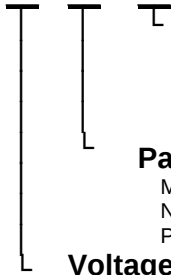


SDR50U080 - SDR50U120 Series

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SDR50U



Screening ^{2/}

— = Not Screened

TX = TX Level

TXV = TXV Level

S = S Level

Package Type

M = TO-254

N = TO-258

P = TO-259

Voltage/Family

080 = 800 V

090 = 900 V

100 = 1000 V

110 = 1100 V

120 = 1200 V

50 AMP

Ultrafast Recovery Rectifier

800 -1200 Volts

50 nsec

Features:

- Ultrafast Recovery: 45 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
- TX, TXV, Space Level Screening Available - Consult Factory ^{2/}

Maximum Ratings		Symbol	Value	Unit
Peak Repetitive Reverse and DC Blocking Voltage	SDR50U080	V_{RRM}	800	V
	SDR50U090		900	
	SDR50U100	V_{RWM}	1000	
	SDR50U110		1100	
	SDR50U120	V_R	1200	
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_A = 25^\circ\text{C}$) ^{3/}		I_O	50	A
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, Allow Junction to Reach Equilibrium Between Pulses, $T_A = 25^\circ\text{C}$) ^{3/}		I_{FSM}	500	A
Operating & Storage Temperature		$T_{OP} \text{ \& } T_{STG}$	-65 to +200	$^\circ\text{C}$
Maximum Thermal Resistance Junction to End Tab ^{3/}		$R_{\theta JE}$	1.0	$^\circ\text{C/W}$

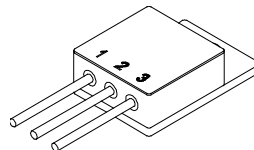
NOTES: *Pulsed per MIL-STD-750.

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

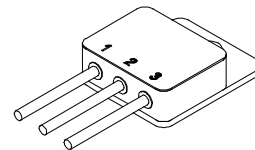
^{2/} Screening based on MIL-PRF-19500. Screening flows available on request.

^{3/} Pins 2 & 3 connected.

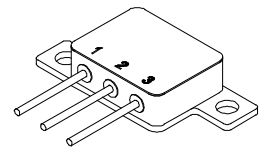
TO-254 (M)



TO-258 (N)



TO-259 (P)



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

DATA SHEET #: RU0117F

DOCX

**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

**SDR50U080 - SDR50U120
Series**

Electrical Characteristics		Symbol	Typ	Max	Unit	
Instantaneous Forward Voltage Drop* (T _A = 25°C)		I _F = 20 Adc I _F = 50 Adc I _F = 100 Adc	V _{F1}	1.90 2.20 2.60	-- 2.4 2.8	V
Instantaneous Forward Voltage Drop	T _A = -55°C, I _F = 20 Adc T _A = -55°C, I _F = 50 Adc T _A = 100°C, I _F = 20 Adc T _A = 100°C, I _F = 50 Adc	V _{F2}	1.85 2.00 1.60 2.10	2.0 2.4 1.8 2.5	V	
Reverse Leakage Current* (Rated V _R , T _A = 25°C)		I _{R1}	15	100	µA	
Reverse Leakage Current* (Rated V _R , T _A = 100°C) (Rated V _R , T _A = 125°C) (Rated V _R , T _A = 150°C)		I _{R2}	2.5 8.0 25	10 -- --	mA	
Junction Capacitance (V _R = 5 Vdc, T _A = 25°C, f = 1 MHz) (V _R = 10 Vdc, T _A = 25°C, f = 1 MHz)		C _J	75 70	-- 100	pF	
Reverse Recovery Time (I _F = 500 mA, I _R = 1 A, I _{RR} = 0.25 A) (I _F = 1 A, I _R = 1 A, I _{RR} = 0.1 A) (I _F = 10 A, dI _F /dt = 100 A/µs) (I _F = 10 A, dI _F /dt = 100 A/µs) (I _F = 10 A, dI _F /dt = 100 A/µs) (I _F = 10 A, dI _F /dt = 100 A/µs)		T _A = 25°C T _A = 25°C T _A = 25°C T _A = 25°C T _A = 100°C T _A = 100°C	t _{RR1} t _{RR2} t _{RR3} I _{RM3} t _{RR4} I _{RM4}	45 150 70 4.0 140 7.0	50 -- -- -- -- --	nsec nsec nsec A nsec A

