



**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  
 600 VOLTS  
 SILICON CARBIDE  
 SCHOTTKY RECTIFIER**

**DESIGNER'S DATA SHEET**

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

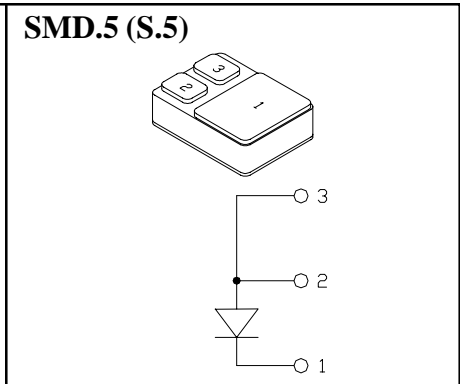
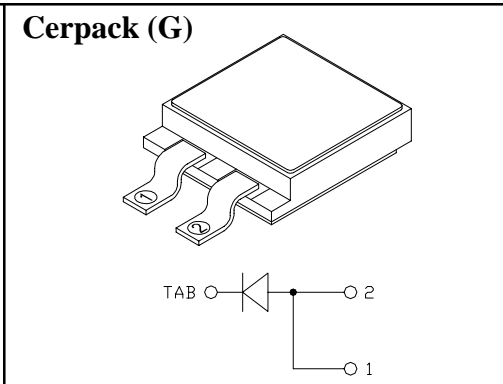
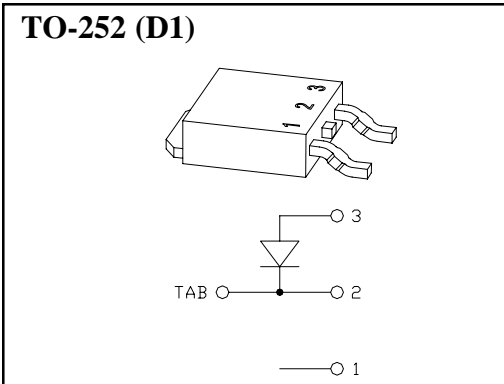
**SSR05C 60 D1 HR**

- Screening: \_ = Not Screened  
                   HR = High Rel
- Package: <sup>2/</sup> D1 = TO-252 (D-Pack)  
                   G = Cerpack  
                   S.5 = SMD .5
- Voltage: 50 = 500V  
                   60 = 600V

**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 <sup>3/</sup>		SYMBOL	VALUE	UNITS
Peak Repetitive Reverse and Peak Surge Reverse Voltage	SSR05C50 SSR05C60	$V_{RRM}$ $V_{RSM}$	500 600	Volts
Average Rectified Forward Current. (Resistive load, 60Hz, 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 <sup>2</sup> s
Power Dissipation		$P_d$	36.5	W
Operating and Storage Temperature		$T_{OP}$ & $T_{stg}$	-55 TO +175	°C
Maximum Thermal Resistance Junction to Case		$R_{\theta JC}$	4.1	°C/W



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

**DATA SHEET #: RS0016B**

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Electrical Characteristics	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	1.9	$V_{DC}$
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 5A$ , $T_J = 150^\circ C$ , 300 $\mu$ sec pulse )	$V_{F4}$	--	2.0	2.4	$V_{DC}$
<b>Reverse Leakage Current</b> ( $V_R = \text{Rated } V_R$ , $T_J = 25^\circ C$ , 300 $\mu$ s 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 $\mu$ s pulse min.)	$I_{R2}$	--	40	1000	$\mu A$
<b>Junction Capacitance</b> ( $V_R = 10V_{DC}$ , $T_C = 25^\circ C$ , $f = 1MHz$ )	$C_J$	--	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:**

