

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

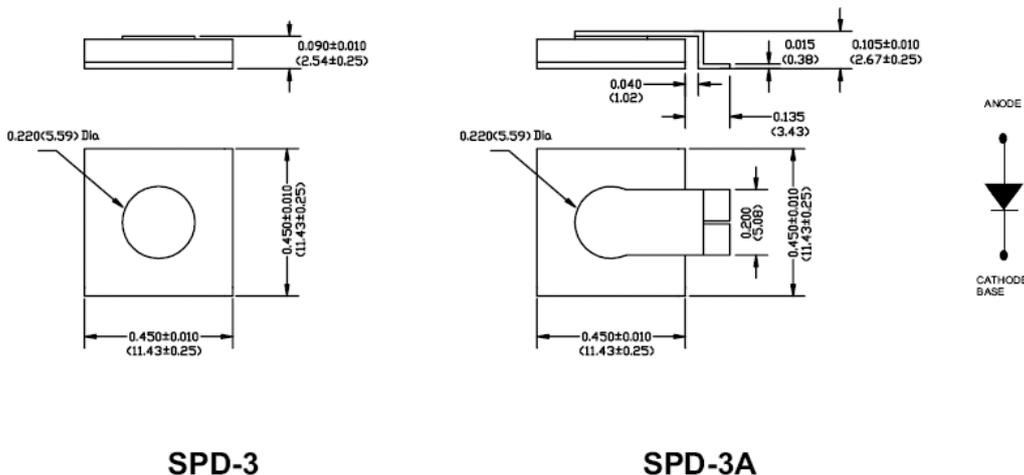
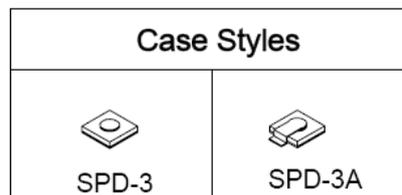
**Applications:**

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

**Features:**

- 150 °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
- 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 Inches / mm**



**Suffix “R” Denotes Reversed Polarity**

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



**Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	$V_{RRM}$	-	45	V
Working Peak Reverse Voltage	$V_{RWM}$			
DC Blocking Voltage	$V_R$			
Average Forward Current	$I_{F(AV)}$	50% duty cycle, rectangular wave form	120	A
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)	$E_{AS}$	$T_J=25^{\circ}C, I_{AS}=11A, L=1.2mH$	76	mJ
Repetitive Avalanche Current(per leg)	$I_{AR}$	$I_{AS}$ decaying linearly to 0 in 1 $\mu$ sec Frequency limited by $T_J$ max. $V_A=1.5 \times V_R$	11	A

**Electrical Characteristics:**

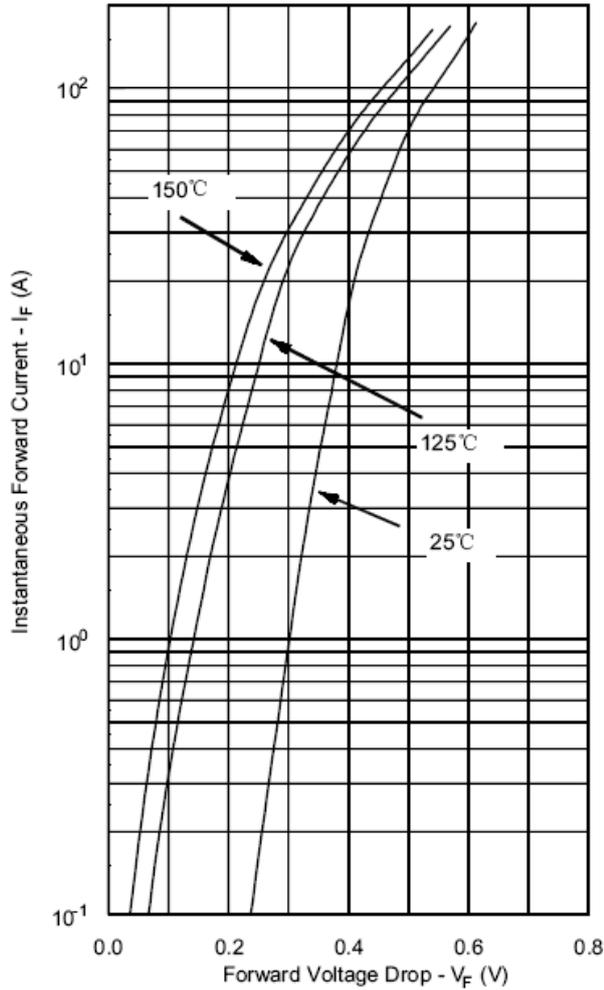
Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop*	$V_{F1}$	@ 120A, Pulse, $T_J = 25^{\circ}C$	0.60	V
	$V_{F2}$	@ 120A, Pulse, $T_J = 125^{\circ}C$	0.57	V
Reverse Current*	$I_{R1}$	@ $V_R =$ rated $V_R$ , Pulse, $T_J = 25^{\circ}C$	9.0	mA
	$I_{R2}$	@ $V_R =$ rated $V_R$ , Pulse, $T_J = 125^{\circ}C$	420	mA
Junction Capacitance	$C_J$	@ $V_R = 5V, T_C = 25^{\circ}C$ $f_{SIG} = 1MHz, V_{SIG}=50mV(p-p)$	4800	pF

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

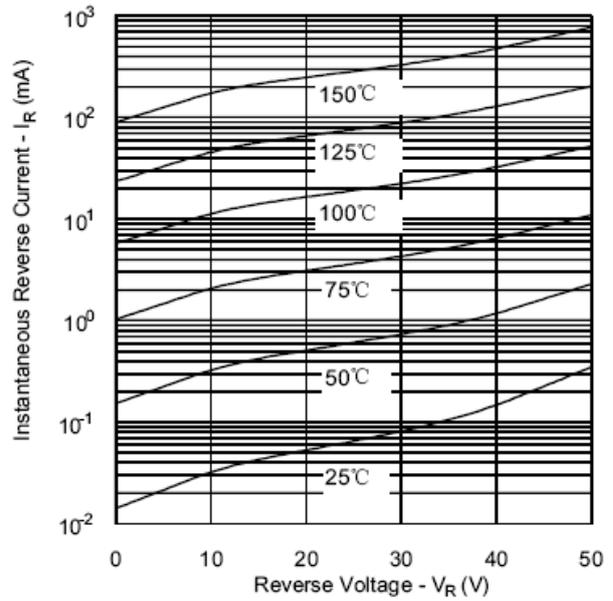
**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	$T_J$	-	-55 to +150	$^{\circ}C$
Storage Temperature	$T_{stg}$	-	-55 to +150	$^{\circ}C$
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	0.20	$^{\circ}C/W$
Case Style	SPD-3/A			

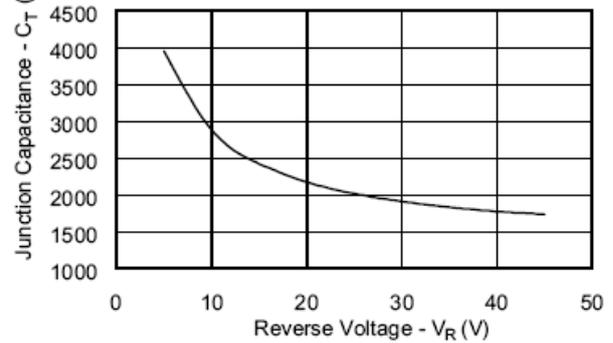
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance





**120SPC045/A**

**Technical Data**  
**Data Sheet N1156, Rev. -**

**Green Products**

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