



# Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, Ca 90638  
 Phone: (562) 404-4474 \* Fax: (562) 404-1773  
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## SSR05C50 thru SSR05C80 Series

### 5 AMP / 800V SILICON CARBIDE SCHOTTKY RECTIFIER

**DESIGNER'S DATA SHEET**

**Part Number / Ordering Information <sup>1/</sup>**

**SSR05C**

**Screening:**      = Not Screened  
 TX = TX Level  
 TXV = TXV Level  
 S = S Level

**Package:** D1 = TO-252 (D-Pack)  
 G = Cerpack  
 S.5 = SMD.5  
 S.22 = SMD.22

**Voltage** 50 = 500 V      70 = 700 V  
 60 = 600 V      80 = 800 V

- Features:**
- 800V Silicon Carbide Schottky Rectifier
  - New Semiconductor Material
  - Switching Behavior Benchmark
  - No Reverse Recovery
  - No Forward Recovery
  - No Switching Time Change Over Temperature
  - Hermetic Packages Available

Maximum Ratings	Symbol	Value	Units
Peak Repetitive Reverse and Peak Surge Reverse Voltage	SSR05C50	500	Volts
	SSR05C60	600	
	SSR05C70	700	
	SSR05C80	800	
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave)	$I_o$	5	Amps
Non Repetitive Peak Surge Current (8.3 ms Pulse, Half Sine Wave)	$I_{FSM}$	12.5	Amps
$I^2t$ Value @25°C	$I^2t$	0.78	A <sup>2</sup> s
Power Dissipation	$P_D$	36.5	Watts
Operating & Storage Temperature	Top & Tstg	-55 to +175	°C
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	4.1	°C/W

TO-252 (D1)	Cerpack (G)	SMD.5 (S.5)	SMD.22 (S.22)



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Electrical Characteristic	Symbol	Min	Typ	Max	Units
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 5A, T_J = 25^\circ C, 300 \mu sec$ pulse)	$V_{F1}$	—	1.7	2.0	Volts
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 5A, T_J = 150^\circ C, 300 \mu sec$ pulse)	$V_{F2}$	—	2.0	2.7	Volts
<b>Reverse Leakage Current</b> ( $V_R = \text{Rated } V_R, T_J = 25^\circ C, 300 \mu sec$ pulse min)	$I_{R1}$	—	15	200	$\mu A$
<b>Reverse Leakage Current</b> ( $V_R = \text{Rated } V_R, T_J = 100^\circ C, 300 \mu sec$ pulse min)	$I_{R2}$	—	40	1000	$\mu A$
<b>Junction Capacitance</b> ( $V_R = 10 V_{DC}, T_C = 25^\circ C, f = 1MHz$ )	$C_J$	—	50	—	pF
<b>Total Capacitive Charge</b> ( $V_R = 400V, I_F = 5A, di/dt = 200A/\mu s, T_J = 150^\circ C$ )	$Q_C$	—	13	—	nC

**NOTES:**  
 1/ For Ordering Information, Price, and Availability Contact Factory.  
 2/ For Package Outlines Contact Factory.  
 3/ All Electrical Characteristics @25°C Unless Otherwise Specified.

**Available Part Numbers:**  
 SSR05C50D1 SSR05C50G SSR05C50S.5  
 SSR05C50S.22  
 SSR05C60D1 SSR05C60G SSR05C60S.5  
 SSR05C60S.22  
 SSR05C70D1 SSR05C70G SSR05C70S.5  
 SSR05C70S.22  
 SSR05C80D1 SSR05C80G SSR05C80S.5  
 SSR05C80S.22

PIN ASSIGNMENT				
Package	Pin 1	Pin 2	Pin 3	Tab
TO-252 (D1)	N/C	Cathode	Anode	Cathode
Cerpack (G)	Anode	Anode	N/A	Cathode
SMD.5 (S.5)	Cathode	Anode	Anode	N/A
SMD.22 (S.22)	Cathode	Anode	Anode	N/A