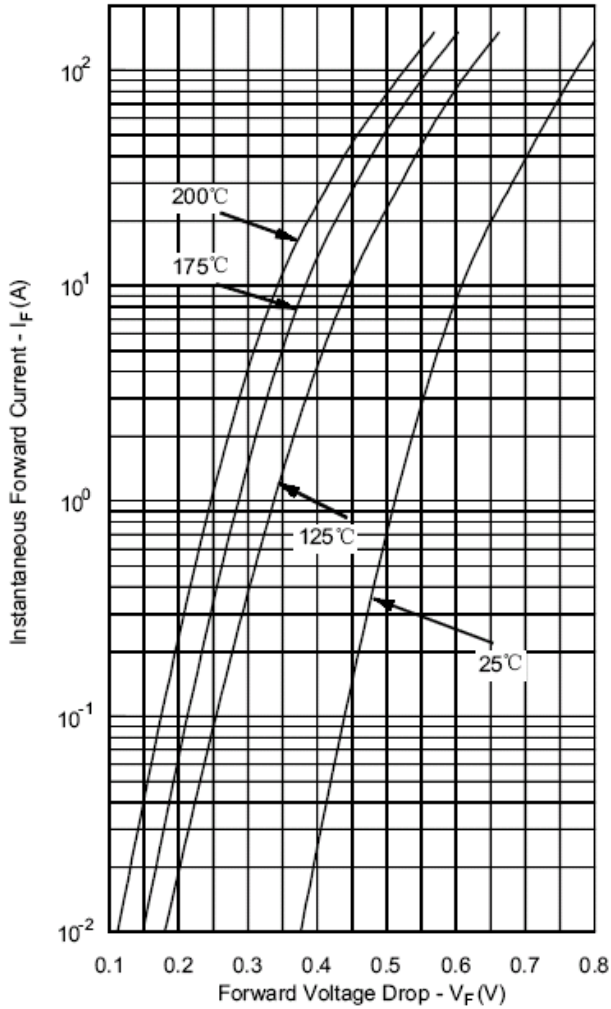
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop*	$V_{F1}$	@ 120A, Pulse, $T_J = 25^{\circ}C$	0.87	V
	$V_{F2}$	@ 120A, Pulse, $T_J = 125^{\circ}C$	0.72	V
Max. Reverse Current (per leg) *	$I_{R1}$	@ $V_R = \text{rated } V_R$ $T_J = 25^{\circ}C$	2.0	mA
	$I_{R2}$	@ $V_R = \text{rated } V_R$ $T_J = 125^{\circ}C$	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/ $\mu$ s

\* Pulse Width < 300 $\mu$ s, Duty Cycle <2%

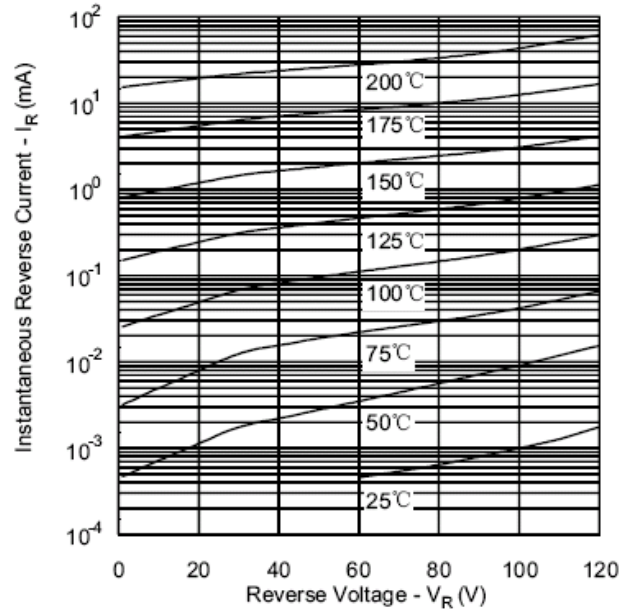
**Thermal-Mechanical Specifications:**

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			

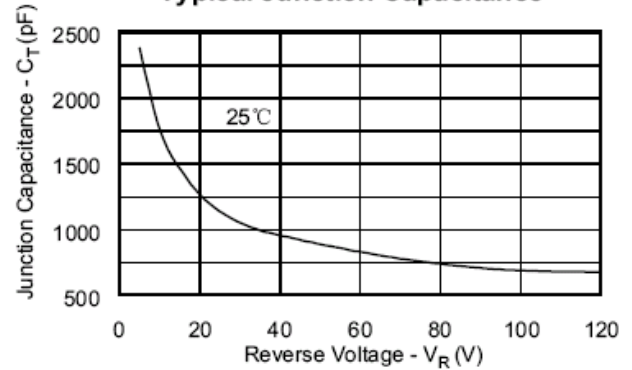
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



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