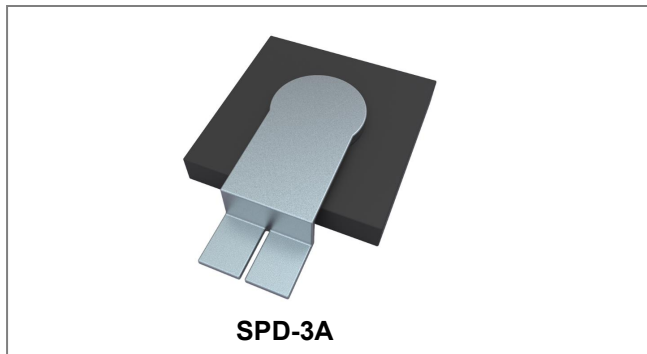


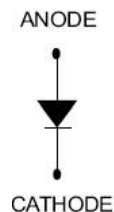
## Power Surface Mount Schottky Rectifier (45V, 120Amp)



### 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
- Baseplate: 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:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	-	45	V
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> =11A, L=1.2mH	76	mJ
Repetitive Avalanche Current	I <sub>AR</sub>	I <sub>AS</sub> decaying linearly to 0 in 1 μ sec Frequency limited by T <sub>J</sub> max. V <sub>A</sub> =1.5 × V <sub>R</sub>	11	A

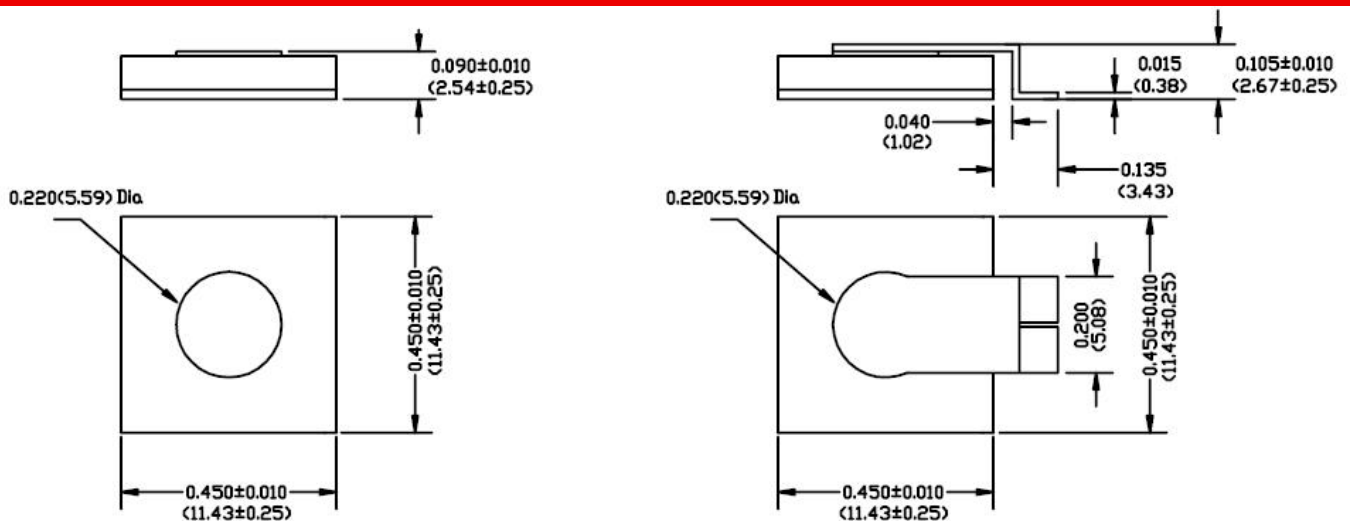
**Electrical Characteristics:**

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop *	$V_{F1}$	@ 120A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.58	0.66	V
	$V_{F2}$	@ 120A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.53	0.59	V
Reverse Current*	$I_{R1}$	@ $V_R = \text{rated } V_R$ , Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.06	2.4	mA
	$I_{R2}$	@ $V_R = \text{rated } V_R$ , Pulse, $T_J = 125\text{ }^\circ\text{C}$	10	90	mA
Junction Capacitance	$C_T$	@ $V_R = 5\text{V}$ , $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	4200	4800	pF
Voltage Rate of Change	dv/dt	-	-	10,000	V/ $\mu\text{s}$

