



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

SDR958 thru SDR9512 Series

50 AMP
800 -1200 Volts
100 nsec
Ultrafast Recovery
Rectifier

DESIGNER'S DATA SHEET

Part Number/Ordering Information^{1/}
SDR

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

Lead Options = Straight Leads
 DB = Bent Down
 UB = Bent Up

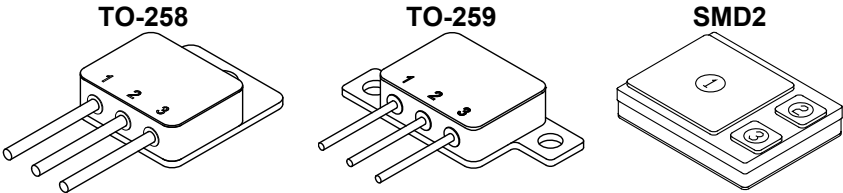
Package N = TO-258
 P = TO-259
 S2 = SMD2

Family/Voltage 958 = 800V
 959 = 900V
 9510 = 1000V
 9511 = 1100V
 9512 = 1200V

- Features:**
- Ultra Fast Recovery: 80 nsec typical
 - High Surge Rating
 - Low Reverse Leakage Current
 - Low Junction Capacitance
 - Hermetically Sealed Package
 - Faster Recovery Times Available – Contact Factory
 - TX, TXV, Space Level Screening Available - Consult Factory

Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage	SDR958	V_{RRM}	800	Volts
	SDR959		900	
	SDR9510	V_{RWM}	1000	
	SDR9511		1100	
	SDR9512	V_R	1200	
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_A = 25^\circ\text{C}$) ^{3/}		I_o	50	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on I_o , Allow Junction to Reach Equilibrium Between Pulses, $T_A = 25^\circ\text{C}$) ^{3/}		I_{FSM}	500	Amps
Operating & Storage Temperature		Top & Tstg	-65 to +200	°C
Maximum Thermal Resistance Junction to Case ^{3/}	N&P	$R_{\theta JC}$	0.45	°C/W
	SMD2		0.3	

