



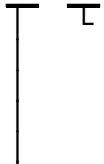
# Solid State Devices, Inc.

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## SDR429 SDR429SMS

### DESIGNER'S DATA SHEET

SDR429

 **Screening** <sup>2/</sup>  
 — = Not Screened  
 TX = TX Level  
 TXV = TXV  
 S = S Level

#### Package Type

— = Axial Leaded  
 SMS = Surface Mount Square Tab

## 1 AMP, 700 V Hyper Fast Rectifier

#### Features:

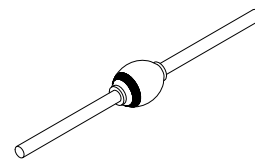
- High Voltage 700 V continuous
- Very Fast Switching < 20 nS
- Low High Temperature Leakage < 15  $\mu$ A
- Very Fast Switching @ 100 ° C < 35 nS
- Hermetically Sealed
- Higher Voltages Available, consult Factory
- TX, TXV, S Level screening Available<sup>2/</sup>
- Available Axial Leaded or Surface Mount (Square Tab)

Maximum Ratings	Symbol	Value	Units
<b>Peak Repetitive and Peak Surge Reverse Voltage</b>	$V_{RRM}$ $V_{RSM}$	700	Volts
<b>Average Rectified Forward Current</b> (Resistive Load, 60 hz Sine Wave)	$I_o$	1.0	Amps
<b>Non Repetitive Surge Current</b> (8.3 ms Pulse Half Sine Wave Superimposed on $I_o$ )	$I_{FSM}$	18	Amps
<b>Operating &amp; Storage Temperature</b>	Top & Tstg	-55 to +175	°C
<b>Maximum Thermal Resistance</b> Junction to Lead, L = 1/8 " Junction to End Tab	$R_{\theta JL}$ $R_{\theta JE}$	12 9	°C/W

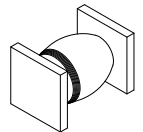
#### NOTES:

- 1/ For Ordering Information, Price, and Availability- Contact Factory.  
2/ Screening Based on MIL-PRF-19500. Screening Flows Available on Request.

Axial Lead Diode



SMS



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

DATA SHEET #: RH0008C



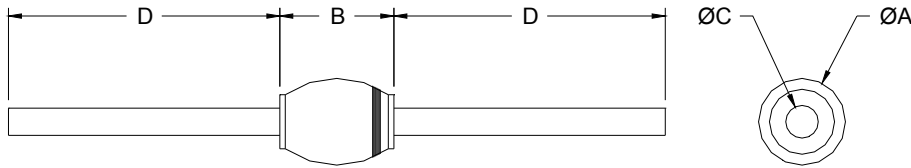
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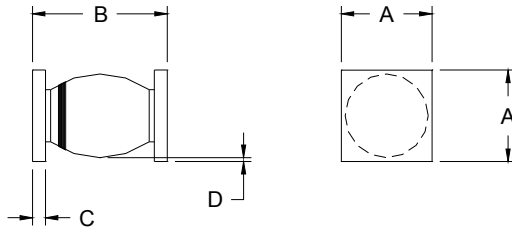
Electrical Characteristic		Symbol	Min	Typ	Max	Units
<b>Instantaneous Forward Voltage Drop</b> (T <sub>j</sub> = 25°C, 300 μsec pulse)	I <sub>f</sub> = 1A	<b>Vf1</b>	—	2.35	2.5	Volts
	I <sub>f</sub> = 3A	<b>Vf2</b>	—	3.5	3.8	
<b>Instantaneous Forward Voltage Drop</b> (T <sub>j</sub> = 100°C, 300 μsec pulse)	I <sub>f</sub> = 1A	<b>Vf3</b>	—	1.65	1.8	Volts
	I <sub>f</sub> = 3A	<b>Vf4</b>	—	2.5	2.7	
<b>Instantaneous Forward Voltage Drop</b> (T <sub>j</sub> = -55°C, 300 μsec pulse)	I <sub>f</sub> = 1A	<b>Vf5</b>	—	3.0	3.75	Volts
	I <sub>f</sub> = 3A	<b>Vf6</b>	—	4.5	5.30	
<b>Reverse Leakage Current</b> (V <sub>r</sub> = 700 V, T <sub>j</sub> = 25°C, 300 μsec pulse)		<b>Ir1</b>	—	0.2	1.0	μA
<b>Reverse Leakage Current</b> (V <sub>r</sub> = 700 V, T <sub>j</sub> = 100°C, 300 μsec pulse)		<b>Ir2</b>	—	5.0	20	μA
<b>Reverse Recovery Time</b> (I <sub>F</sub> = 0.5A, I <sub>R</sub> = 1A, I <sub>RR</sub> = 0.25A)	T <sub>A</sub> = 25°C	<b>t<sub>RR1</sub></b>	—	17	20	nsec
	T <sub>A</sub> = 100°C	<b>t<sub>RR2</sub></b>	—	32	35	
<b>Junction Capacitance</b> (V <sub>r</sub> =10 Vdc, T <sub>c</sub> =25°C, f=1Mhz)		<b>C<sub>j</sub></b>	—	22	30	pF

**Case Outline: (Axial)**



DIM	MIN	MAX
<b>A</b>	0.120"	0.145"
<b>B</b>	0.150"	0.190"
<b>C</b>	0.027"	0.033"
<b>D</b>	1.00"	--

**Case Outline: (SMS)**



DIM	MIN	MAX
<b>A</b>	0.170"	0.180"
<b>B</b>	0.200"	0.240"
<b>C</b>	0.020"	0.030"
<b>D</b>	0.005"	--