\* Pulse width < 300  $\mu\text{s}$ , duty cycle < 2%

**Thermal-Mechanical Specifications:**

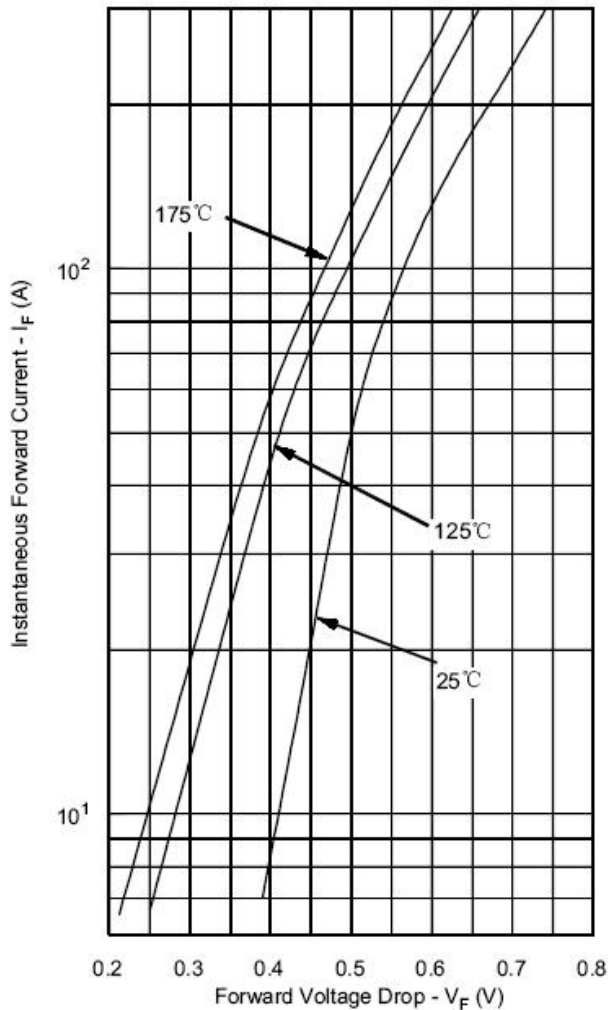
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	$T_J$	-	-55 to +175	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-	-55 to +175	$^\circ\text{C}$
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	0.20	$^\circ\text{C/W}$

**Mechanical Dimensions (Inches/Millimeters)**

**SPD-3**
**SPD-3A**

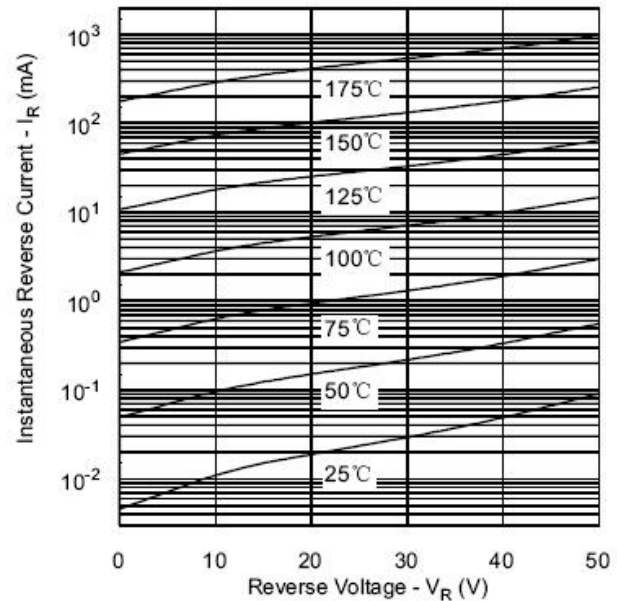
Suffix "R" Denotes Reversed Polarity

**Ratings and Characteristics Curves**

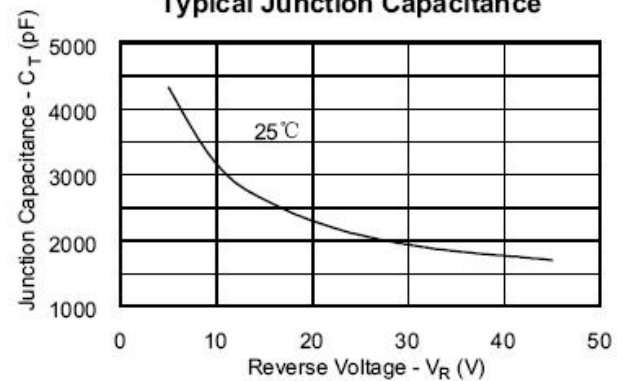
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



**Ordering Information**

Device	Package	Shipping
121SPC045(A)	SPD-3A(Pb-Free)	100pcs/ box

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

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