



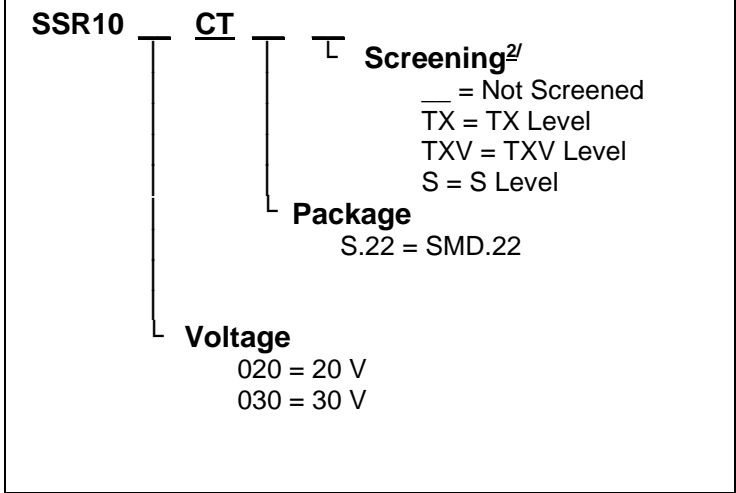
**Solid State Devices, Inc.**

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**SSR10020CTS.22  
SSR10030CTS.22**

**Designer's Data Sheet**

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



**5 AMP / LEG  
HERMETIC SURFACE MOUNT  
CENTER TAP SCHOTTKY RECTIFIER  
20 - 30 VOLTS**

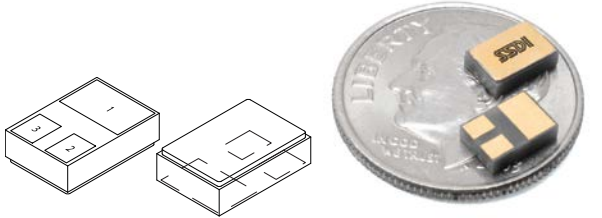
- FEATURES:**
- Extremely small footprint
  - Extremely low forward voltage drop
  - Low reverse leakage
  - Hermetically sealed surface mount package
  - Enhanced equivalent for 1N5817 applications
  - 150°C operating junction temperature
  - Weight: 0.12 g (typical)
  - TX, TXV, and S level screening available - consult factory<sup>2/</sup>

**MAXIMUM RATINGS<sup>3/ 4/</sup>**

	Symbol	Value	Units
<b>Peak Repetitive Reverse and DC Blocking Voltage</b>	$V_{RRM}$ $V_{RWM}$ $V_R$	20 30	V
<b>Average Rectified Forward Current</b> (Resistive load, 60 Hz, sine wave, $T_A = 25^\circ C$ )	$I_o$	10	A
<b>Peak Surge Current</b> (8.3 ms pulse, half sine wave, allow junction to reach equilibrium between pulses, $T_A = 25^\circ C$ )	$I_{FSM}$	50	A
<b>Operating &amp; Storage Temperature</b>	$T_{OP}$ & $T_{stg}$	-65 to +125	$^\circ C$
<b>Maximum Thermal Resistance</b> (Junction to Case)	$R_{\theta JC}$	5 (typ 3)	$^\circ C/W$

- NOTES:**  
<sup>1/</sup> For ordering information, price, and availability - contact factory.  
<sup>2/</sup> Screening based on MIL-PRF-19500. Screening flows available on request.  
<sup>3/</sup> Unless otherwise specified, all electrical characteristics @25°C.  
<sup>4/</sup> Per leg.

**SMD.22 (S.22)**



(dime used for size reference)

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

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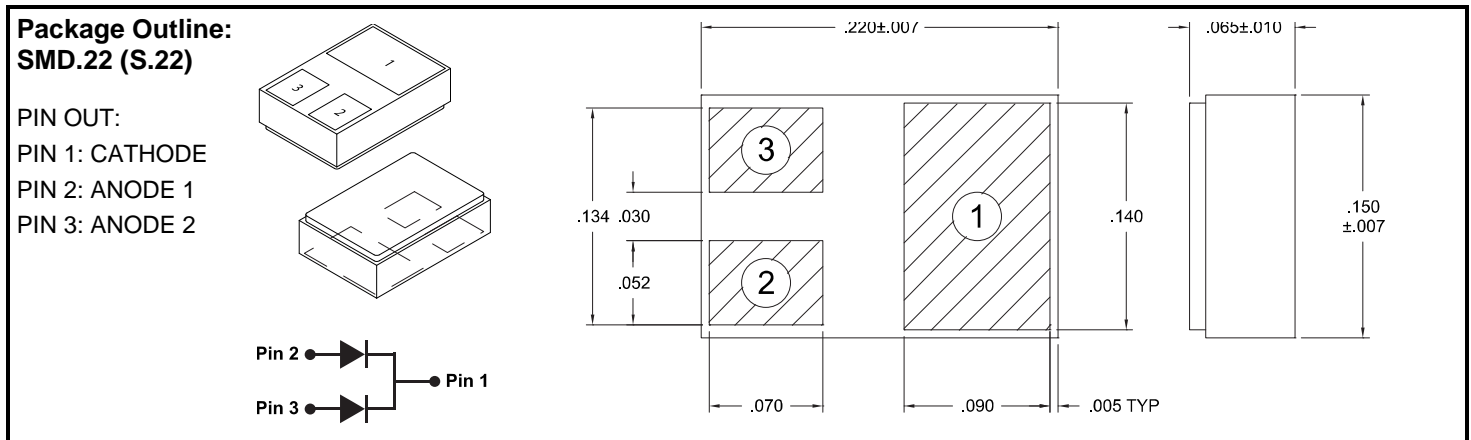