- 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/ Pins 2&3 connected





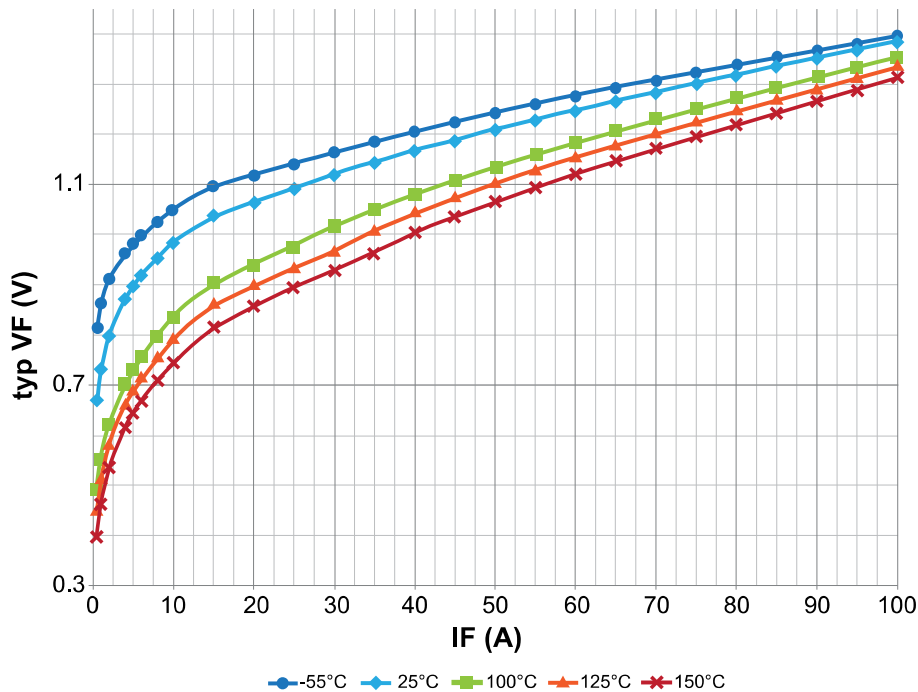
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Electrical Characteristics ^{3/}		Symbol	Typ	Max	Units	
Instantaneous Forward Voltage Drop (T _A = 25°C, 300 µsec pulse)	I _F = 20 Adc	V_{F1}	1.10	--	Volts	
	I _F = 50 Adc		1.25	1.7		
	I _F = 100 Adc		1.40	2.0		
Instantaneous Forward Voltage Drop	T _A = -55°C	V_{F2}	1.20	--	Volts	
	T _A = -55°C		I _F = 50 Adc	1.30		1.80
	T _A = 100°C		I _F = 20 Adc	0.95		--
	T _A = 100°C		I _F = 50 Adc	1.15		1.60
Reverse Leakage Current (Rated V _R , T _A = 25°C, 300 µsec pulse minimum)		I_{R1}	50	100	µA	
Reverse Leakage Current (Rated V _R , T _A = 100°C, 300 µsec pulse minimum) (Rated V _R , T _A = 125°C, 300 µsec pulse minimum) (Rated V _R , T _A = 150°C, 300 µsec pulse minimum)		I_{R2}	3.0	10	mA	
			7.0	--		
			17.0	--		
Junction Capacitance (V _R = 5 Vdc, T _A = 25°C, f = 1MHz) (V _R = 10 Vdc, T _A = 25°C, f = 1MHz)		C_J	180	--	pF	
			160	250		
Reverse Recovery Time (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 = 45A/µs) (I _F = 10 A, dI _F /dt = 45A/µs) (I _F = 10 A, dI _F /dt = 45A/µs) (I _F = 10 A, dI _F /dt = 45A/µs)	T _A = 25°C	t_{rr1}	100	150	nsec	
	T _A = 25°C	t_{rr2}	135	--	nsec	
	T _A = 25°C	I_{RM2}	8.0	--	A	
	T _A = 25°C	t_{rr3}	210	--	nsec	
	T _A = 25°C	I_{RM3}	4.0	--	A	
	T _A = 100°C	t_{rr4}	330	--	nsec	
	T _A = 100°C	I_{RM4}	7.5	--	A	

SDR958 thru SDR9512 Series
Typ VF (V) vs. IF (A)

