



Solid State Devices, Inc.

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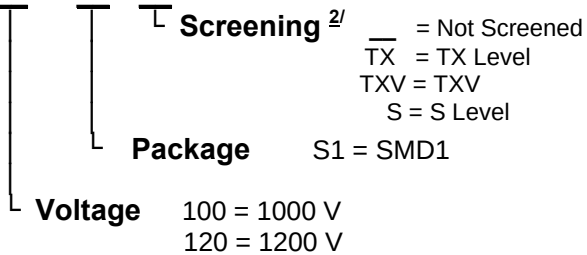
SSR40C100S1
SSR40C120S1

40 A / 1200 V
Schottky Silicon Carbide
Rectifier

Designer's Data Sheet

Part Number / Ordering Information ^{1/}

SSR40C



FEATURES:

- 1200 Volt Silicon Carbide Schottky Rectifier
- Average Output Current 40 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.

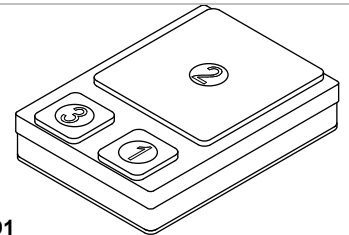
MAXIMUM RATINGS ^{3/}

		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	40	Amps
Peak Surge Current ^{4/} (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ\text{C}$)	Total	I_{FSM}	200	Amps
Operating & Storage Temperature		$T_{OP} \& T_{stg}$	-55 to +250	$^\circ\text{C}$
Junction Temperature		T_J	-55 to +250	$^\circ\text{C}$
Maximum Thermal Resistance ^{4/} (Junction to Case)	Total	$R_{\theta JC}$	0.6	$^\circ\text{C/W}$

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.

SMD1



NOTE: All specifications are subject to change without notification.
SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: SH0043D

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SSR40C100S1 SSR40C120S1

ELECTRICAL CHARACTERISTICS ^{3/ 4/}		Symbol	Min	Typ	Max	Units
Instantaneous Forward Voltage Drop (T _A =25°C, Pulse)	I _F = 10 A	V _{F1}	—	1.10	1.25	V _{DC}
	I _F = 20 A	V _{F2}	—	1.20	1.35	
	I _F = 30 A	V _{F3}	—	1.35	1.50	
	I _F = 40 A	V _{F4}	—	1.45	1.65	
Instantaneous Forward Voltage Drop (T _A =150°C, Pulse)	I _F = 10 A	V _{F5}	—	1.15	-	V _{DC}
	I _F = 20 A	V _{F6}	—	1.27	1.50	
	I _F = 30 A	V _{F7}	—	1.73	-	
	I _F = 40 A	V _{F8}	—	1.97	2.30	
Instantaneous Forward Voltage Drop (T _A =-55°C, Pulsed)	I _F = 10 A	V _{F9}	—	1.10	-	V _{DC}
	I _F = 20 A	V _{F10}	—	1.15	1.30	
	I _F = 30 A	V _{F11}	—	1.25	-	
	I _F = 40 A	V _{F12}	—	1.40	1.60	
Reverse Leakage Current (Rated V _R , Pulsed)	T _A = 25°C	I _{R1}	—	30	100	μA
	T _A = 125°C	I _{R2}		40	-	
	T _A = 150°C	I _{R3}		50	500	
	T _A = 175°C	I _{R4}		60	-	
Junction Capacitance (V _R = 10V, f = 1MHz, T _A = 25°C)		C _J	—	1500	2000	pF

NOTES:

* Pulse Test: Pulse Width = 300 usec, Duty Cycle = 2%

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Available Part Numbers:

SSR40C100S1
SSR40C120S1

PIN ASSIGNMENT

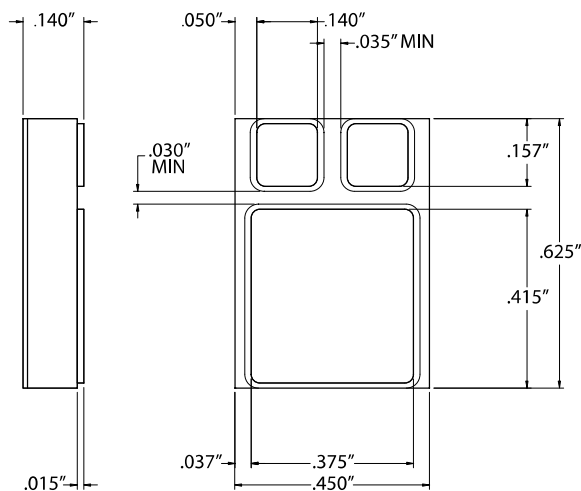
Package	Pin 1	Pin 2	Pin 3
SMD1	Anode	Cathode	Anode

SMD1 Outline:

Tolerances (Unless Specified):

.XX = ±.030"

.XXX = ±.010"



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