



PRELIMINARY

SOLID STATE DEVICES, INC

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

**SDR504
thru
SDR510**

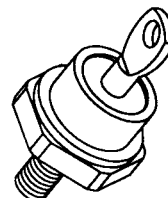
**50 AMP
400-1000 VOLTS
80 nsec
ULTRA FAST
RECTIFIER**

Designer's Data Sheet

FEATURES:

- Ultra Fast Recovery: 80 nsec Maximum
- Low Reverse Leakage
- Low Thermal Impedance
- High Surge Capability
- Hermetically Sealed
- 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 | | | |
| SDR504 | VRRM | 400 | Volts |
| SDR506 | | 600 | |
| SDR508 | VRWM | 800 | |
| SDR510 | VR | 1000 | |
| Average Rectified Forward Current (Resistive Load, 60Hz, Sine Wave, TA=25°C) | IO | 50 | Amps |
| Peak Surge Current (8.3 ms Pulse, Half Sine Wave, TA=25°C) | IFSM | 625 | Amps |
| Operating and storage temperature | Top & Tstg | -65 to +175 | °C |
| Maximum Thermal Resistance Junction to Case | RθJC | 1.0 | °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 #: RU0049 A

RMD

SDR504 thru SDR510

PRELIMINARY



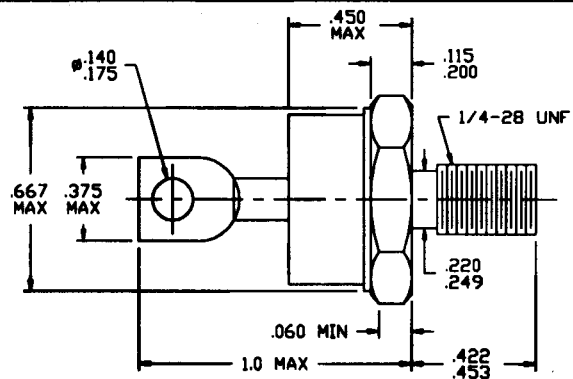
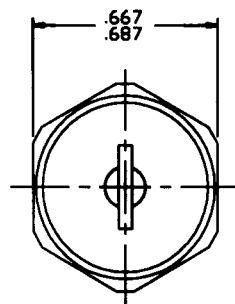
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ELECTRICAL CHARACTERISTICS

| CHARACTERISTICS | SYMBOL | MAXIMUM | UNIT |
|---|--------|---------|---------------|
| Instantaneous Forward Voltage Drop ($I_F = 50 \text{ Adc}$, $T_A = 25^\circ\text{C}$, 300 μs Pulse) | VF | 1.7 | Vdc |
| Instantaneous Forward Voltage Drop ($I_F = 50 \text{ Adc}$, $T_A = -55^\circ\text{C}$, 300 μs Pulse) | VF | 1.85 | Vdc |
| Reverse Leakage Current (Rated V_R , $T_A = 25^\circ\text{C}$, 300 μs pulse minimum) | IR | 25 | μA |
| Reverse Leakage Current (Rated V_R , $T_A = 100^\circ\text{C}$, 300 μs pulse minimum) | IR | 8 | mA |
| Junction Capacitance ($V_R = 10 \text{ Vdc}$, $T_A = 25^\circ\text{C}$, $f = 1 \text{ MHz}$) | CJ | 700 | pf |
| Reverse Recovery Time ($I_F = 500\text{mA}$, $I_R = 1\text{A}$, $I_{RR} = 250\text{mA}$, $T_A = 25^\circ\text{C}$) | trr | 80 | nsec |

CASE OUTLINE: D0-5



Dimensions prior to solder dipping.

TYPICAL OPERATING CURVES

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

