



# Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, Ca 90638  
Phone: (562) 404-4474 \* Fax: (562) 404-1773  
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**2R3S THRU 20R3S**

**8 AMPS  
20 – 200 VOLTS  
35 nsec  
HYPER FAST RECTIFIER**

**Designer's Data Sheet**

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

R3S      Screening<sup>3/</sup>      = Not Screened  
                                  TX = TX Level  
                                  TXV = TXV Level  
                                  S = S Level

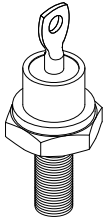
**Family/Voltage**

- 2 = 20V
- 3 = 30V
- 4 = 40V
- 5 = 50V
- 7 = 70V
- 10 = 100V
- 12 = 125V
- 15 = 150V
- 20 = 200V

- Features:**
- Hyper Fast Recovery: 35nsec Maximum
  - Low Forward Voltage Drop
  - Low Reverse Leakage Current
  - Single Chip Construction
  - Hermetically Sealed Package
  - Metalurgically Bonded Construction
  - TX, TXV, and S-Level Screening Available <sup>2/</sup>

Maximum Ratings <sup>2/</sup>	Symbol	Value	Units
<b>Peak Repetitive Reverse Voltage</b>	2R3S	20	Volts
	3R3S	30	
	4R3S	40	
	5R3S	50	
	7R3S	70	
	10R3S	100	
	12R3S	125	
	15R3S	150	
	20R3S	200	
<b>Average Rectified Forward Current</b> (Resistive Load, 60 Hz Sine Wave, T <sub>A</sub> = 25 °C)	<b>I<sub>o</sub></b>	<b>8</b>	<b>Amps</b>
<b>Peak Surge Current</b> (8.3 ms Pulse, Half Sine Wave, T <sub>A</sub> = 25 °C)	<b>I<sub>FSM</sub></b>	<b>200</b>	<b>Amps</b>
<b>Operating &amp; Storage Temperature</b>	<b>T<sub>OP</sub> &amp; T<sub>STG</sub></b>	<b>-65 to +175</b>	<b>°C</b>
<b>Maximum Total Thermal Resistance</b> Junction to Case	<b>R<sub>θJC</sub></b>	<b>1.5</b>	<b>°C/W</b>

DO-4:



- Notes:**
- 1/ For ordering information, Price, Operating Curves, and Availability- Contact Factory.
  - 2/ Unless Otherwise Specified, All Maximum Ratings/Electrical Characteristics @25°C.
  - 3/ Screened to MIL-PRF-19500.



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**2R3S THRU 20R3S**

Electrical Characteristics	Symbol	Max	Units
<b>Instantaneous Forward Voltage Drop</b> ( $I_F=8A$ , $T_A=25^\circ C$ , 300 $\mu$ sec pulse)	$V_F$	0.90	$V_{DC}$
<b>Reverse Leakage Current</b> (Rated $V_R$ , $T_A=25^\circ C$ , 300 $\mu$ sec pulse minimum)	$I_{R1}$	100	$\mu A$
Reverse Leakage Current (Rated $V_R$ , $T_A=100^\circ C$ , 300 $\mu$ sec pulse minimum)	$I_{R2}$	2.0	mA
<b>Reverse Recovery Time</b> ( $T_A=25^\circ C$ , $I_F = 0.5A$ , $I_R = 1.0A$ , $I_{RR} = 0.25A$ )	$t_{RR}$	35	nsec
<b>Typical Junction Capacitance</b> ( $V_R = 10V_{DC}$ , $T_A = 25^\circ C$ , $f = 1MHz$ )	$C_J$	300	pF

Notes:

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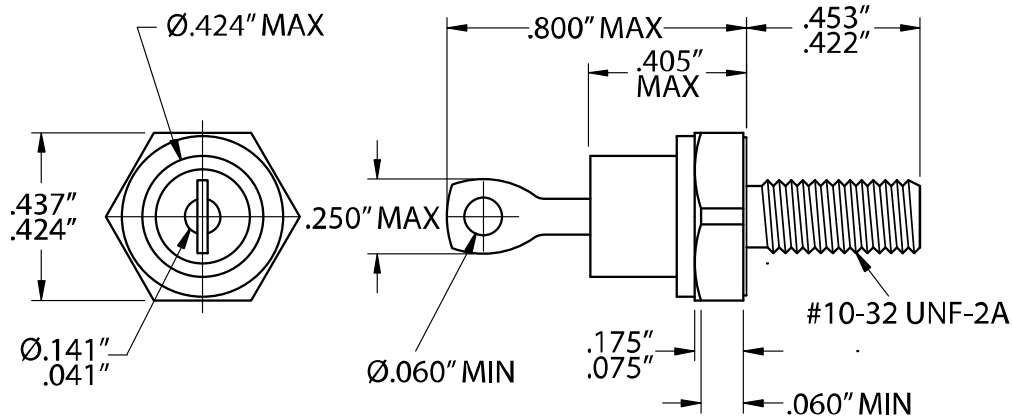
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**Case Outline: DO-4**

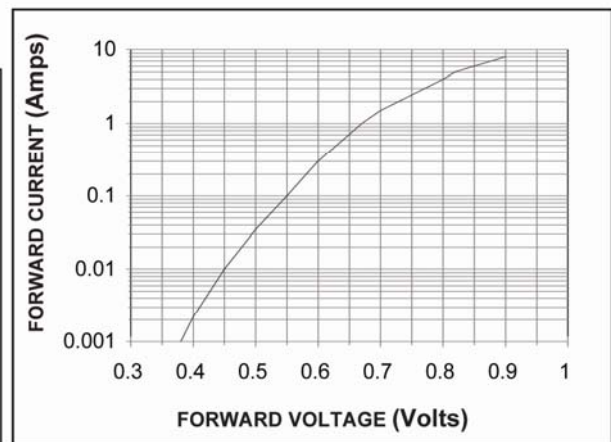
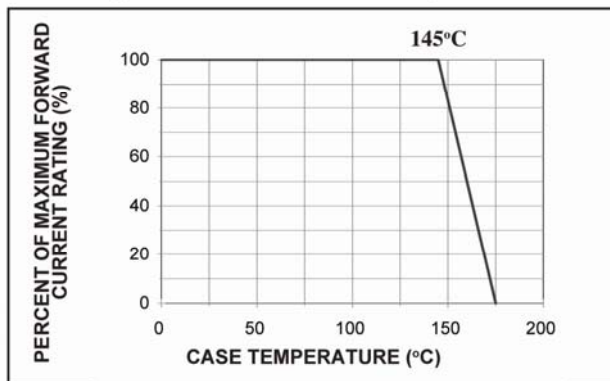
**Stud: Cathode**

**Lead: Anode**



**TYPICAL OPERATING CURVES**

$T_A = 25^\circ C$  Unless otherwise specified



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

**DATA SHEET #: RC0029D**

**DOC**