



**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

# SSR02C60 Series

## 2 AMP / 600 V SILICON CARBIDE SCHOTTKY RECTIFIER

**DESIGNER'S DATA SHEET**

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

SSR02C **60** **D1** **HR**

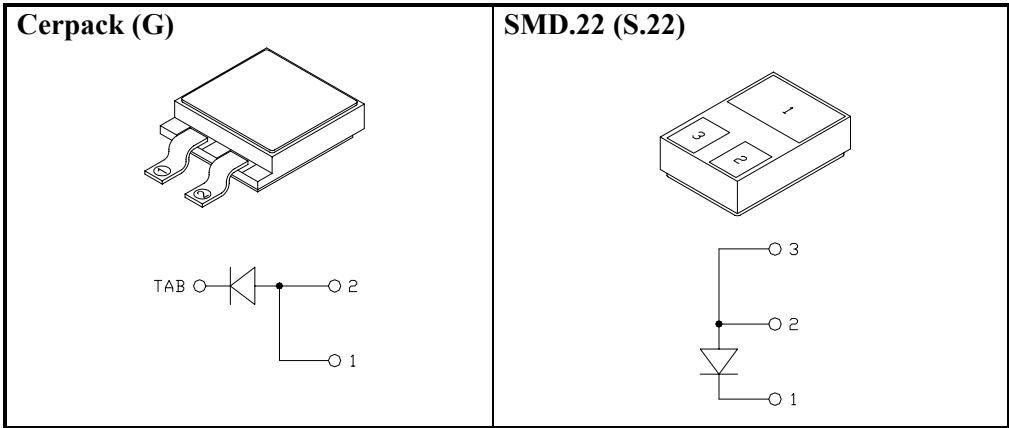
Screening:      = Not Screened  
              HR = High Rel

Package:       G = Cerpack  
                  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	SSR02C50 SSR02C60	$V_{RRM}$ $V_{RSM}$	500 600	Volts
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave)		$I_o$	2	Amps
Non Repetitive Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on $I_o$ )		$I_{FSM}$	4	Amps
Repetitive Peak Forward Current ( $T_c = 100^\circ\text{C}$ ; $d/c = 10\%$ )		$I_{FRM}$	7.5	A
Power Dissipation		$P_D$	12.5	Watts
Operating & Storage Temperature		Top & Tstg	-55 to +175	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case		$R_{\theta JC}$	12	$^\circ\text{C/W}$



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

**DATA SHEET #: RS0204A**

**DOC**



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Electrical Characteristic	Symbol	Min	Typ	Max	Units
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 0.25A$ , $T_J = 25^\circ C$ , 300 $\mu$ sec pulse)	$V_{F1}$	—	1.05	—	Volts
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 0.5A$ , $T_J = 25^\circ C$ , 300 $\mu$ sec pulse)	$V_{F2}$	—	1.15	—	Volts
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 1.0A$ , $T_J = 25^\circ C$ , 300 $\mu$ sec pulse)	$V_{F3}$	—	1.35	—	Volts
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 2.0A$ , $T_J = 25^\circ C$ , 300 $\mu$ sec pulse)	$V_{F4}$	—	1.75	2.0	Volts
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 2.0A$ , $T_J = 150^\circ C$ , 300 $\mu$ sec pulse)	$V_{F5}$	—	2.25	2.6	Volts
<b>Reverse Leakage Current</b> ( $V_R = \text{Rated } V_R$ , $T_J = 25^\circ C$ , 300 $\mu$ sec pulse min)	$I_{R1}$	—	0.2	100	$\mu A$
<b>Reverse Leakage Current</b> ( $V_R = \text{Rated } V_R$ , $T_J = 100^\circ C$ , 300 $\mu$ sec pulse min)	$I_{R2}$	—	2	—	$\mu A$
<b>Reverse Leakage Current</b> ( $V_R = \text{Rated } V_R$ , $T_J = 150^\circ C$ , 300 $\mu$ sec pulse min)	$I_{R3}$	—	25	500	$\mu A$
<b>Junction Capacitance</b> ( $T_C = 25^\circ C$ , $f = 1\text{MHz}$ )	$C_J$	—	$V_R = 1V$ 50	—	pF
			$V_R = 10V$ 22		
			$V_R = 600V$ 5		
<b>Total Capacitive Charge</b> ( $V_R = 400V$ , $I_F = 2A$ , $di/dt = 200A/\mu s$ , $T_J = 150^\circ C$ )	$Q_C$	—	4.6	—	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:**

SSR02C50G SSR02C50S.22  
SSR02C60G SSR02C60S.22

**PIN ASSIGNMENT**

Package	Pin 1	Pin 2	Pin 3	Tab
Cerpack (G)	Anode	Anode	N/A	Cathode
SMD.22 (S.22)	Cathode	Anode	Anode	N/A