SCR05S50D1 SCR05S50G SCR05S50S.5  
SCR05S60D1 SCR05S60G SCR05S60S.5

**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

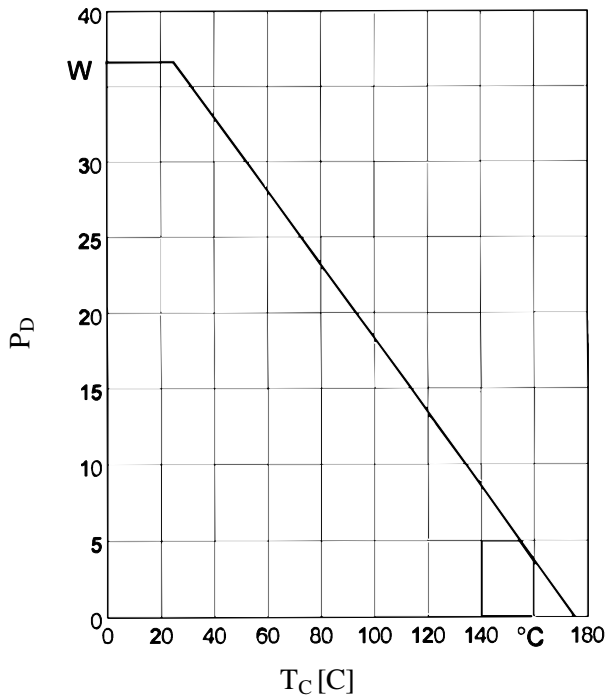


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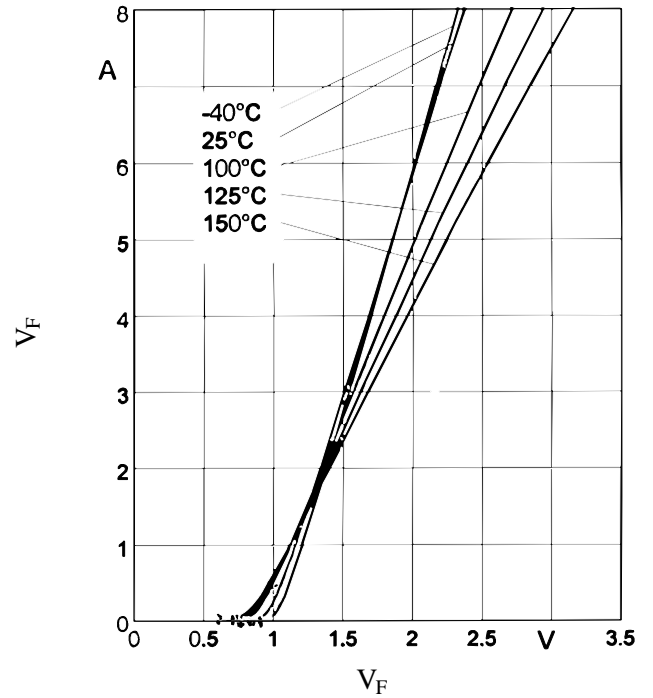
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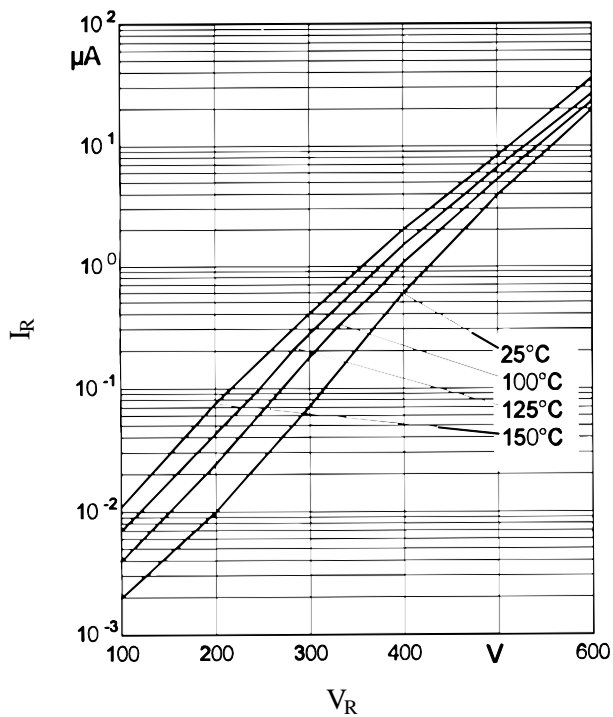
### Power Dissipation



### Typical Forward Characteristic



### Typical Reverse Current Characteristics



### Typical Capacitance vs. Reverse Voltage

