

## 123SPD100A Power Surface Mount Schottky Rectifier

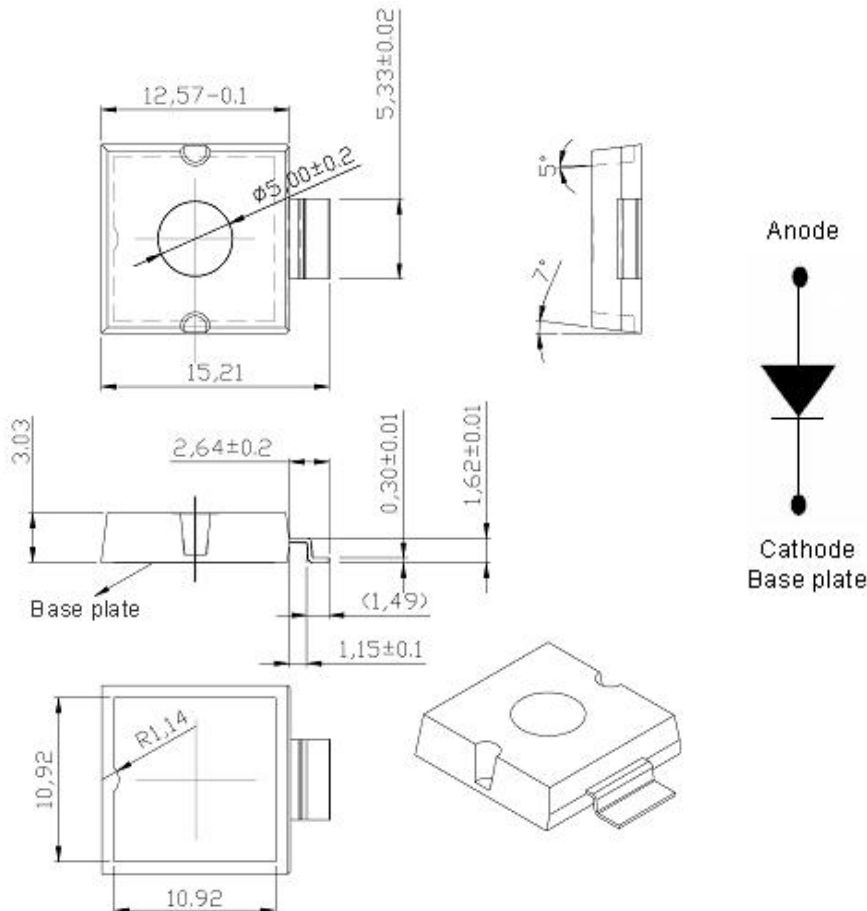
### Applications:

- 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

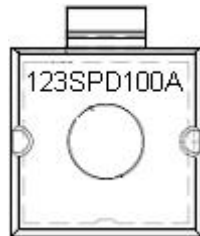
### Mechanical Dimensions: In mm



### SPD-4

- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - [sales@smc-diodes.com](mailto:sales@smc-diodes.com) •

**Marking Diagram:**



**Cautions:** Molding resin  
Epoxy resin UL:94V-0

**Ordering Information:**

Device	Package	Shipping
123SPD100A	SPD-4	64pcs / bag

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

**Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	-	100	V
Average Forward Current	$I_{F(AV)}$	50% duty cycle, rectangular wave form	120	A
Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	8.3 ms, half Sine pulse	1650	A
Non-Repetitive Avalanche Energy	$E_{AS}$	$T_J=25^{\circ}C, I_{AS}=0.75A,$ $L=40\text{ mH}$	11.25	mJ
Repetitive Avalanche Current	$I_{AR}$	$I_{AS}$ 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:**

