



# Solid State Devices, Inc.

14830 Valley View Blvd \* La Mirada, Ca 90638

Phone: (562) 404-7855 \* Fax: (562) 404-1773

ssdi@ssdi-power.com \* www.ssdi-power.com

## SSR05C60 Series

### 5 AMP / 600V SILICON CARBIDE SCHOTTKY RECTIFIER

#### DESIGNER'S DATA SHEET

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

SSR05C 60 D1 HR

Screening:     = Not Screened  
HR = High Rel

Package: D1 = TO-252 (D-Pack)

G = Cerpack

S.5 = SMD.5

S.22 = SMD.22

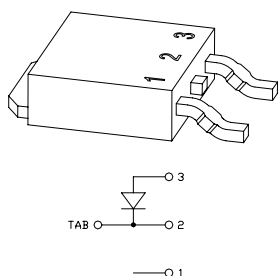
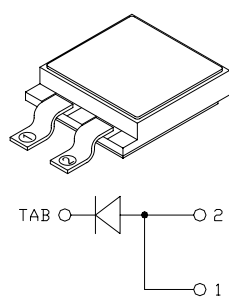
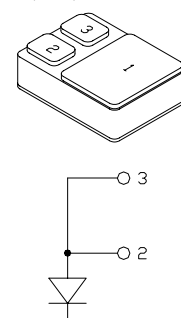
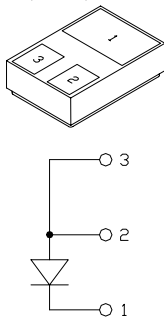
Voltage 50 = 500 V

60 = 600 V

##### Features:

- 600V 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	$V_{RRM}$	500	Volts
	SSR05C60	$V_{RSM}$	600	
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 Superimposed on $I_o$ )		$I_{FSM}$	12.5	Amps
$I^2t$ Value		$I^2t$	0.78	$A^2s$
Power Dissipation		$P_D$	36.5	Watts
Operating & Storage Temperature		Top & Tstg	-55 to +175	$^{\circ}C$
Maximum Thermal Resistance Junction to Case		$R_{\theta JC}$	4.1	$^{\circ}C/W$

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

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

**DATA SHEET #: RS0016F**

**DOC**

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**SSR05C60 Series**

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

**PIN ASSIGNMENT**

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



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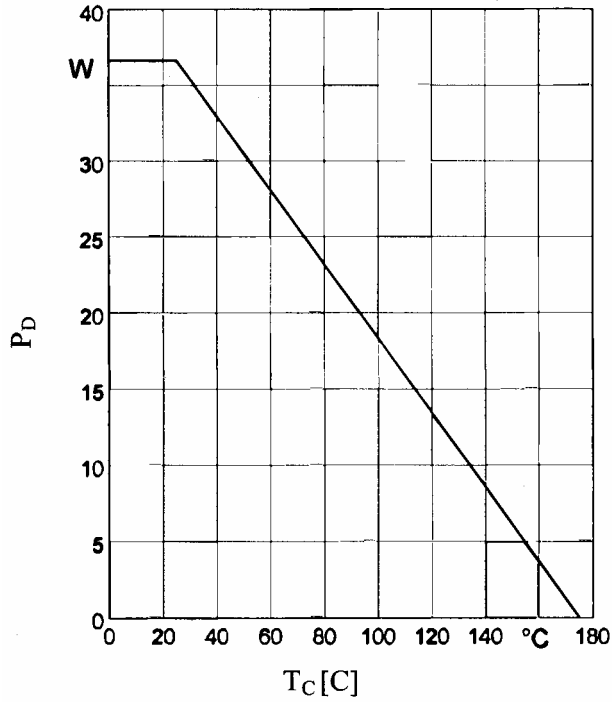
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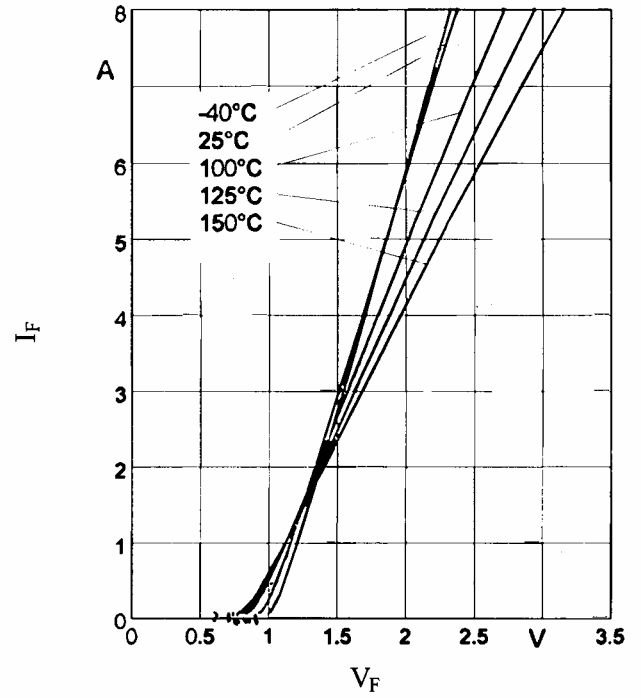
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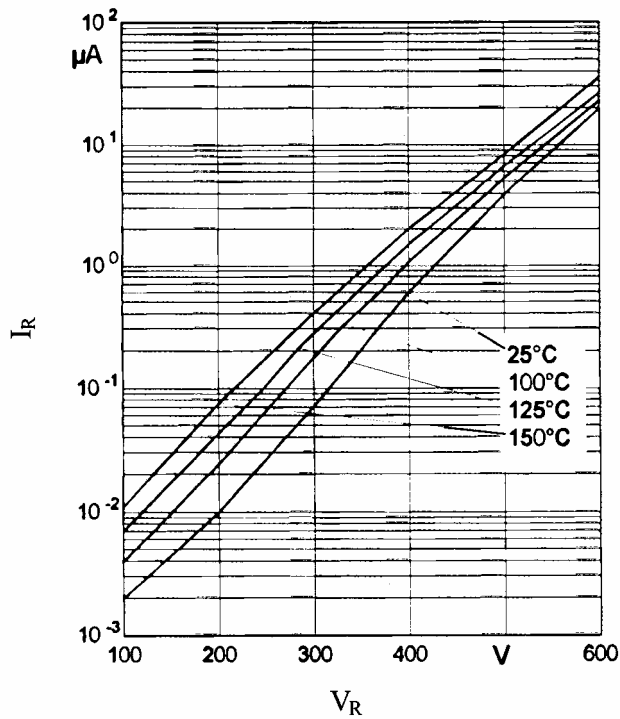
### Power Dissipation



### Typical Forward Characteristic



### Typical Reverse Current Characteristics



### Typical Capacitance vs. Reverse Voltage

