



**Solid State Devices, Inc.**

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**World's First Silicon Carbide  
SSR10C30 Series**

**10A / 300V  
Schottky Silicon Carbide**

**DESIGNER'S DATA SHEET**

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

SSR10C **30** **S.5** **TX**

Screening      = Not Screened  
 TV = TX Level  
 TXV = TXV Level  
 S = S Level

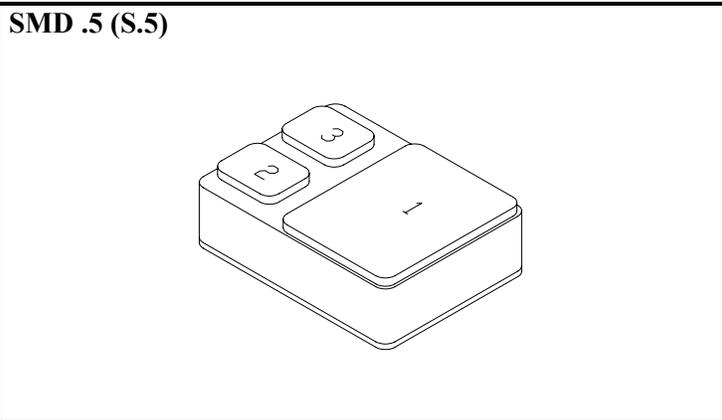
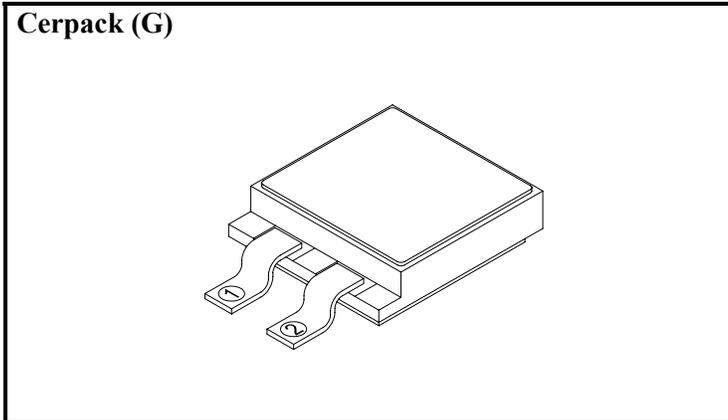
Package <sup>2/</sup> S.5 = SMD.5  
 G = Cerpack

Configuration

Voltage 20 = 200 V  
 30 = 300 V

- Features:**
- World's 1st Hermetic 10A SiC
  - High Voltage 300V
  - Very High Operating Temperature, 250°C
  - No Recovery Time (tfr or trr)
  - High Current Operation, 10A
  - Hermetic Packaging
  - TX, TXV, S Level screening available

Maximum Ratings		Symbol	Value	Units
<b>Peak Repetitive and Peak Surge Reverse Voltage</b>	SSR10C20	$V_{RRM}$	200	Volts
	SSR10C30	$V_{RSM}$	300	
<b>Average Rectified Forward Current</b> (Resistive Load, 60 Hz Sine Wave)		$I_o$	10	Amps
<b>Non Repetitive Peak Surge Current</b> (8.3 ms Pulse, Half Sine Wave Superimposed on $I_o$ )		$I_{FSM}$	18	Amps
<b>Power Dissipation</b>		$P_D$	15	Watts
<b>Operating &amp; Storage Temperature</b>		Top & Tstg	-55 to +250	°C
<b>Maximum Thermal Resistance</b> Junction to Case		$R_{\theta JC}$	4.4	°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 #: RS0032B**

**DOC**



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Electrical Characteristic		Symbol	Min	Typ	Max	Units
<b>Instantaneous Forward Voltage Drop</b> (T <sub>j</sub> = 25°C, 300 μsec pulse)	If = 5A	<b>Vf1</b>	---	1.20	1.32	Volts
	If = 10A	<b>Vf2</b>	---	1.50	1.65	
<b>Instantaneous Forward Voltage Drop</b> (T <sub>j</sub> = 150°C, 300 μsec pulse)	If = 5A	<b>Vf3</b>	---	1.18	1.28	Volts
	If = 10A	<b>Vf4</b>	---	1.65	1.85	
<b>Instantaneous Forward Voltage Drop</b> (T <sub>j</sub> = -55°C, 300 μsec pulse)	If = 5A	<b>Vf5</b>	---	1.35	1.45	Volts
	If = 10A	<b>Vf6</b>	---	1.60	1.75	
<b>Reverse Leakage Current</b> (V <sub>r</sub> = Rated V <sub>r</sub> , T <sub>j</sub> = 25°C, 300 μsec min pulse)		<b>Ir1</b>	---	25	100	μA
<b>Reverse Leakage Current</b> (V <sub>r</sub> = Rated V <sub>r</sub> , T <sub>j</sub> = 150°C, 300 μsec min pulse)		<b>Ir2</b>	---	100	250	μA
<b>Junction Capacitance</b> (V <sub>r</sub> =10 Vdc, T <sub>c</sub> =25°C, f=1MHz)		<b>Cj</b>	---	350	500	pF
<b>Total Capacitive Charge</b> (V <sub>R</sub> = 400V, I <sub>F</sub> = 5A, di/dt = 200A/μs, T <sub>J</sub> = 150°C)		<b>Qc</b>	---	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.
- 4/ If High Temperature Operation is Desired (> 175°C) Consult Factory for Soldering Consideration.

**Available Part Numbers:**

**SSR10C20S.5 SSR10C20G**  
**SSR10C30S.5 SSR10C30G**

**PIN ASSIGNMENT**

Package	Pin 1	Pin 2	Pin 3 (Tab)
<b>SMD .5 (S.5)</b>	Cathode	Anode	Anode
<b>Cerpack (G)</b>	Anode	Anode	Cathode