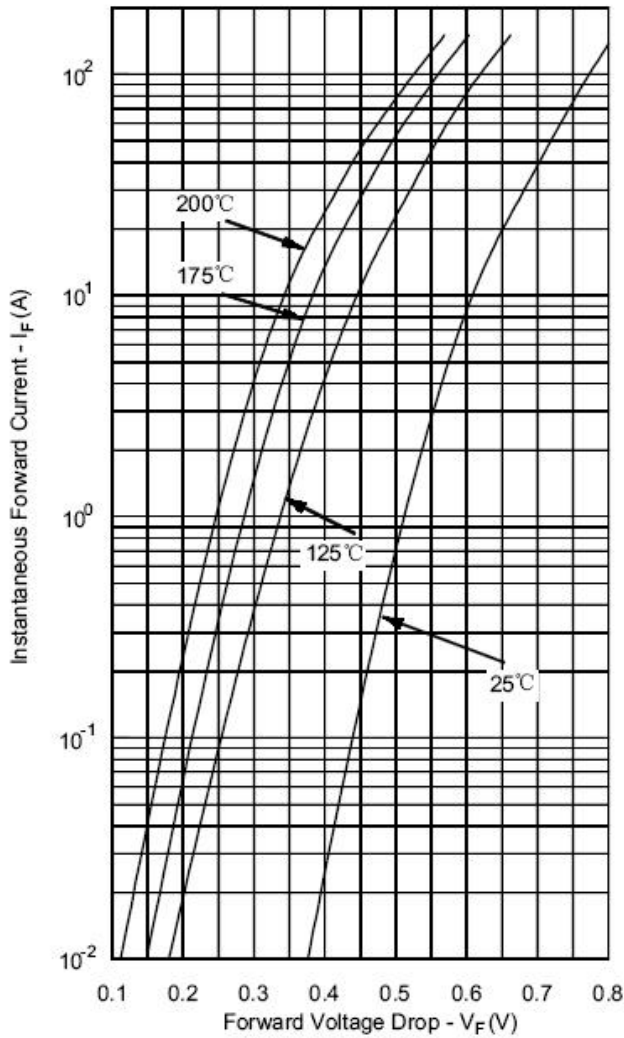
Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop*	V <sub>F1</sub>	@ 120A, Pulse, T <sub>J</sub> = 25 °C	0.87	V
	V <sub>F2</sub>	@ 120A, Pulse, T <sub>J</sub> = 125 °C	0.72	V
Reverse Current *	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>R</sub> T <sub>J</sub> = 25 °C	2.0	mA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> T <sub>J</sub> = 125 °C	48.0	mA
Junction Capacitance	C <sub>J</sub>	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C f <sub>SIG</sub> = 1MHz	3000	pF
Voltage Rated of Change	dv/dt	-	10,000	V/μs

\* Pulse Width < 300μs, Duty Cycle <2%

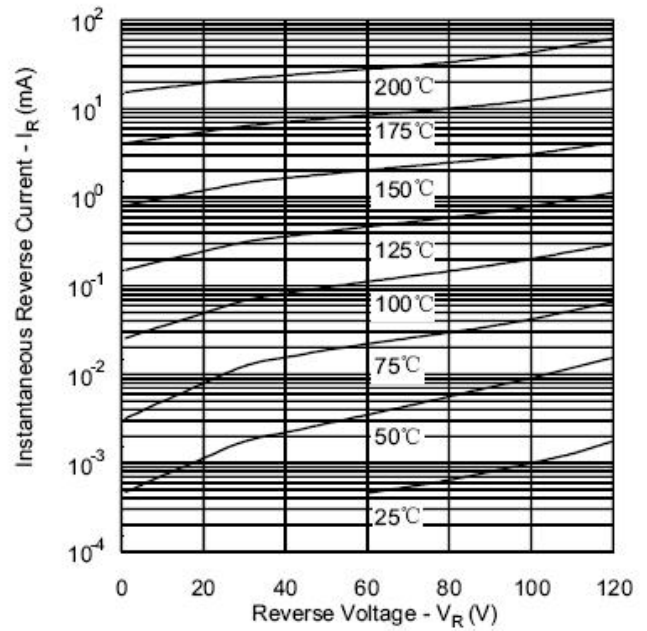
**Thermal-Mechanical Specifications:**

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
Case Style	SPD-4			

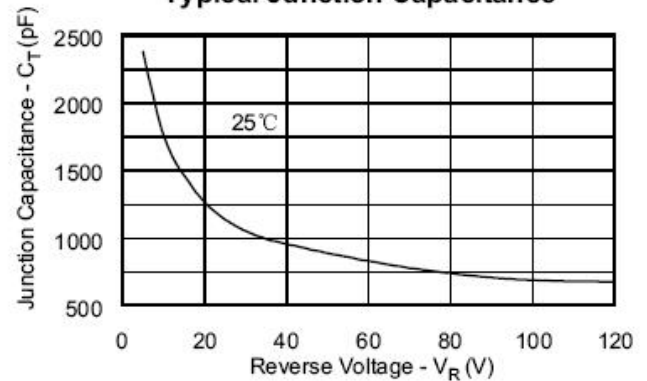
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



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