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**DATA SHEET #: RS0204A**

**DOC**

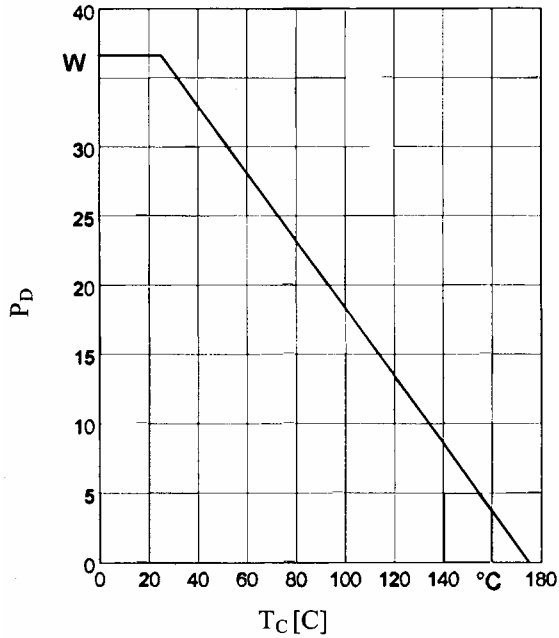


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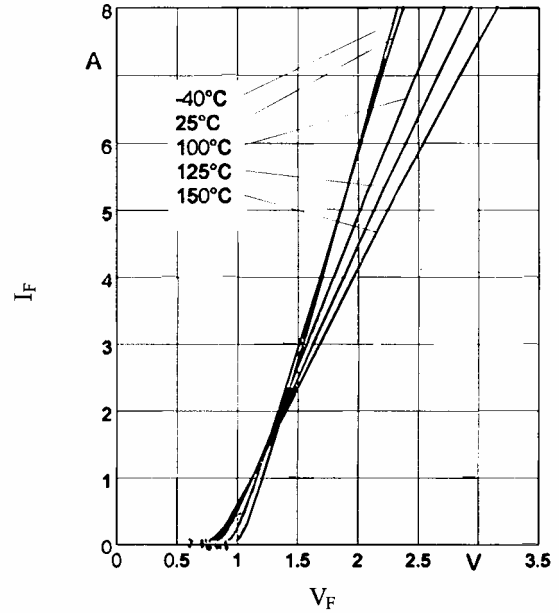
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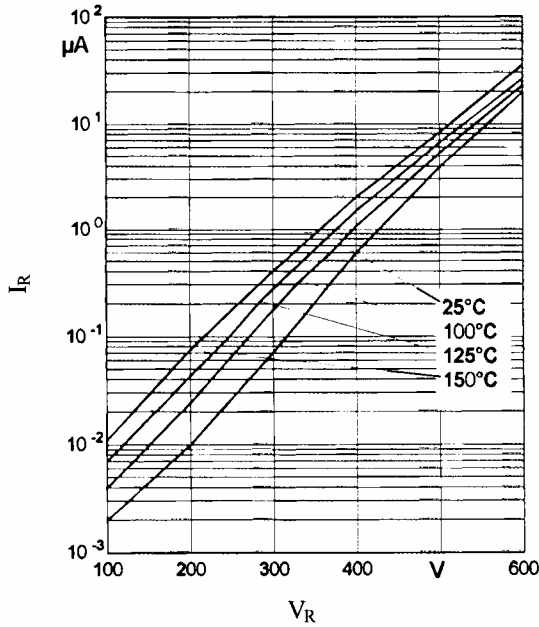
**Power Dissipation**



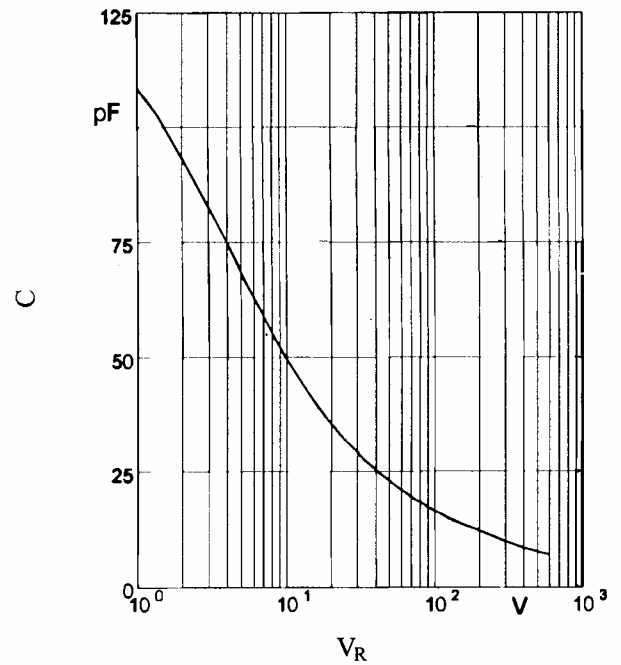
**Typical Forward Characteristic**



**Typical Reverse Current Characteristics**



**Typical Capacitance vs. Reverse Voltage**



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