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# SSR10020CTS.22 SSR10030CTS.22

ELECTRICAL CHARACTERISTICS <sup>4/</sup>		Symbol	Min	Typ	Max	Unit
<b>Instantaneous Forward Voltage Drop</b> (T <sub>A</sub> = 25°C, 300 µsec pulse)	I <sub>F</sub> = 0.3 A	V <sub>F1</sub>	-	0.34	-	V <sub>DC</sub>
	I <sub>F</sub> = 0.5 A	V <sub>F2</sub>	-	0.36	0.44	
	I <sub>F</sub> = 1.0 A	V <sub>F3</sub>	-	0.40	-	
	I <sub>F</sub> = 3.0 A	V <sub>F4</sub>	-	0.50	0.58	
	I <sub>F</sub> = 5.0 A	V <sub>F5</sub>	-	0.60	-	
<b>Instantaneous Forward Voltage Drop</b> (T <sub>A</sub> = 100°C, 300 µsec pulse)	I <sub>F</sub> = 0.3 A	V <sub>F1</sub>	-	0.24	-	V <sub>DC</sub>
	I <sub>F</sub> = 0.5 A	V <sub>F2</sub>	-	0.26	0.36	
	I <sub>F</sub> = 1.0 A	V <sub>F3</sub>	-	0.31	-	
	I <sub>F</sub> = 3.0 A	V <sub>F4</sub>	-	0.44	0.54	
	I <sub>F</sub> = 5.0 A	V <sub>F5</sub>	-	0.55	-	
<b>Instantaneous Forward Voltage Drop</b> (T <sub>A</sub> = 125°C, 300 µsec pulse)	I <sub>F</sub> = 0.3 A	V <sub>F1</sub>	-	0.20	-	V <sub>DC</sub>
	I <sub>F</sub> = 0.5 A	V <sub>F2</sub>	-	0.23	0.33	
	I <sub>F</sub> = 1.0 A	V <sub>F3</sub>	-	0.28	-	
	I <sub>F</sub> = 3.0 A	V <sub>F4</sub>	-	0.42	0.52	
	I <sub>F</sub> = 5.0 A	V <sub>F5</sub>	-	0.54	-	
<b>Instantaneous Forward Voltage Drop</b> (T <sub>A</sub> = -55°C, 300 µsec pulse)	I <sub>F</sub> = 0.3 A	V <sub>F1</sub>	-	0.45	-	V <sub>DC</sub>
	I <sub>F</sub> = 0.5 A	V <sub>F2</sub>	-	0.47	-	
	I <sub>F</sub> = 1.0 A	V <sub>F3</sub>	-	0.50	-	
	I <sub>F</sub> = 3.0 A	V <sub>F4</sub>	-	0.58	-	
	I <sub>F</sub> = 5.0 A	V <sub>F5</sub>	-	0.65	-	
<b>Reverse Leakage Current</b> (T <sub>A</sub> = 25°C, 300 µsec pulse minimum)	V <sub>R</sub> = 6 V	I <sub>R1</sub>	-	3.5	-	µA
	V <sub>R</sub> = 12 V	I <sub>R2</sub>	-	6	-	
	V <sub>R</sub> = 20 V	I <sub>R3</sub>	-	15	100	
	V <sub>R</sub> = 30 V	I <sub>R4</sub>	-	100	350	
<b>Reverse Leakage Current</b> (T <sub>A</sub> = 100°C, 300 µsec pulse minimum)	V <sub>R</sub> = 6 V	I <sub>R5</sub>	-	1.0	-	mA
	V <sub>R</sub> = 12 V	I <sub>R6</sub>	-	1.4	2.5	
	V <sub>R</sub> = 20 V	I <sub>R7</sub>	-	2.5	-	
<b>Reverse Leakage Current</b> (T <sub>A</sub> = 125°C, 300 µsec pulse minimum)	V <sub>R</sub> = 6 V	I <sub>R8</sub>	-	4	-	mA
	V <sub>R</sub> = 12 V	I <sub>R9</sub>	-	6	-	
<b>Junction Capacitance</b> (f = 1 MHz, T <sub>A</sub> = 25°C)	V <sub>R</sub> = 5 V	C <sub>J</sub>	-	175	250	pF



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