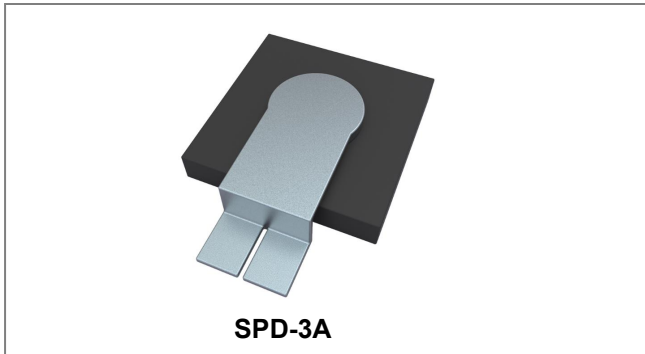


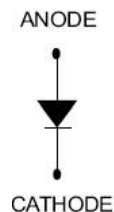
Power Surface Mount Schottky Rectifier (45V, 120Amp)



Features

- 150 °C T_J operation
- Low forward voltage drop
- 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 _{RRM} V _{RWM} V _R	-	45	V
Average Rectified Forward Current	I _{F(AV)}	50% duty cycle @T _C =116°C, 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°C, I _{AS} =11A, L=1.2mH	76	mJ
Repetitive Avalanche Current	I _{AR}	I _{AS} decaying linearly to 0 in 1 μ sec Frequency limited by T _J max. V _A =1.5 × V _R	11	A

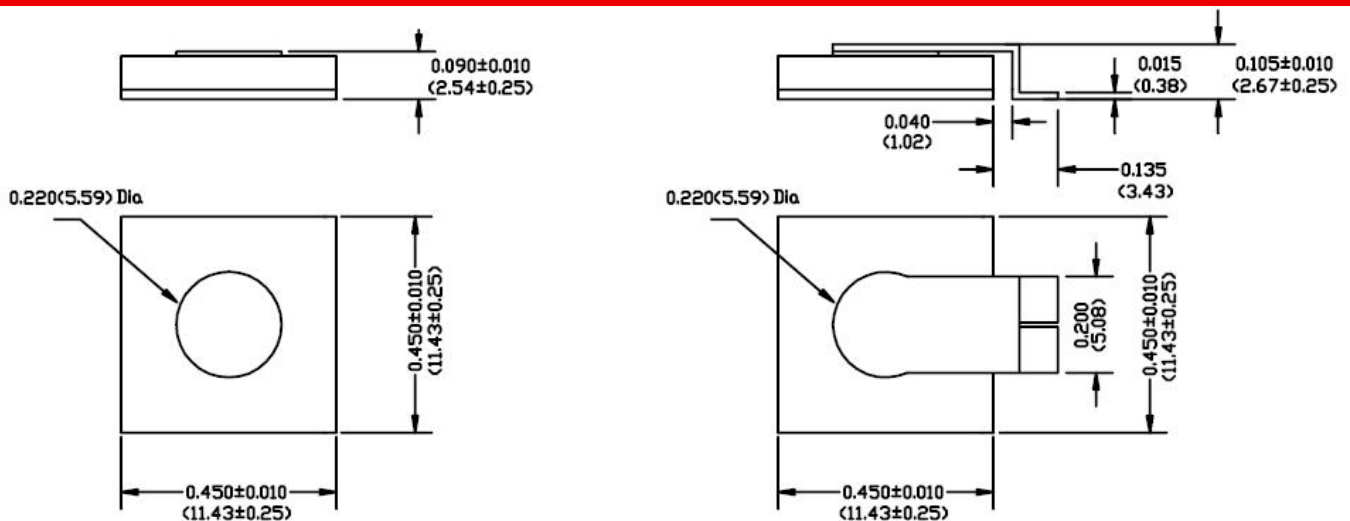
Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop *	V_{F1}	@ 120A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.58	0.60	V
	V_{F2}	@ 120A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.53	0.57	V
Reverse Current*	I_{R1}	@ $V_R = \text{rated } V_R$, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.2	9.0	mA
	I_{R2}	@ $V_R = \text{rated } V_R$, Pulse, $T_J = 125\text{ }^\circ\text{C}$	140	420	mA
Junction Capacitance	C_T	@ $V_R = 5\text{V}$, $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	4000	4800	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_J	-	-55 to +150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-	-55 to +150	$^\circ\text{C}$
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	0.20	$^\circ\text{C/W}$

