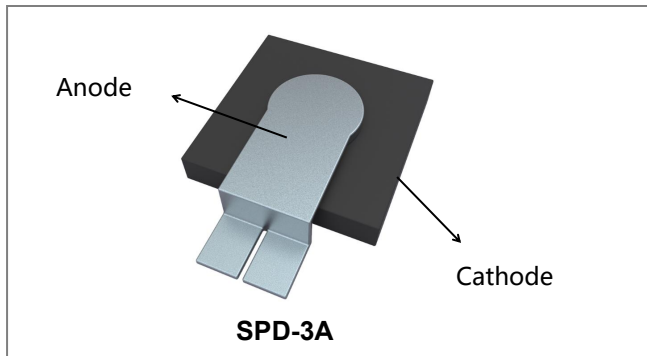


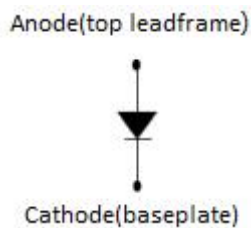
## Power Surface Mount Schottky Rectifier (80V/100V, 120Amp)



### Features

- 175 °C T<sub>J</sub> operation
- Low forward voltage drop
- Low reverse leakage current
- High surge capacities
- High frequency operation
- Guaranteed reverse avalanche capability
- Low profile surface mount package
- Base plate: Pure Sn plated; Terminals: Pure Sn plated
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Schematic & Pin Configuration



### Applications

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

### Maximum Ratings(limiting values, at 25 °C unless otherwise specified)

Characteristics	Symbol	Condition	Max.		Units
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	-	80	(123SPC080A)	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		100	(123SPC100A)	
DC Blocking Voltage	V <sub>R</sub>				
Average Rectified Forward Current	I <sub>F(AV)</sub>	50% duty cycle @T <sub>C</sub> =116°C, rectangular wave form	120		A
Peak One Cycle Non-Repetitive Surge Current	I <sub>FSM</sub>	8.3 ms, half Sine pulse	1650		A
Non-Repetitive Avalanche Energy	E <sub>AS</sub>	T <sub>J</sub> =25°C, I <sub>AS</sub> =0.75A, L=40 mH	11.25		mJ
Repetitive Avalanche Current	I <sub>AR</sub>	I <sub>AS</sub> decaying linearly to 0 in 1 µsec Frequency limited by T <sub>J</sub> max. V <sub>A</sub> =1.5×V <sub>R</sub>	0.75		A

**Electrical Characteristics:**

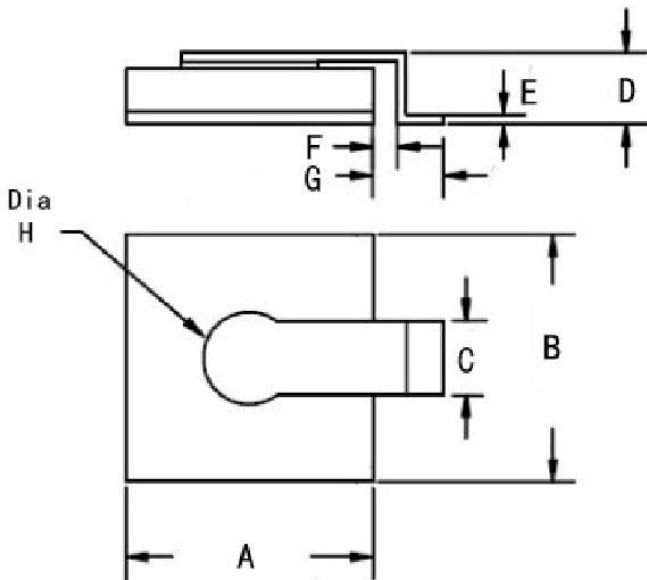
Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop *	V <sub>F1</sub>	@ 120A, Pulse, T <sub>J</sub> = 25 °C	0.82	0.87	V
	V <sub>F2</sub>	@ 120A, Pulse, T <sub>J</sub> = 125 °C	0.71	0.75	V
Reverse Current*	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , Pulse, T <sub>J</sub> = 25 °C	0.6	2000	uA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , Pulse, T <sub>J</sub> = 125 °C	0.2	48.0	mA
Junction Capacitance	C <sub>T</sub>	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C f <sub>SIG</sub> = 1MHz	2674	3000	pF
Voltage Rate of Change	dv/dt	-	-	10,000	V/μs

\* Pulse width < 300 μs, duty cycle < 2%

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T <sub>J</sub>	-	-55 to +175	°C
Storage Temperature	T <sub>stg</sub>	-	-55 to +175	°C
Typical Thermal Resistance Junction to Case	R <sub>θJC</sub>	DC operation	0.20	°C/W

**Mechanical Dimensions (Inches/Millimeters)**



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	11.08	11.78	0.436	0.464
B	11.08	11.78	0.436	0.464
C	4.93	5.23	0.194	0.206
D	2.57	3.37	0.101	0.133
E	0.20	0.60	0.008	0.024
F	1.02		0.040	
G	4.52		0.178	
H	5.59		0.220	

