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

SDR55U080CT thru SDR55U120CT Series

DESIGNER'S DATA SHEET

Part Number / Ordering Information [1/]

SDR55U ___ ___ ___ ___

Screening [2/]
- ___ = Not Screened
- TX = TX Level
- TXV = TXV Level
- S = S Level

Package Type
- M = TO-254
- N = TO-258
- P = TO-259

Configuration
- CT = Common Cathode
- CA = Common Anode
- D = Doubler
- DR = Doubler Reverse

Voltage/Family
- 080 = 800V
- 090 = 900V
- 100 = 1000V
- 110 = 1100V
- 120 = 1200V

55 AMP ULTRA FAST CENTERTAP RECTIFIER

800 - 1200 Volts

50 nsec

Features:
- Ultra Fast Recovery: 35 nsec typical
- High Surge Rating
- Low Reverse Leakage Current
- Low Forward Voltage Drop
- Low Junction Capacitance
- Hermetically Sealed Package
- Gold Eutectic Die Attach available
- Ultrasonic Aluminum Wire Bonds
- Ceramic Seals for improved hermeticity available
- Available in Centertap and Doubler versions
- TX, TXV, Space Level Screening Available Consult Factory.

Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage	**SDR55U080** **SDR55U090** **SDR55U100** **SDR55U110** **SDR55U120**	V_{RRM} V_{RWM} V_R	800 900 1000 1100 1200	**Volts**
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, T_A = 25ºC)[3/4/]		**Io**	55	**Amps**
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, Allow Junction to Reach Equilibrium Between Pulses, T_A = 25ºC)		I_{FSM}	250	**Amps**
Operating & Storage Temperature		**Top & Tstg**	-65 to +200	**ºC**
Maximum Thermal Resistance Junction to Case, each individual diode Junction to Case[3/]		$R_{\theta JE}$	1.25 1.0	**ºC/W**

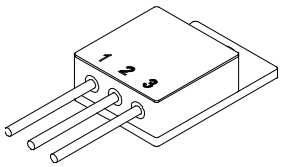
1/ For ordering information, price, operating curves, and availability - Contact factory.

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

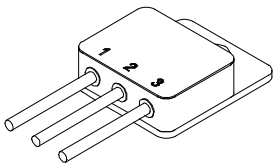
3/ Both legs tied together.

4/ Package limited.

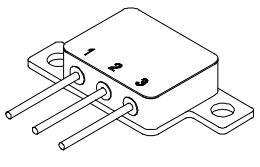
TO-254 (M)



TO-258 (N)



TO-259 (P)



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Electrical Characteristics (per leg)		Symbol	Typ	Max	Units
Instantaneous Forward Voltage Drop (T_A = 25ºC, 300 μsec pulse)	I_F = 10Adc I_F = 20Adc I_F = 50Adc	V_{F1}	1.75 1.85 2.1	1.9 2.1 2.5	**Volts**
Instantaneous Forward Voltage Drop (T_A = -55ºC, 300 μsec pulse)	I_F = 10Adc I_F = 20Adc I_F = 50Adc	V_{F2}	1.75 1.85 2.05	1.95 2.1 2.5	**Volts**
Instantaneous Forward Voltage Drop (T_A = 125ºC, 300 μsec pulse)	I_F = 10Adc I_F = 20Adc I_F = 50Adc	V_{F3}	1.3 1.52 1.88	1.6 1.8 2.35	**Volts**
Reverse Leakage Current (Rated V_R, T_A = 25ºC, 300 μsec pulse minimum)		I_{R1}	20	100	**μA**
Reverse Leakage Current (Rated V_R, T_A = 100ºC, 300 μsec pulse minimum)		I_{R2}	1.5	—	**mA**
Reverse Leakage Current (Rated V_R, T_A = 125ºC, 300 μsec pulse minimum)		I_{R3}	5	20	**mA**
Reverse Leakage Current (Rated V_R, T_A = 150ºC, 300 μsec pulse minimum)		I_{R4}	15	—	**mA**
Junction Capacitance (V_R = 5 Vdc, T_A = 25ºC, f = 1MHz) (V_R = 10 Vdc, T_A = 25ºC, f = 1MHz)		C_J	50 45	— 75	**pF**
Reverse Recovery Time (I_F = 500 mA, I_R = 1A, I_{RR} = 0.25A) (I_F = 500 mA, I_R = 1A, I_{RR} = 0.25A) (I_F = 10 A, dI_F / dt = 100A/μs) (I_F = 10 A, dI_F / dt = 100A/μs) (I_F = 10 A, dI_F / dt = 100A/μs) (I_F = 10 A, dI_F / dt = 100A/μs)	 T_A = 25ºC T_A = 100ºC T_A = 25ºC T_A = 25ºC T_A = 100ºC T_A = 100ºC	 t_{rr1} t_{rr2} t_{rr3} I_{RM3} t_{rr4} I_{RM4}	 35 100 50 3.7 110 6	 50 -- -- -- -- --	**nsec**

