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

SDR75U20
thru
SDR75U50

Designer's Data Sheet

Part Number/Ordering Information [1/]

SDR75U ___ ___

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
20 = 200V
30 = 300V
40 = 400V
50 = 500V

75 Amp
ULTRAFAST RECOVERY
HIGH POWER RECTIFIER
200-500 Volt
50 nsec

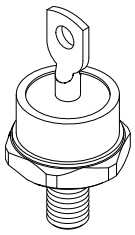
Features:
- **Low Reverse Leakage Current**
- **Single Chip Construction**
- **PIV to 500V**
- **Hermetically Sealed**
- **Low Thermal Resistance**
- **Higher Voltage Devices Up to 1KV Available***
- **Fast and Ultra Fast Recovery Versions Available***
- **For Reverse Polarity Add Suffix "R"**
- **TX, TXV, and S-Level Screening Available** [2/]

*Contact Factory

Maximum Ratings	Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage **SDR75U20** / **SDR75U30** / **SDR75U40** / **SDR75U50**	V_{RRM} / V_{RWM} / V_R	200 / 300 / 400 / 500	**Volts**
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, T_A = 25°C)	**Io**	75	**Amps**
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, T_A = 25°C)	I_{FSM}	450	**Amps**
Operating & Storage Temperature	T_{OP} & T_{STG}	-65 to +200	**ºC**
Maximum Total Thermal Resistance Junction to Case	$R_{\theta JC}$	0.85	**ºC/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



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Electrical Characteristics		Symbol	Max	Typ	Units
Instantaneous Forward Voltage Drop (T_A = 25ºC, 300µs pulse)	I_F = 10Adc I_F = 25Adc I_F = 50Adc I_F = 75Adc	V_{F1} V_{F2} V_{F3} V_{F4}	1200 1500 1800 2000	1060 1300 1550 1750	mV_{DC}
Instantaneous Forward Voltage Drop (T_A = -55ºC, 300µs pulse)	I_F = 10Adc I_F = 25Adc I_F = 50Adc I_F = 75Adc	V_{F6} V_{F7} V_{F8} V_{F9}	- - 1700 -	1050 1200 1350 1425	mV_{DC}
Instantaneous Forward Voltage Drop (T_A = 100ºC, 300µs pulse)	I_F = 10Adc I_F = 25Adc I_F = 50Adc I_F = 75Adc	V_{F11} V_{F12} V_{F13} V_{F14}	- - - -	950 1200 1500 1700	mV_{DC}
Instantaneous Forward Voltage Drop (T_A = 125ºC, 300µs pulse)	I_F = 10Adc I_F = 25Adc I_F = 50Adc I_F = 75Adc	V_{F16} V_{F17} V_{F18} V_{F19}	- - 1900 -	900 1150 1450 1650	mV_{DC}
Instantaneous Forward Voltage Drop (T_A = 150ºC, 300µs pulse)	I_F = 10Adc I_F = 25Adc I_F = 50Adc I_F = 75Adc	V_{F21} V_{F22} V_{F23} V_{F24}	- - - -	850 1100 1400 1625	mV_{DC}
Reverse Leakage Current (Rated V_R, T_A = 25ºC, 300µs pulse minimum)		I_{R1}	75	2	µA
Reverse Leakage Current (Rated V_R, T_A = 100ºC, 300µs pulse minimum)		I_{R2}	-	250	µA
Reverse Leakage Current (Rated V_R, T_A = 125ºC, 300µs pulse minimum)		I_{R3}	25	1	mA
Reverse Leakage Current (Rated V_R, T_A = 150ºC, 300µs pulse minimum)		I_{R4}	-	3	mA
Reverse Recovery Time (I_F = 500mA, I_R = 1 Amp, I_{RR} = 250mA, T_A = 25ºC)		t_{RR}	50	40	nsec
Junction Capacitance (T_A = 25ºC, f = 1MHz)	V_R = 5V_{DC} V_R = 10V_{DC}	C_J	- 450	420 330	pF

