


Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638

Phone: (562) 404-4474 * Fax: (562) 404-1773

ssdi@ssdi-power.com * www.ssdi-power.com

Designer's Data Sheet

Part Number/Ordering Information ^{1/}

SDR1

L Screening ^{2/}

— = Not Screened

TX = TX Level

TXV = TXV

S = S Level

L Package Type

— = Axial Leaded

SMS = Surface Mount Square Tab

L Family

A = 50 V

J = 600V

B = 100V

K = 800V

D = 200V

M = 1000V

G = 400V

N = 1200V

SDR3A and SDR3ASMS thru SDR3N and SDR3NSMS

3.0 AMPS
50 — 1200 VOLTS
50 – 80 nsec ULTRA FAST RECTIFIER

FEATURES:

- **Ultra Fast Recovery:** 50-80 ns Max @ 25°C ^{4/}
85-125 ns Max @ 100°C ^{4/}
- **Single Chip Construction**
- **PIV to 1200 Volts**
- **Low Reverse Leakage Current**
- **Hermetically Sealed**
- **For High Efficiency Applications**
- **Available in Axial and Surface Mount Versions**
- **Metallurgically Bonded**
- **TX, TXV, and S-Level Screening Available**

MAXIMUM RATINGS ^{3/}

| RATING | SYMBOL | VALUE | UNIT | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------------------------------|-------|
| Peak Repetitive Reverse Voltage And DC Blocking Voltage | SDR3A and SDR3ASMS SDR3B and SDR3BSMS SDR3D and SDR3DSMS SDR3G and SDR3GSMS SDR3J and SDR3JSMS SDR3K and SDR3KSMS SDR3M and SDR3MSMS SDR3N and SDR3NSMS | V_{RRM} V_{RWM} V_R | 50 100 200 400 600 800 1000 1200 | Volts |
| Rectified Forward Forward Current (Resistive Load, 60 Hz, Sine Wave, T _A = 25°C) | I_O | 3 | Amp | |
| Peak Surge Current (8.3 msec Pulse, Half Sine Wave Superimposed on I _o , allow junction to reach equilibrium between pulses, T _A = 25°C) | I_{FSM} | 75 | Amps | |
| Operating & Storage Temperature | T _{OP} and T _{STG} | -65 to +175 | °C | |
| Thermal Resistance, Junction to Lead, L = 3/8” Junction to End Tab | $R_{\theta JL}$ $R_{\theta JE}$ | 20 14 | °C/W | |

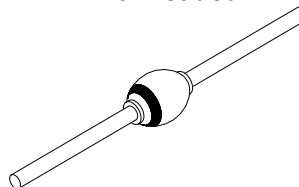
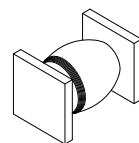
NOTES:

^{1/} For Ordering Information, Price, and Availability- Contact Factory.

^{2/} Screened to MIL-PRF-19500.

^{3/} Unless Otherwise Specified, All Electrical Characteristics @25°C.

^{4/} Recovery Conditions: $I_F = 0.5$ Amp, $I_R = 1.0$ Amp, I_{RR} to .25 Amp.

Axial Leaded

SMS


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

DATA SHEET #: RU0013D
DOC



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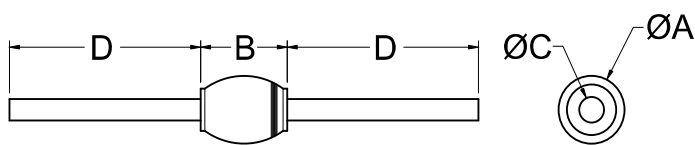
SDR3A and SDR3ASMS thru SDR3N and SDR3NSMS

ELECTRICAL CHARACTERISTICS ^{3/}

| CHARACTERISTICS | | SYMBOL | VALUE | UNIT |
|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|----------|----------------------|---------------|
| Instantaneous Forward Voltage Drop ($I_F = 1\text{A}$ dc, 300- 500 μs Pulse, $T_A = 25^\circ\text{C}$) | SDR3A thru SDR3J SDR3K thru SDR3N | V_{F1} | 1.35 1.90 | Vdc |
| Instantaneous Forward Voltage Drop ($I_F = 1\text{A}$ dc, 300- 500 μs Pulse, $T_A = -55^\circ\text{C}$) | SDR3A thru SDR3J SDR3K thru SDR3N | V_{F2} | 1.50 2.10 | Vdc |
| Maximum Reverse Leakage Current (Rated V_R , 300 μs Pulse Minimum , $T_A = 25^\circ\text{C}$) | | I_{R1} | 5 | μA |
| Maximum Reverse Leakage Current (Rated V_R , 300 μs Pulse Minimum , $T_A = 100^\circ\text{C}$) | | I_{R2} | 500 | μA |
| Junction Capacitance ($V_R = 10\text{V}$ dc, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$) | | C_J | 50 | pf |
| Maximum Reverse Recovery Time ^{4/} | SDR3A thru SDR3J SDR3K SDR3M SDR3N | t_{rr} | 50 60 70 80 | ns |

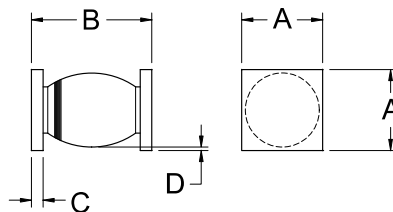
Axial Leaded Case Outline ^{5/}:

| DIMENSIONS | | |
|------------|-------|-------|
| DIM. | MIN. | MAX. |
| A | .120" | .180" |
| B | --- | .230" |
| C | .047" | .053" |
| D | 1.00" | --- |



Square Tab Surface Mount Case Outline ^{5/}:

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



NOTES:

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3/ Unless Otherwise Specified, All Electrical Characteristics @25°C.

4/ Recovery Conditions: $I_F = 0.5\text{ Amp}$, $I_R = 1.0\text{ Amp}$, I_{RR} to .25 Amp.

5/ For information on operating curves, contact factory.

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