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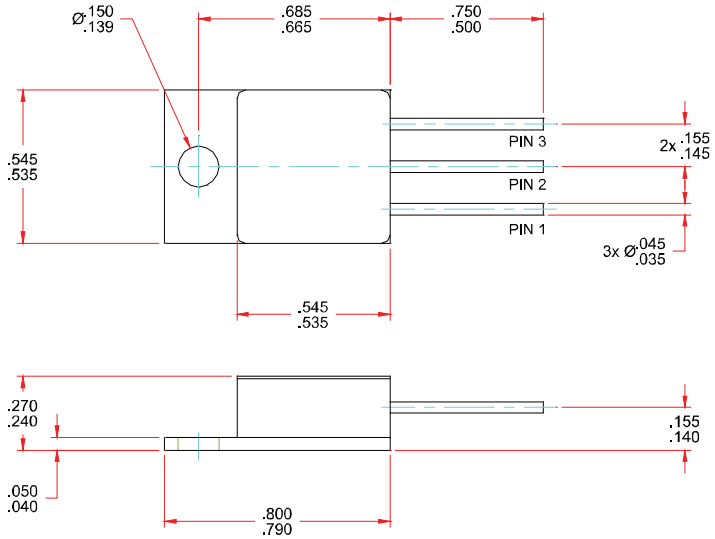
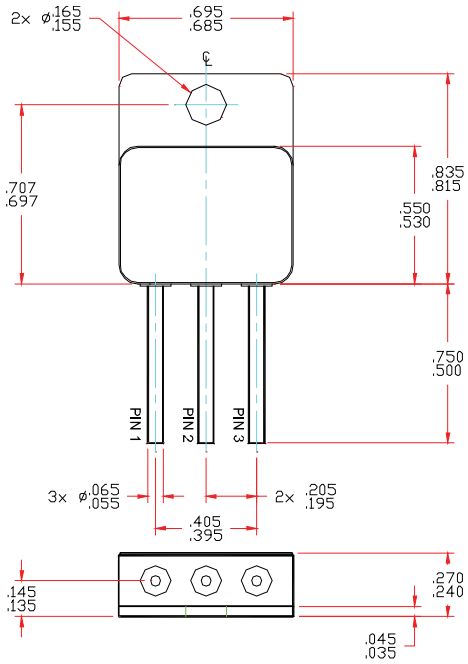
SDR55U080CT thru SDR55U120CT Series

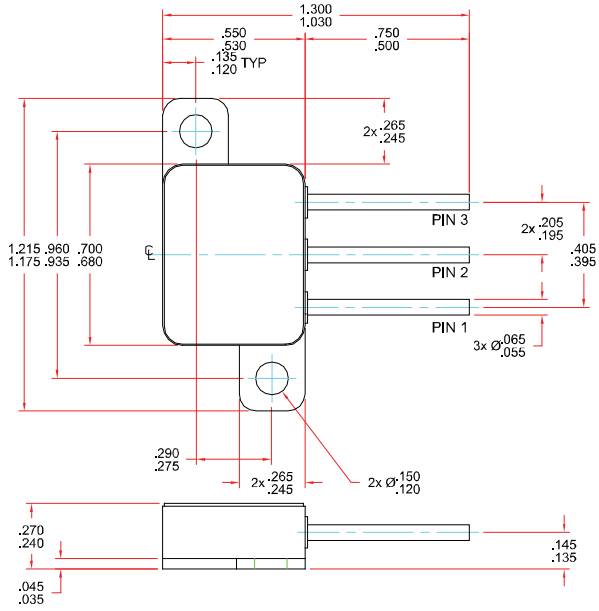
Case Outline: TO-254



Case Outline: TO-258



Case Outline: TO-259



PIN ASSIGNMENT				
Code	**Function**	**Pin 1**	**Pin 2**	**Pin 3**
CT	**Common Cathode**	**Anode**	**Cathode**	**Anode**
CA	**Common Anode**	**Cathode**	**Anode**	**Cathode**
D	**Doubler**	**Cathode**	**Anode / Cathode**	**Anode**
DR	**Doubler Reverse**	**Anode**	**Cathode / Anode**	**Cathode**