**SPD-3A**

**Ratings and Characteristics Curves**

Figure 1  
Typical Forward Characteristics

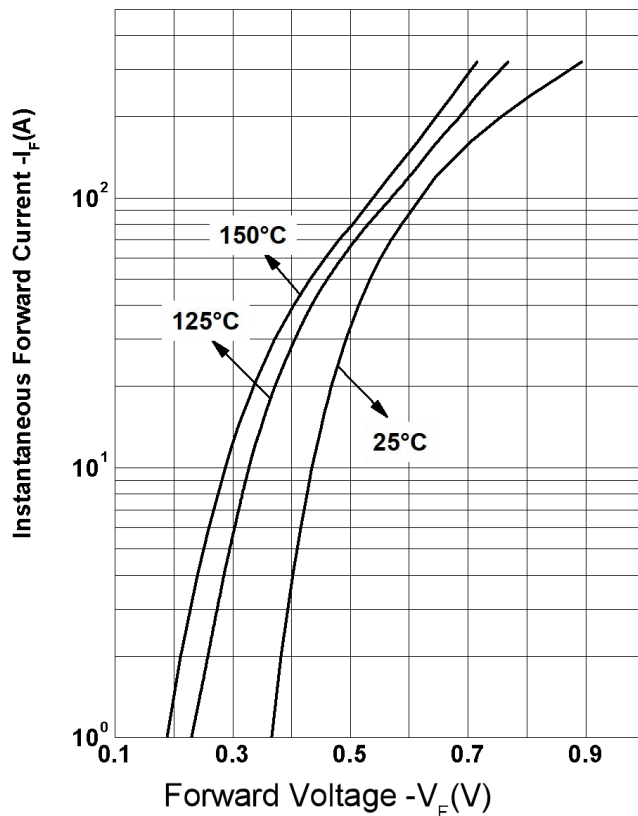


Figure 2  
Typical Reverse Characteristics

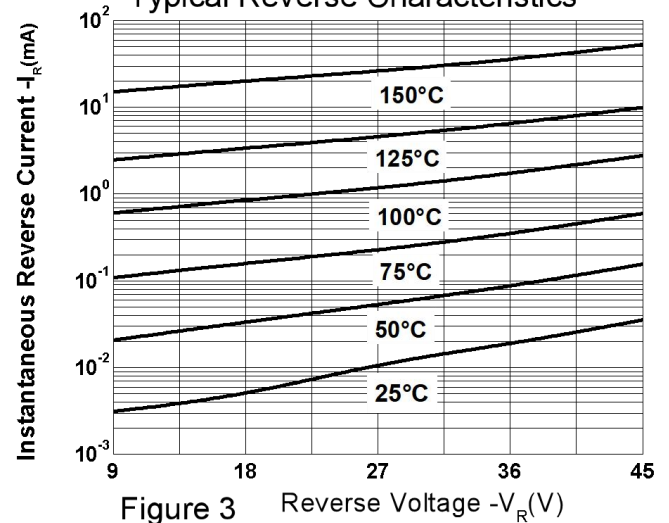
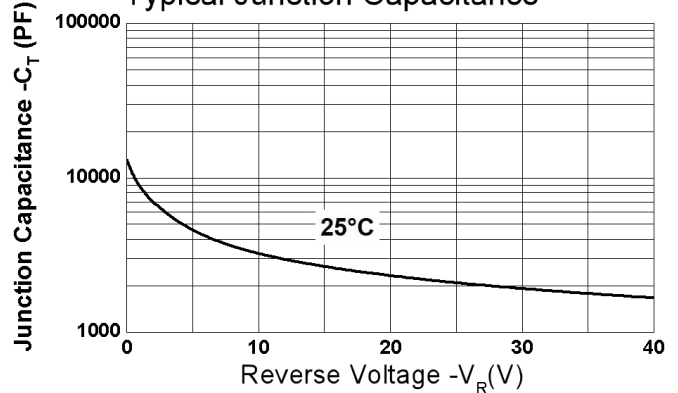


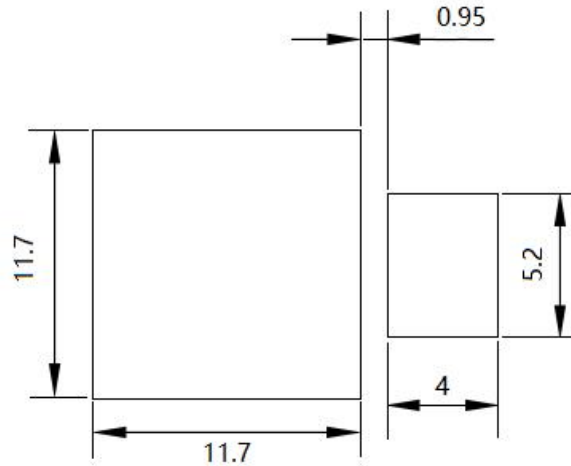
Figure 3  
Typical Junction Capacitance



**Ordering Information**

Device	Package	Shipping
123SPC080A/123SPC100A	SPD-3A(Pb-Free)	100pcs/ box

**SPD-3A PAD Layout Recommend Size(Millimeters)**



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