



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
 Phone: (562) 404-4474 * Fax: (562) 404-1773
 ssdi@ssdi-power.com * www.ssdi-power.com

**SSR30C100S1
 &
 SSR30C120S1**

**30 A / 1200 V
 Schottky Silicon Carbide
 Rectifier**

Designer's Data Sheet

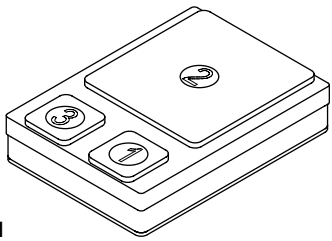
Part Number / Ordering Information ^{1/}

SSR30C

Screening ^{2/} — = Not Screened
TX = TX Level
TXV = TXV
S = S Level

Package S1 = SMD1

Voltage 100 = 1000 V
120 = 1200 V



SMD1

- FEATURES:**
- 1200 Volt Silicon Carbide Schottky Rectifier
 - Average Output Current 30 Amps
 - No Reverse Recovery
 - No Forward Recovery
 - No Switching Time Change Over Temperature
 - Small Package Size
 - TX, TXV, and Space Level Screening Available. ^{2/} Consult Factory.

MAXIMUM RATINGS ^{3/}		Symbol	Value	Units
Peak Repetitive and Peak Reverse Voltage	SSR30C100S1 SSR30C120S1	V_{RRM} V_R	1000 1200	Volts
Average Rectified Forward Current ^{4/} (Resistive Load, 60 Hz, Sine Wave)	Total	I_O	30	Amps
Peak Surge Current ^{4/} (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ\text{C}$)	Total	I_{FSM}	120	Amps
Operating & Storage Temperature		$T_{OP} \& T_{stg}$	-55 to +250	°C
Junction Temperature		T_J	-55 to +250	°C
Maximum Thermal Resistance ^{4/} (Junction to Case)	Total	$R_{\theta JC}$	0.8	°C/W

NOTES:

^{1/} For Ordering Information, Price, and Availability Contact Factory.
^{2/} Screened to MIL-PRF-19500.
^{3/} Unless Otherwise Specified, All Electrical Characteristics @25°C
^{4/} Terminal Pads 1 & 3 Must be connected together for testing and at the Board Level.



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**SSR30C100S1
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 SSR30C120S1**

ELECTRICAL CHARACTERISTICS ^{3/ 4/}		Symbol	Min	Typ	Max	Units
Instantaneous Forward Voltage Drop (T _A =25°C, Pulse)	I _F = 10 A	V _{F1}	—	1.25	1.45	V _{DC}
	I _F = 20 A	V _{F2}	—	1.65	1.75	
	I _F = 30 A	V _{F3}	—	1.8	2.25	
	I _F = 40 A	V _{F4}	—	2.0	---	
Instantaneous Forward Voltage Drop (Pulse)	T _A = -55°C, I _F = 20 A	V _{F5}	—	1.5	2.0	V _{DC}
	T _A = 150 °C, I _F = 20 A	V _{F6}	—	2.6	2.9	
Reverse Leakage Current (Rated V _R , T _A = 25°C, Pulse)		I _{R1}	—	250	1500	μA
Reverse Leakage Current (Rated V _R , T _A = 150°C, Pulse)		I _{R2}	—	1	5	mA
Junction Capacitance (V _R = 10V, f = 1MHz, T _A = 25°C)		C _J	—	1250	2000	pF

NOTES:
 * Pulse Test: Pulse Width = 300 μsec, Duty Cycle = 2%
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Available Part Numbers:
SSR30C100S1
SSR30C120S1

PIN ASSIGNMENT			
Package	Pin 1	Pin 2	Pin 3
SMD1	Anode	Cathode	Anode

SMD1 Outline:

The 2D drawing shows the following dimensions:
 - Overall width: .140"
 - Overall height: .015"
 - Pad width: .050"
 - Pad spacing: .140" (with .035" MIN between pads)
 - Pad height: .030" MIN
 - Pad length: .157"
 - Pad thickness: .625"
 - Pad width (bottom): .415"
 - Pad length (bottom): .037"
 - Pad width (bottom): .375"
 - Pad length (bottom): .450"

Tolerances (Unless Specified):
 .XX = ±.030"
 .XXX = ±.010"