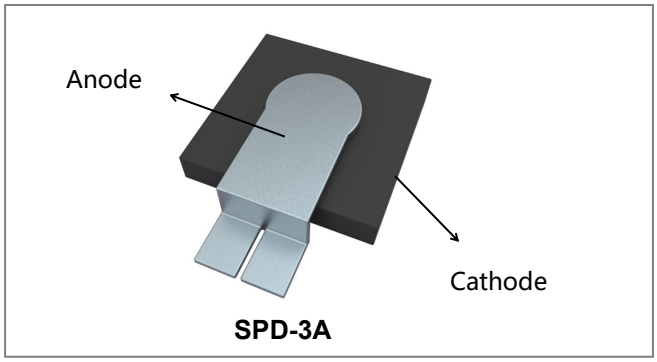
Technical Data
Data Sheet N1157, Rev. D

RoHS

Power Surface Mount Schottky Rectifier
(60V，120Amp)

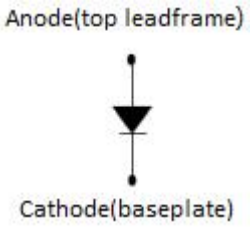


SPD-3A

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
- Base plate: Pure Sn plated; Terminals: Pure Sn plated
- Top lead frame is anode, Base plate is cathode
- 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 Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	60	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℃,I_{AS}=2.9A,L=6.5mH	27.3	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	2.9	A

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Electrical Characteristics:

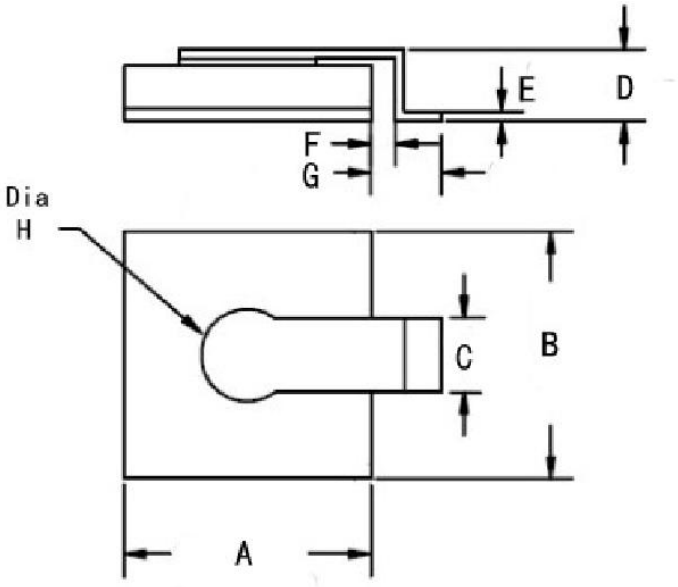
Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop *	V_{F1}	@ 120A, Pulse, T_J = 25 °C	0.85	0.90	V
	V_{F2}	@ 120A, Pulse, T_J = 125 °C	0.75	0.80	V
Reverse Current*	I_{R1}	@V_R = rated V_R, Pulse, T_J = 25 °C	0.2	11	mA
	I_{R2}	@V_R = rated V_R, Pulse, T_J = 125 °C	33	840	mA
Junction Capacitance	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	1730	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	°C
Storage Temperature	T_{stg}	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	0.20	°C/W
Approximate Weight	wt	-	1.8	g

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	

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Ratings and Characteristics Curves

Figure1
Typical Forward Characteristics

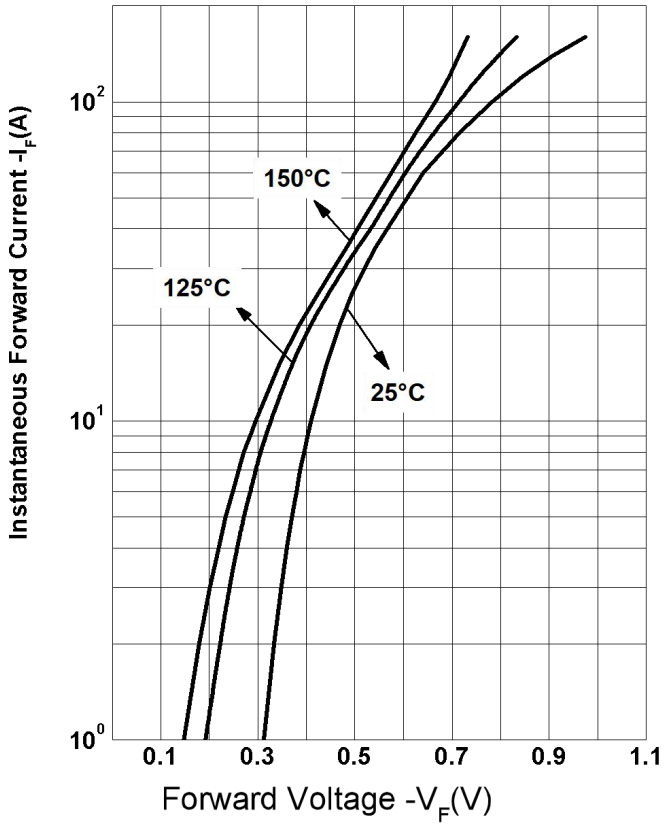


Figure 2
Typical Reverse Characteristics

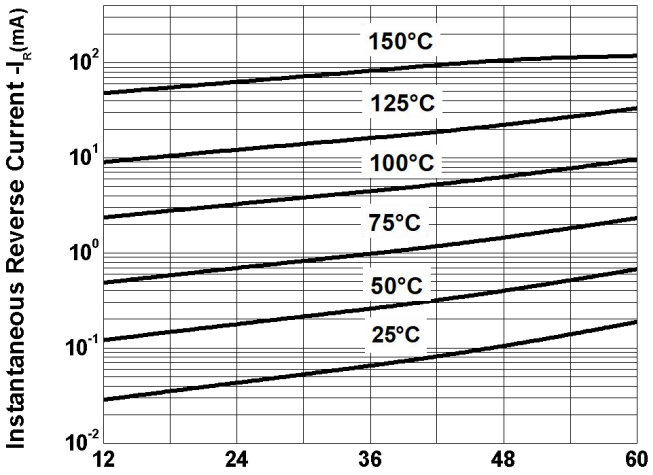
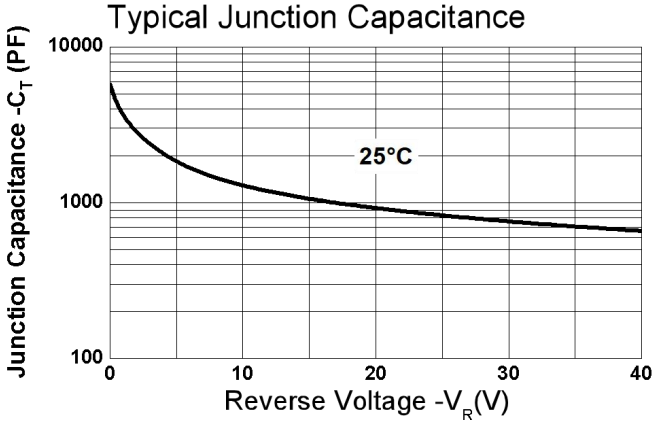


Figure 3
Typical Junction Capacitance



Ordering Information

Device	Package	Shipping
120SPC060A	SPD-3A(Pb-Free)	100pcs/ box

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