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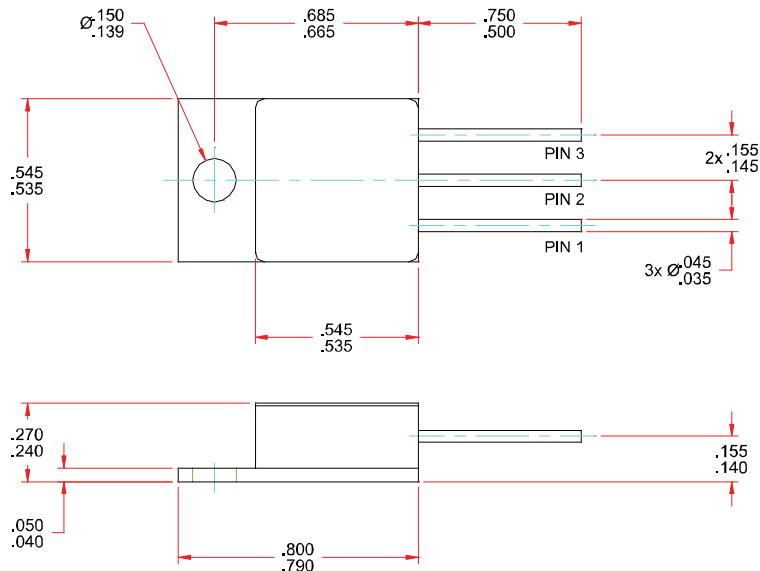
SDR50U080 - SDR50U120 Series

Case Outline: TO-254 (M)

Pin 1: Cathode

Pin 2: Anode

Pin 3: Anode

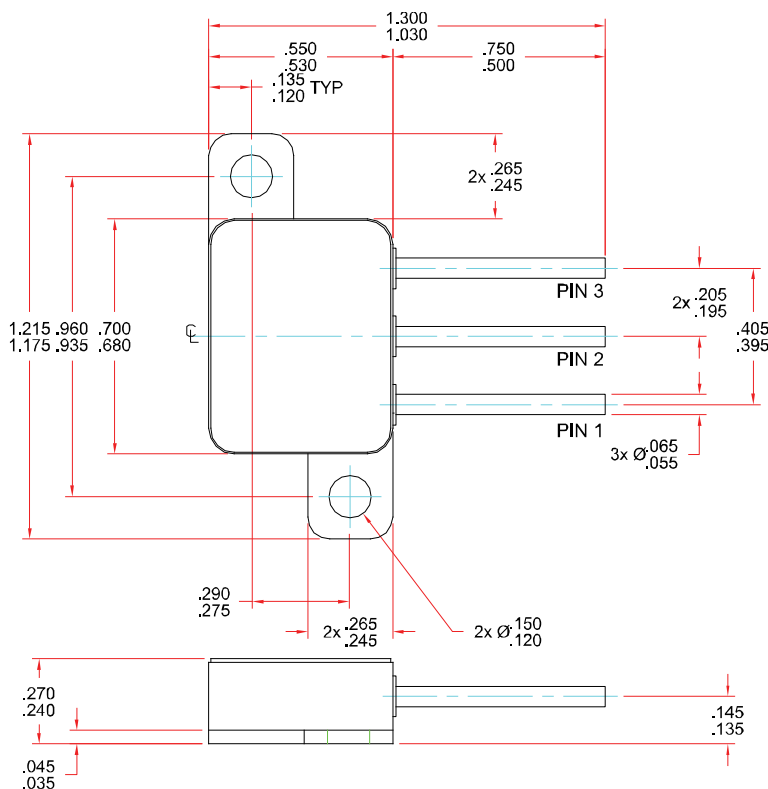


Case Outline: TO-259 (P)

Pin 1: Cathode

Pin 2: Anode

Pin 3: Anode

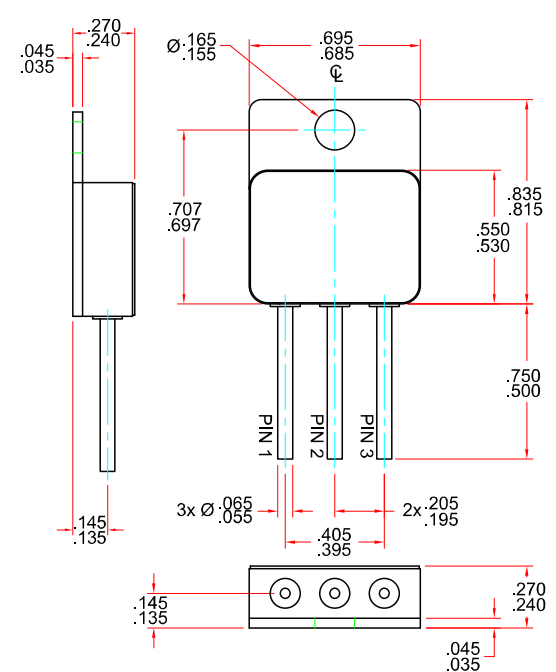


Case Outline: TO-258 (N)

Pin 1: Cathode

Pin 2: Anode

Pin 3: Anode



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SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: RU0117F

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