



PRELIMINARY

SOLID STATE DEVICES, INC

14849 Firestone Boulevard · La Mirada, CA 90638  
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424

**SDR305  
thru  
SDR315**

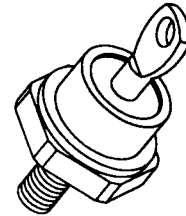
**30 AMP  
50-150 VOLTS  
50 nsec  
ULTRA FAST  
RECTIFIER**

## Designer's Data Sheet

### FEATURES:

- Ultra Fast Recovery: 50 nsec Maximum
- Radiation Tolerant
- Very Low Forward Voltage Drop
- Hermetically Sealed
- Single Chip Construction
- 175°C Operating Temperature
- For High Efficiency applications
- TX, TXV and Space Level Screening Available

DO-5



### MAXIMUM RATINGS

RATING	SYMBOL	VALUE	UNIT
Peak Repetitive Reverse and DC Blocking Voltage			
SDR305	VRRM	50	Volts
SDR307		70	
SDR310	VRWM	100	
SDR312		125	
SDR315	VR	150	
Average Rectified Forward Current (Resistive Load, 60Hz, Sine Wave, TA=25°C)	I <sub>o</sub>	30	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, TA=25°C)	I <sub>FSM</sub>	275	Amps
Operating and storage temperature	Top & Tstg	-65 to +175	°C
Maximum Thermal Resistance Junction to Case	R <sub>θJC</sub>	1.5	°C/W

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

DATA SHEET #: RU0023 A

RMD

# SDR305 thru SDR315

PRELIMINARY



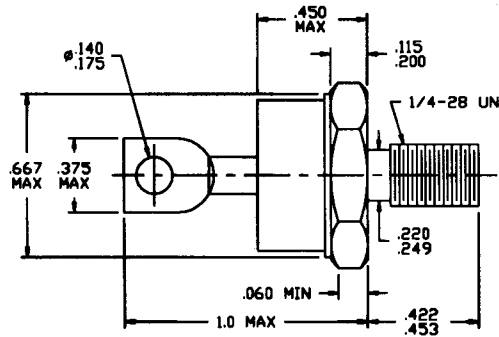
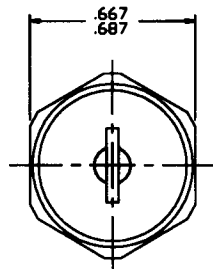
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## ELECTRICAL CHARACTERISTICS

CHARACTERISTICS	SYMBOL	MAXIMUM	UNIT
Instantaneous Forward Voltage Drop ( $I_F = 30 \text{ A dc}$ , $T_A = 25^\circ\text{C}$ , 300 $\mu\text{s}$ Pulse)	$V_F$	0.9	Vdc
Instantaneous Forward Voltage Drop ( $I_F = 30 \text{ A dc}$ , $T_A = -55^\circ\text{C}$ , 300 $\mu\text{s}$ Pulse)	$V_F$	0.975	Vdc
Reverse Leakage Current (Rated $V_R$ , $T_A = 25^\circ\text{C}$ , 300 $\mu\text{s}$ pulse minimum)	$I_R$	250	$\mu\text{A}$
Reverse Leakage Current (Rated $V_R$ , $T_A = 100^\circ\text{C}$ , 300 $\mu\text{s}$ pulse minimum)	$I_R$	10	mA
Junction Capacitance ( $V_R = 10 \text{ Vdc}$ , $T_A = 25^\circ\text{C}$ , $f = 1 \text{ MHz}$ )	$C_J$	700	pf
Reverse Recovery Time ( $I_F = 500\text{mA}$ , $I_R = 1\text{A}$ , $I_{RR} = 250\text{mA}$ , $T_A = 25^\circ\text{C}$ )	$t_{rr}$	50	nsec

## CASE OUTLINE: DO-5



Dimensions prior to solder dipping.

## TYPICAL OPERATING CURVES

$T_A = 25^\circ\text{C}$  Unless otherwise specified

