

Power Surface Mount Schottky Rectifier (20V, 30Amp)

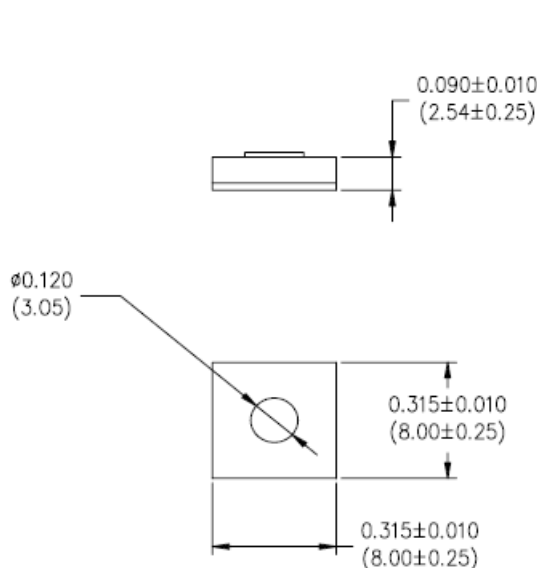
Applications:

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

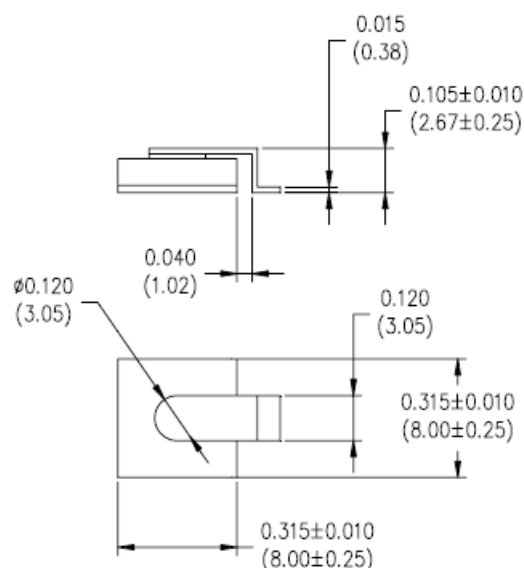
Features:

- 150°C T_J operation
- Low reverse leakage current
- High surge capacities
- Low forward voltage drop
- High frequency operation
- 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



SPD-1



SPD-1A

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	20	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle, rectangular wave form	30	A
Max. Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine pulse	570	A
Non-Repetitive Avalanche Energy	E_{AS}	$T_J = 25^\circ\text{C}$, $I_{AS} = 2.9\text{A}$, $L = 6.5\text{mH}$	27.3	mJ
Repetitive Avalanche Current	I_{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by T_J max. $V_A = 1.5 \times V_R$ typical	2.9	A

Electrical Characteristics:

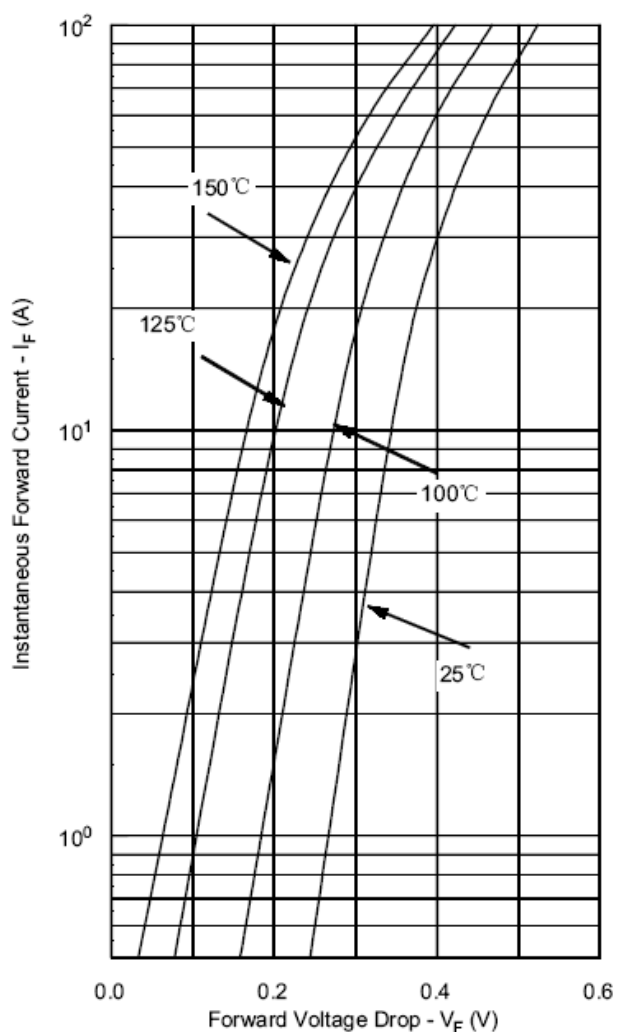
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop*	V_{F1}	@ 30A, Pulse, $T_J = 25^\circ\text{C}$	0.45	V
	V_{F2}	@ 30A, Pulse, $T_J = 125^\circ\text{C}$	0.32	V
Max. Reverse Current*	I_{R1}	@ $V_R = 20\text{V}$, Pulse, $T_J = 25^\circ\text{C}$	4.0	mA
	I_{R2}	@ $V_R = 20\text{V}$, Pulse, $T_J = 125^\circ\text{C}$	440	mA
Max. Junction Capacitance	C_T	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$, $V_{SIG} = 50\text{mV(p-p)}$	2700	pF

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

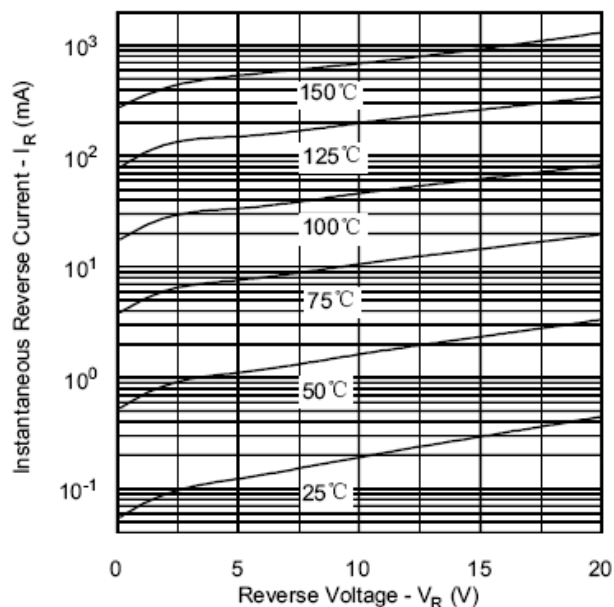
Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +150	$^\circ\text{C}$
Max. Storage Temperature	T_{stg}	-	-55 to +150	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	0.50	$^\circ\text{C/W}$
Case Style	SPD-1/A			

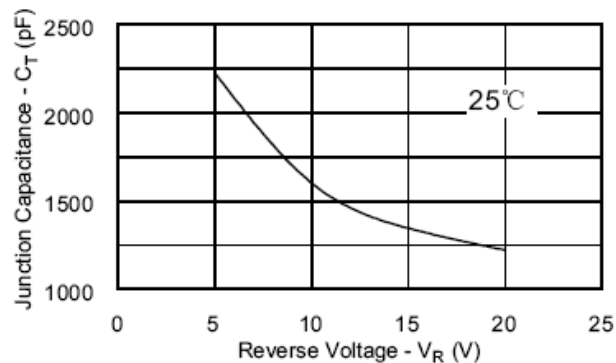
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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