Table 1- PIN ASSIGNMENT

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

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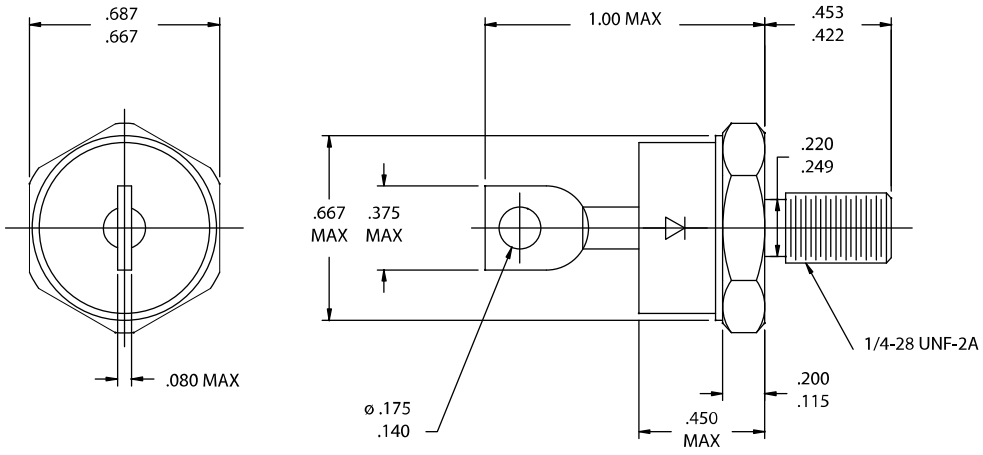
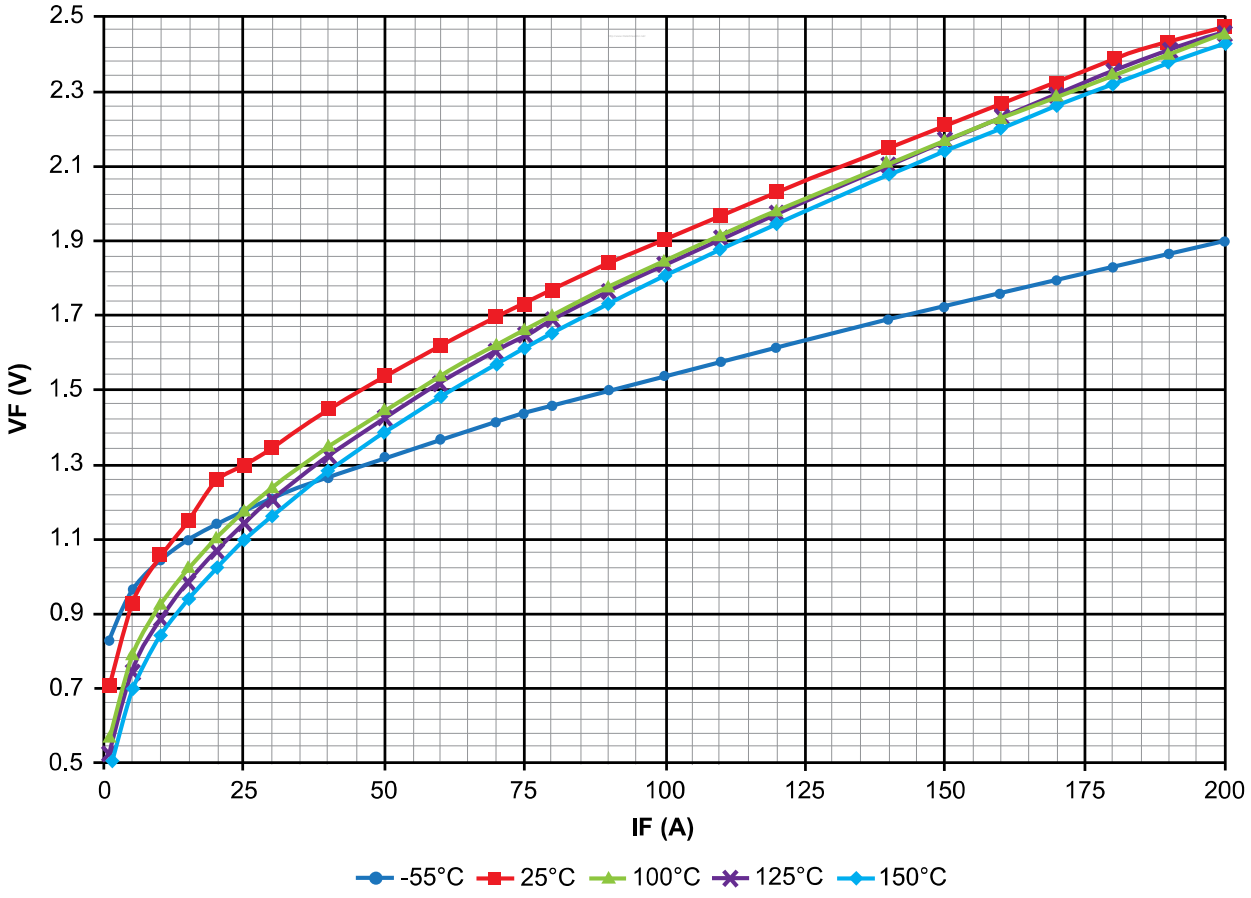
DO-5 Outline (Normal Pin Configuration Shown):





NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.	**DATA SHEET #: RC0152A**	**DOC**