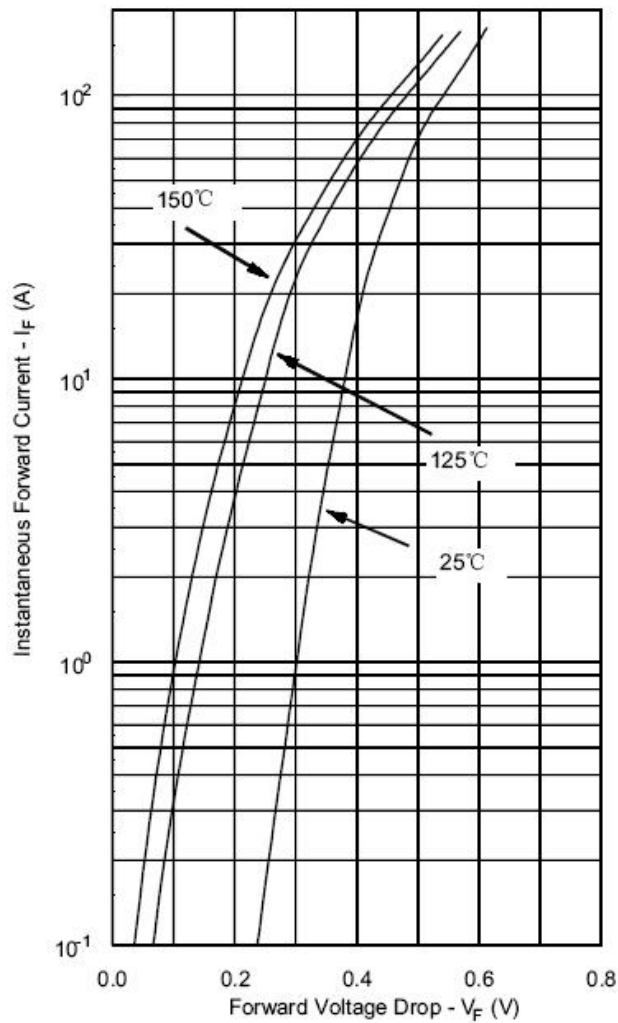
Mechanical Dimensions (Inches/Millimeters)

SPD-3
SPD-3A

Suffix "R" Denotes Reversed Polarity

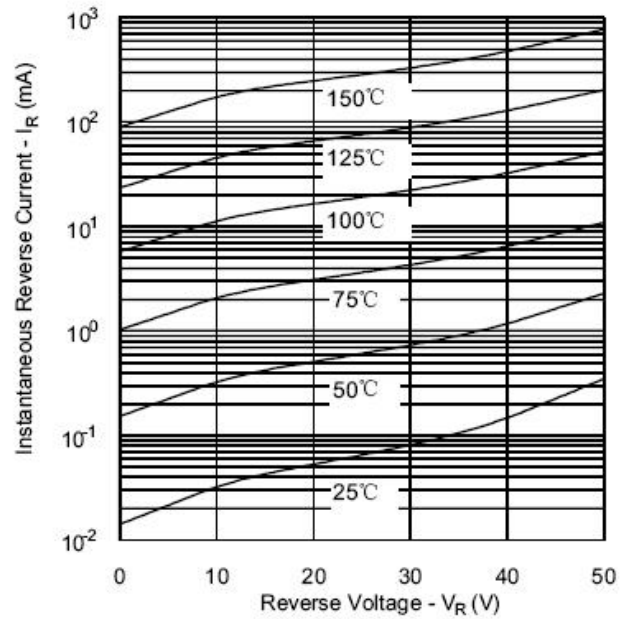
- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - sales@smc-diodes.com •

Ratings and Characteristics Curves

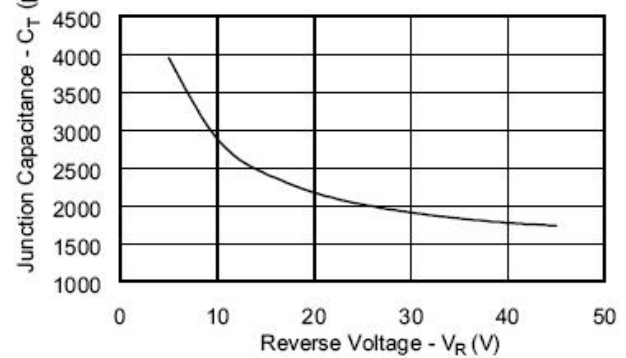
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



Ordering Information

Device	Package	Shipping
120SPC045(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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