



**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

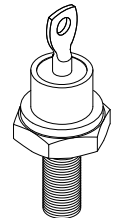
**Family/Voltage**

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	$V_{RRM}$ 50	
	7R3S	$V_{RWM}$ 70	
	10R3S	$V_R$ 100	
	12R3S	125	
	15R3S	150	
	20R3S	200	
<b>Average Rectified Forward Current</b> (Resistive Load, 60 Hz Sine Wave, $T_A = 25^\circ C$ )	$I_o$	8	Amps
<b>Peak Surge Current</b> (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ C$ )	$I_{FSM}$	200	Amps
<b>Operating &amp; Storage Temperature</b>	$T_{OP} \& T_{STG}$	-65 to +175	°C
<b>Maximum Total Thermal Resistance</b> Junction to Case	$R_{\theta JC}$	1.5	°C/W

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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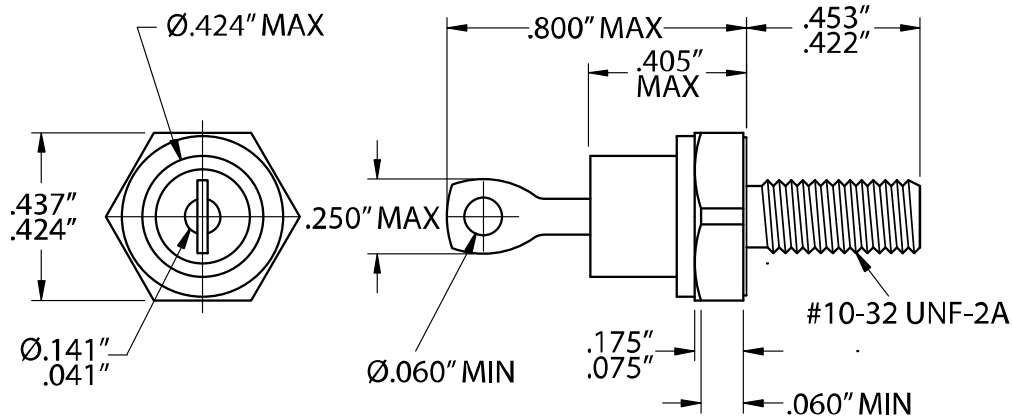
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**Case Outline: DO-4**

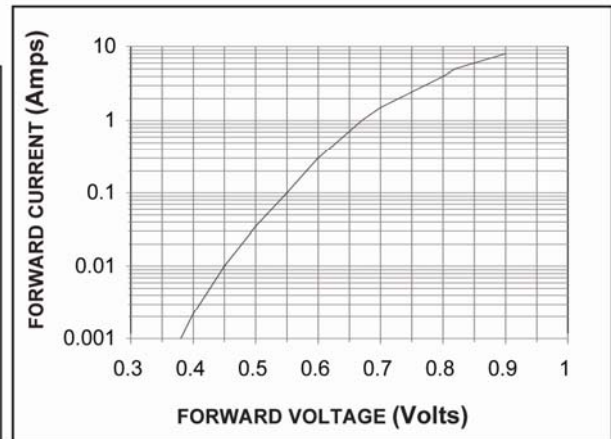
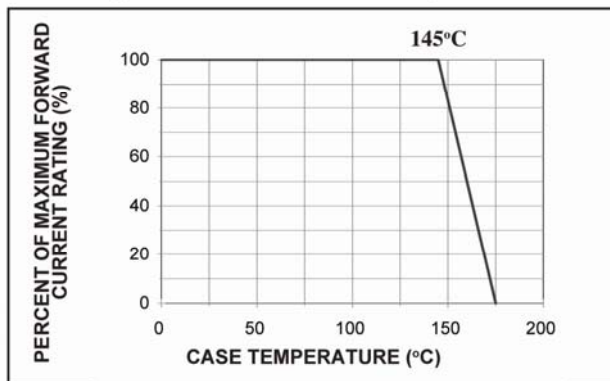
**Stud: Cathode**

**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**