



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773
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Designer's Data Sheet

Part Number/Ordering Information ^{1/}

SDR5

Screening ^{2/} = Not Screened
TX = TX Level
TXV = TXV Level
S = S Level

Pin Configuration (See Table 1)

 = Normal (Cathode to Stud)
R = Reverse (Anode to Stud)

Family/Voltage

04 = 400V
06 = 600V
08 = 800V
10 = 1000V

**SDR504
Thru
SDR510**

**50 Amp
400-1000 Volt
80 nsec
ULTRAFAST RECOVERY
RECTIFIER**

Features:

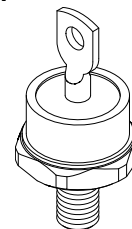
- Ultrafast recovery: 80 nsec maximum
- Low reverse leakage current
- Low thermal resistance
- High surge capability
- Hermetically sealed
- For high efficiency applications
- PIV to 1000V
- TX, TXV, and S-Level Screening Available ^{2/}

Maximum Ratings	Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage	SDR504 SDR506 SDR508 SDR510 V_{RRM} V_{RWM} V_R	400 600 800 1000	Volts
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_A = 25^\circ\text{C}$)	I_O	50	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ\text{C}$)	I_{FSM}	625	Amps
Operating & Storage Temperature	T_{OP} & T_{STG}	-65 to +175	$^\circ\text{C}$
Maximum Total Thermal Resistance Junction to Case	$R_{\theta JC}$	1.0	$^\circ\text{C/W}$

Notes:

- 1/ For ordering information, price, operating curves, and availability - contact factory.
2/ Screening based on MIL-PRF-19500. Screening flows available on request.

DO-5:



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

DATA SHEET #: RU0049C

DOC



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SDR504 Thru SDR510

Electrical Characteristics	Symbol	Max	Units
Instantaneous Forward Voltage Drop ($I_F = 50 \text{ Adc}$, $T_A = 25^\circ\text{C}$, 300 μs pulse)	V_F	1.7	V_{DC}
Instantaneous Forward Voltage Drop ($I_F = 50 \text{ Adc}$, $T_A = -55^\circ\text{C}$, 300 μs pulse)	V_F	1.85	V_{DC}
Reverse Leakage Current (Rated V_R , $T_A = 25^\circ\text{C}$, 300 μs pulse minimum)	I_R	25	μA
Reverse Leakage Current (Rated V_R , $T_A = 100^\circ\text{C}$, 300 μs pulse minimum)	I_R	8	mA
Reverse Recovery Time ($I_F = 500 \text{ mA}$, $I_R = 1 \text{ Amp}$, $I_{RR} = 250 \text{ mA}$, $T_A = 25^\circ\text{C}$)	t_{RR}	80	nsec
Junction Capacitance ($V_R = 10V_{DC}$, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$)	C_J	700	pF

DO-5 Outline (Normal Pin Configuration Shown):

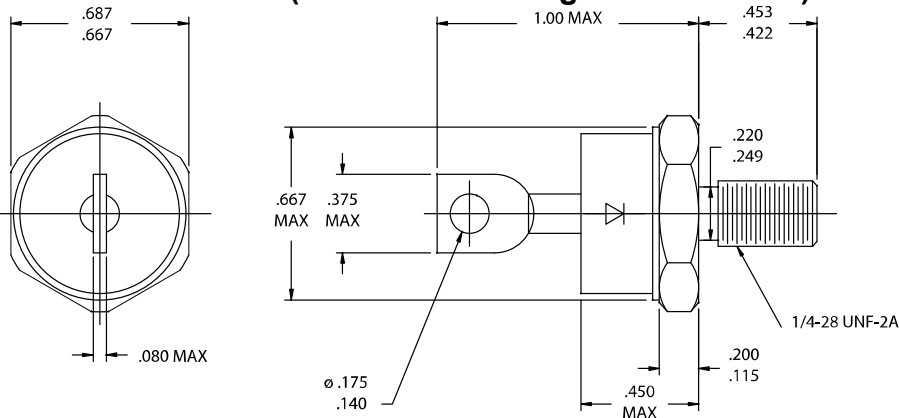
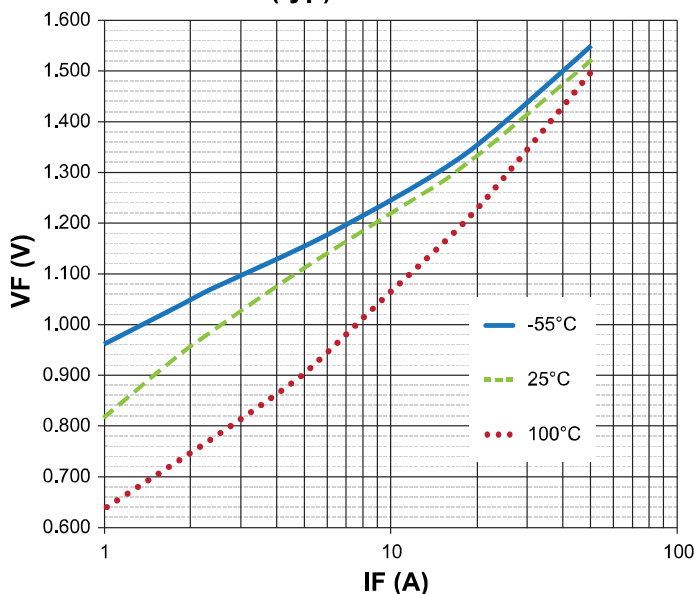


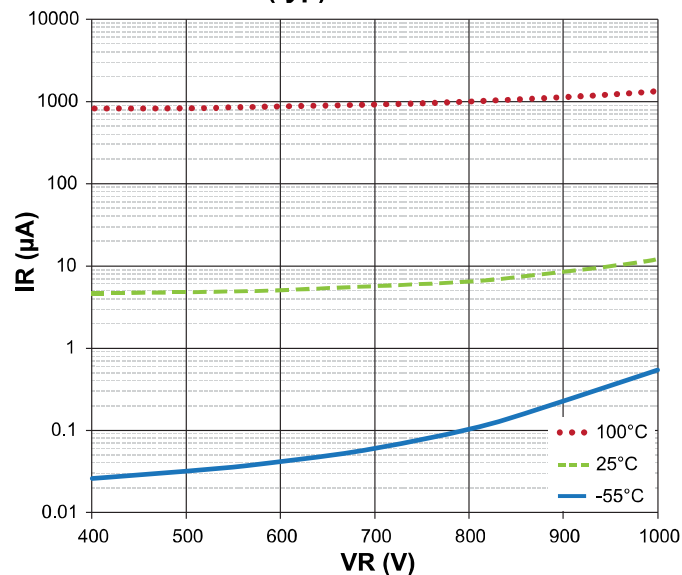
Table 1- PIN ASSIGNMENT

Code	Configuration	Terminal	Stud
—	Normal	Anode	Cathode
R	Reverse	Cathode	Anode

VF (typ) vs IF vs Tc



IR (typ) vs VR vs Tc



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