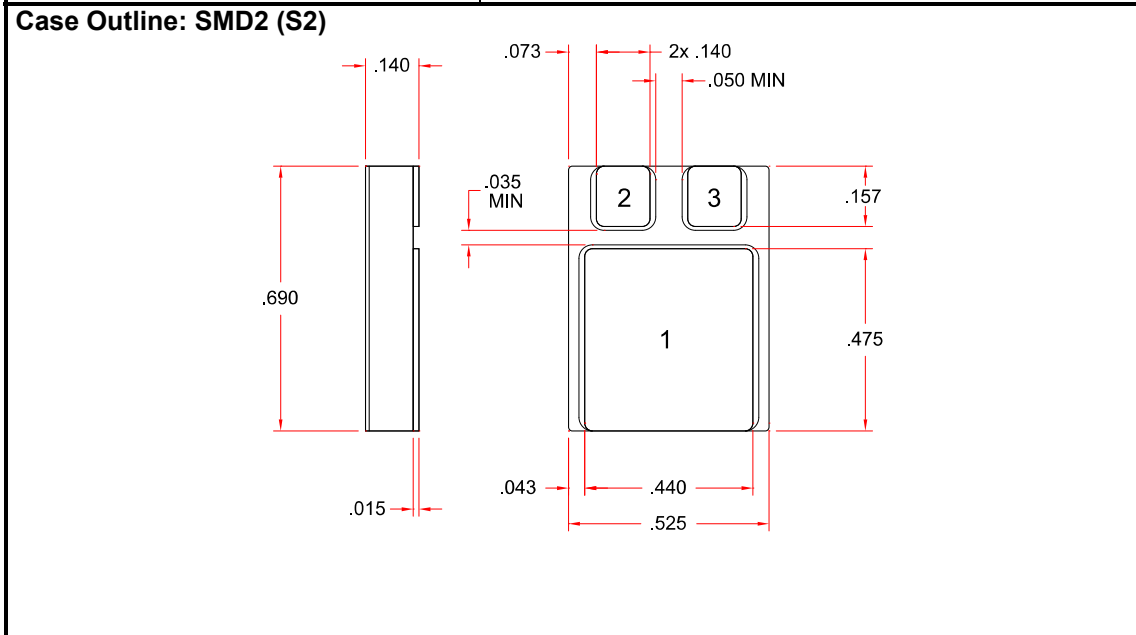
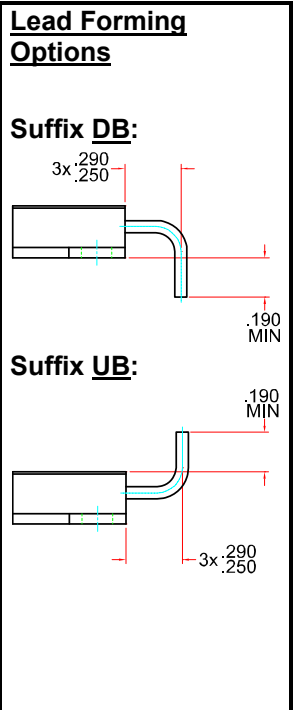
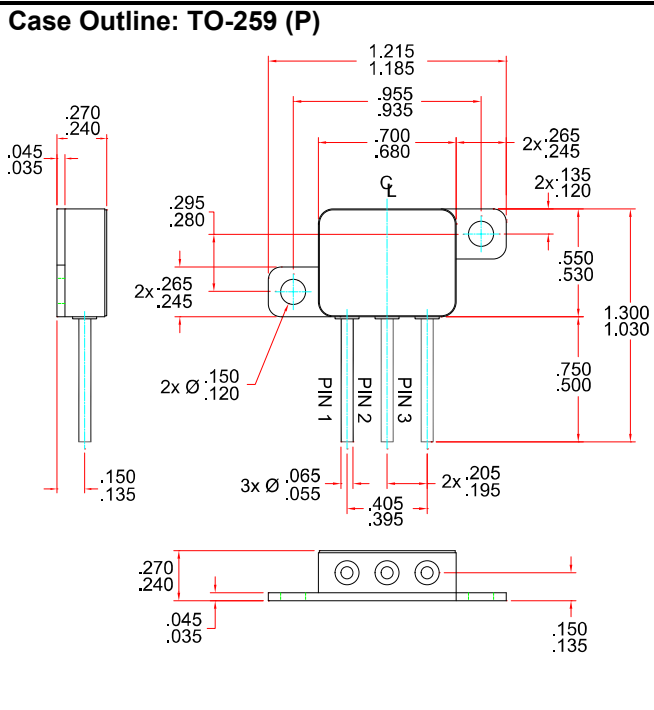
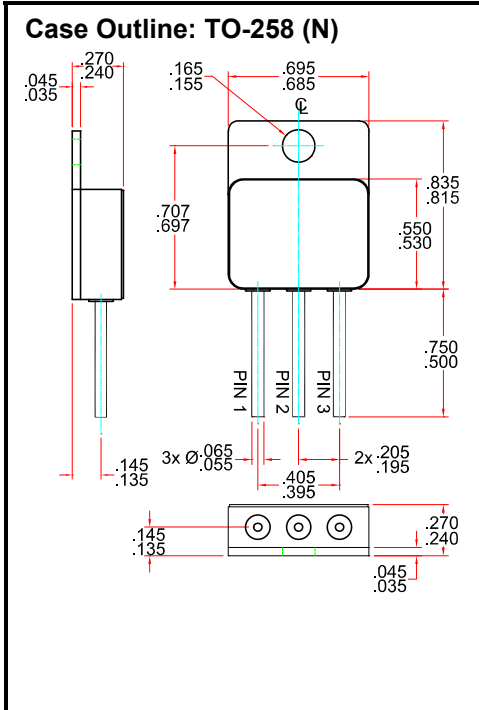




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PIN ASSIGNMENT

Pin 1: Cathode
Pin 2: Anode
Pin 3: Anode

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

DATA SHEET #: RU0113D

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