

**SDR1302SMS  
 thru  
 SDR1308SMS**

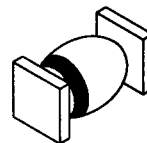
**Designer's Data Sheet**

**FEATURES:**

- Ultra Fast Recovery: 70 nsec Max. @ 25°C  
 110 nsec Max. @ 100°C
- Single Chip Construction
- PIV to 800 Volts
- Low Reverse Leakage Current
- Hermetically Sealed Surface Mount package
- For High Efficiency Applications
- Replaces Unitrode: UES1304 Series
- Metallurgically Bonded
- Available in axial leaded versions
- TX, TXV and Space Level Screening Available

**3 AMP  
 200-800 VOLTS  
 70 nsec  
 ULTRA FAST  
 RECTIFIER**

**SURFACE MOUNT  
 SQUARE TAB**



**MAXIMUM RATINGS**

| RATING                                                                                                                                                                       | SYMBOL                                          | VALUE                    | UNIT         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------|--------------|
| <b>Peak Repetitive Reverse<br/>           and DC Blocking Voltage</b><br><br><b>SDR1302SMS<br/>           SDR1304SMS<br/>           SDR1306SMS<br/>           SDR1308SMS</b> | <b>VRRM</b><br><br><b>VRWM</b><br><br><b>VR</b> | 200<br>400<br>600<br>800 | <b>Volts</b> |
| <b>Average Rectified Forward Current</b><br>(Resistive Load, 60Hz, Sine Wave, TA=25°C)                                                                                       | <b>IO</b>                                       | <b>3</b>                 | <b>Amps</b>  |
| <b>Peak Surge Current</b><br>(8.3 ms Pulse, Half Sine Wave Superimposed on IO, allow<br>junction to reach equilibrium between pulses, TA=25°C)                               | <b>IFSM</b>                                     | <b>75</b>                | <b>Amps</b>  |
| <b>Operating and storage temperature</b>                                                                                                                                     | <b>Top &amp; Tstg</b>                           | <b>-65 to +175</b>       | <b>°C</b>    |
| <b>Maximum Thermal Resistance</b><br>Junction to End Tab                                                                                                                     | <b>RθJE</b>                                     | <b>14</b>                | <b>°C/W</b>  |

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

**DATA SHEET #: RU0095 A**

**RMD**

# SDR1302SMS thru SDR1308SMS

PRELIMINARY



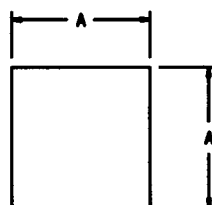
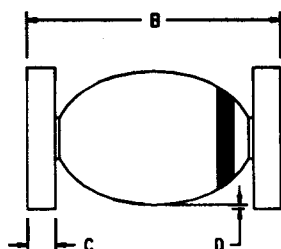
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## ELECTRICAL CHARACTERISTICS

| CHARACTERISTICS                                                                                                                         | SYMBOL   | MAXIMUM | UNIT          |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------|---------|---------------|
| <b>Instantaneous Forward Voltage Drop</b><br>( $I_F = 3 \text{ Adc}$ , $T_A = 25^\circ\text{C}$ , 300 $\mu\text{s}$ Pulse)              | $V_F$    | 1.35    | Vdc           |
| <b>Instantaneous Forward Voltage Drop</b><br>( $I_F = 3 \text{ Adc}$ , $T_A = -55^\circ\text{C}$ , 300 $\mu\text{s}$ Pulse)             | $V_F$    | 1.5     | Vdc           |
| <b>Reverse Leakage Current</b><br>(Rated $V_R$ , $T_A = 25^\circ\text{C}$ , 300 $\mu\text{s}$ pulse minimum)                            | $I_R$    | 20      | $\mu\text{A}$ |
| <b>Reverse Leakage Current</b><br>(Rated $V_R$ , $T_A = 100^\circ\text{C}$ , 300 $\mu\text{s}$ pulse minimum)                           | $I_R$    | 1       | mA            |
| <b>Junction Capacitance</b><br>( $V_R = 10 \text{ Vdc}$ , $T_A = 25^\circ\text{C}$ , $f = 1 \text{ MHz}$ )                              | $C_J$    | 50      | pf            |
| <b>Reverse Recovery Time</b><br>( $I_F = 500 \text{ ma}$ , $I_R = 1 \text{ A}$ , $I_{RR} = 250 \text{ mA}$ , $T_A = 25^\circ\text{C}$ ) | $t_{rr}$ | 70      | nsec          |

## CASE OUTLINE:



## DIMENSIONS

| DIM | MIN.  | MAX.  |
|-----|-------|-------|
| A   | .172" | .180" |
| B   | .180" | .280" |
| C   | .022" | .028" |
| D   | .002" | ---   |

Dimensions prior to solder dipping.

## TYPICAL OPERATING CURVES

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

