



# Solid State Devices, Inc.

14830 Valley View Blvd \* La Mirada, Ca 90638

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## World's First Silicon Carbide Centertap Rectifier SSR20C30CT Series

## 20A / 300V Schottky Silicon Carbide Centertap Rectifier

### DESIGNER'S DATA SHEET

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

SSR20C 30 CT S.5 TX

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

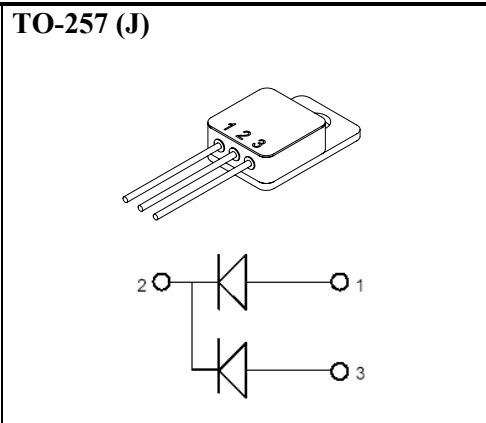
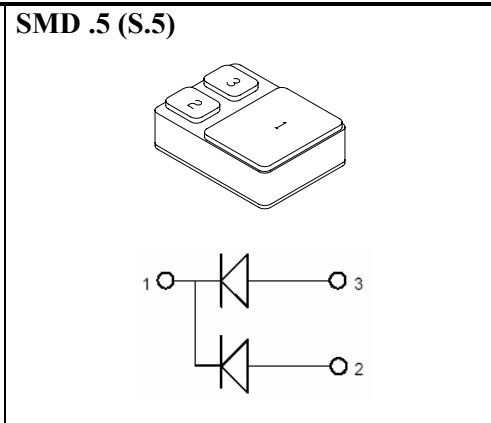
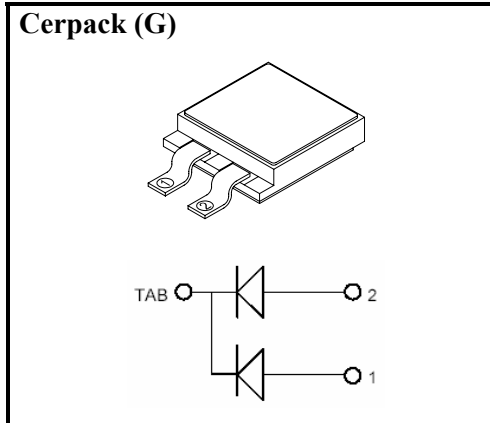
Package <sup>2/</sup> S.5 = SMD.5  
 G = Cerpack  
 J = TO-257

Configuration CT = Centertap

Voltage 20 = 200 V  
 30 = 300 V

- Features:**
- World's 1st Hermetic 20A SiC Centertap Rectifier
  - High Voltage 300V
  - Very High Operating Temperature, 250°C
  - No Recovery Time (tfr or trr)
  - High Current Operation, 20A
  - Hermetic Packaging
  - TX, TXV, S Level Screening Available

Maximum Ratings		Symbol	Value	Units
Peak Repetitive and Peak Surge Reverse Voltage	SSR20C20CT	$V_{RRM}$	200	Volts
	SSR20C30CT	$V_{RSM}$	300	
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave)	Per Leg Total	$I_o$	10	Amps
			20	
Non Repetitive Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on $I_o$ , per leg)		$I_{FSM}$	18	Amps
Power Dissipation		$P_D$	30	Watts
Operating & Storage Temperature		$T_{OP}$ & $T_{stg}$	-55 to +250	°C
Maximum Thermal Resistance Junction to Case		$R_{\theta JC}$	2.2	°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 #: RS0028D**

**DOC**



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Electrical Characteristic (Per Leg)		Symbol	Min	Typ	Max	Units
<b>Instantaneous Forward Voltage Drop</b> ( $T_J = 25^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse)	$I_F = 5\text{A}$	$V_{F1}$	---	1.20	1.32	Volts
	$I_F = 10\text{A}$	$V_{F2}$	---	1.50	1.65	
<b>Instantaneous Forward Voltage Drop</b> ( $T_J = 150^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse)	$I_F = 5\text{A}$	$V_{F3}$	---	1.18	1.28	Volts
	$I_F = 10\text{A}$	$V_{F4}$	---	1.65	1.85	
<b>Instantaneous Forward Voltage Drop</b> ( $T_J = -55^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse)	$I_F = 5\text{A}$	$V_{F5}$	---	1.35	1.45	Volts
	$I_F = 10\text{A}$	$V_{F6}$	---	1.60	1.75	
<b>Reverse Leakage Current</b> ( $V_R = \text{Rated } V_R$ , $T_J = 25^\circ\text{C}$ , 300 $\mu\text{sec}$ min pulse)		$I_{R1}$	---	25	100	$\mu\text{A}$
<b>Reverse Leakage Current</b> ( $V_R = \text{Rated } V_R$ , $T_J = 150^\circ\text{C}$ , 300 $\mu\text{sec}$ min pulse)		$I_{R2}$	---	100	250	$\mu\text{A}$
<b>Junction Capacitance</b> ( $V_R = 10\text{ Vdc}$ , $T_C = 25^\circ\text{C}$ , $f = 1\text{MHz}$ )		$C_J$	---	350	500	pF
<b>Total Capacitive Charge</b> ( $V_R = 400\text{V}$ , $I_F = 5\text{A}$ , $di/dt = 200\text{A}/\mu\text{s}$ , $T_J = 150^\circ\text{C}$ )		$Q_C$	---	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.
- 4/ If High Temperature Operation is Desired (> 175°C) Consult Factory for Soldering Consideration.

**Available Part Numbers:**

SSR20C20CTS.5    SSR20C20CTG    SSR20C20CTJ  
SSR20C30CTS.5    SSR20C30CTG    SSR20C30CTJ

**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
<b>TO-257 (J)</b>	Anode	Cathode	Anode