



Solid State Devices, Inc.

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Designer's Data Sheet

Part Number/Ordering Information^{1/}

SDR50120



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)

SDR50120

50 A, 120 ns, 1200 V Fast Recovery Rectifier

Features:

- Fast Recovery: 120 nsec max
- Soft Recovery
- Low Reverse Leakage Current
- Low Capacitance
- Single Chip Construction
- PIV to 1200 Volts
- Hermetically Sealed
- For High Efficiency Applications
- TX, TXV, and S-Level Screening Available^{2/}

Maximum Ratings^{4/}

	Symbol	Value	Unit
Peak Repetitive Reverse Voltage and DC Blocking Voltage @ 100 μ A	V_{RRM} V_{RWM} V_R	1200	V
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_c = 25^\circ\text{C}$)	I_o	50	A
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ\text{C}$)	I_{FSM}	250	A
Operating & Storage Temperature	T_{OP} & T_{STG}	-55 to +150	$^\circ\text{C}$
Thermal Resistance (Junction to Case)	$R_{\theta JC}$	0.8	$^\circ\text{C/W}$

Notes:

^{1/} For ordering information, price, operating curves, and availability - Contact factory.

^{2/} Screening based on MIL-PRF-19500. Screening flows available on request.

^{3/} Recovery conditions: $I_F = 500$ mA, $I_R = 1$ Amp, $I_{RR} = 250$ mA.

^{4/} Unless otherwise specified, all maximum ratings / electrical characteristics @ 25°C .

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 #: RC0216C

DOCX



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Electrical Characteristics ^{4/}		Symbol	Value	Unit
Maximum Instantaneous Forward Voltage Drop ($I_F = 50$ Adc, 300 - 500 μ s Pulse)		V_{F1}	3.30 (3.05 typ)	V_{DC}
Maximum Instantaneous Forward Voltage Drop ($I_F = 50$ Adc, 300 - 500 μ s Pulse)	$T_A = 125^\circ C$	V_{F2}	3.00 (2.75 typ)	V_{DC}
Maximum Reverse Leakage Current (Rated V_R , 300 μ s minimum pulse)		I_{R1}	25	μA
Maximum Reverse Leakage Current (Rated V_R , 300 μ s minimum pulse)	$T_A = 125^\circ C$	I_{R2}	3	mA
Maximum Reverse Recovery Time ($I_F = 2$ A, $di/dt = 70$ A/ μ s, $V_R = 30$ V)		t_{RR}	120 (100 typ)	nsec
Maximum Junction Capacitance ($T_A = 25^\circ C$, $f = 1$ MHz)	$V_R = 10 V_{DC}$ $V_R = 100 V_{DC}$	C_J	150 (105 typ) - (50 typ)	pF

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- 2/ Screening based on MIL-PRF-19500. Screening flows available on request.
- 3/ Recovery conditions: $I_F = 500$ mA, $I_R = 1$ Amp, $t_{RR} = 250$ mA.
- 4/ Unless otherwise specified, all maximum ratings / electrical characteristics @ $25^\circ C$.

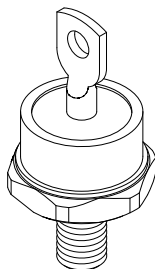
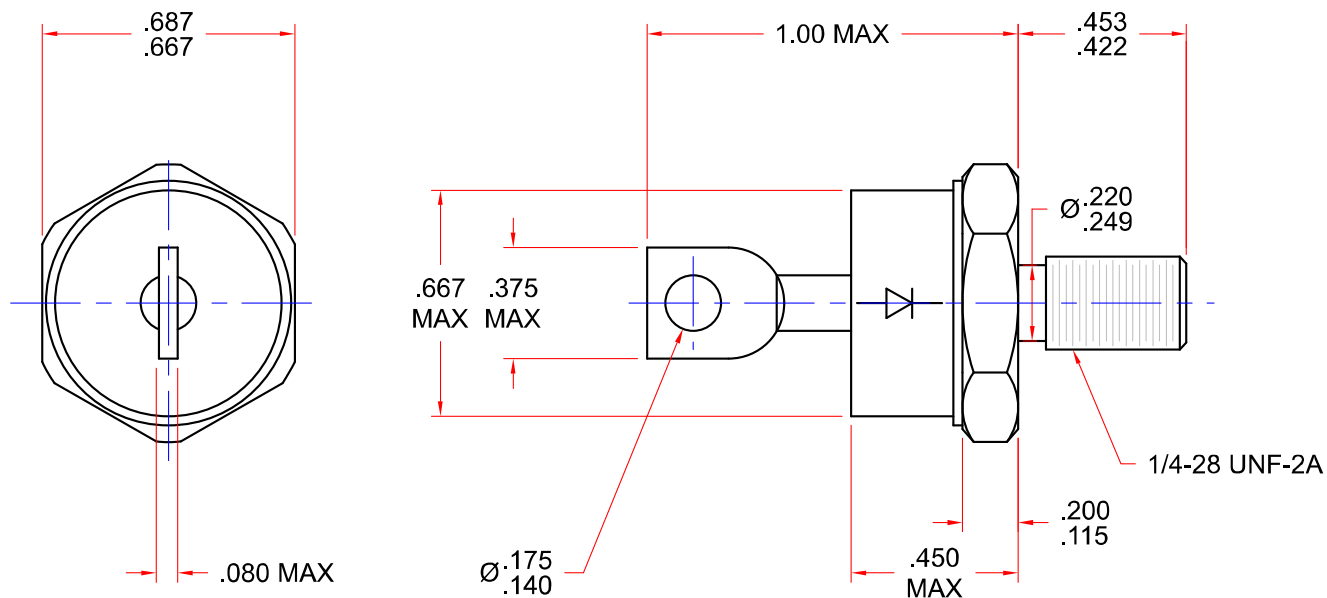


Table 1- PIN ASSIGNMENT

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

DO-5 Outline (Normal Pin Configuration Shown):



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