



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

Designer's Data Sheet

Part Number/Ordering Information ^{1/}

SDR95

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

Lead Bend Option

(See Figure 1)

Package M = TO-254, Z = TO-254Z

Voltage 3 = 300V, 4 = 400V,
 5 = 500V, 6 = 600V.

SDR953M & Z

Thru

SDR956M & Z

50A, 35nsec, 300-600 V
Hyper Fast Rectifier

Features:

- Hyper Fast Recovery: 35nsec Maximum ^{3/}
- High Surge Rating
- Low Reverse Leakage Current
- Low Junction Capacitance
- Hermetically Sealed Low Profile Package
- Gold Eutectic Die Attach Available
- Ultrasonic Aluminum Wire Bonds
- Higher Voltages and Faster Recovery Times Available, Contact Factory
- Ceramic Seal for Improved Hermeticity Available
- TX, TXV, and S-Level Screening Available ^{2/}

Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse Voltage And DC Blocking Voltage	SDR953M & Z SDR954M & Z SDR955M & Z SDR956M & Z	V_{RRM} V_{RWM} V_R	300 400 500 600	Volts
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_A = 25^\circ\text{C}$)		I_o	50	Amps
Peak Surge Current ^{5/} (8.3 ms Pulse, Half Sine Wave, or equivalent DC) ^{4/}		I_{FSM}	450	Amps
Operating & Storage Temperature		T_{OP} & T_{STG}	-65 to +200	$^\circ\text{C}$
Maximum Total Thermal Resistance Junction to Case		$R_{\theta JC}$	1.2	$^\circ\text{C/W}$

Notes:

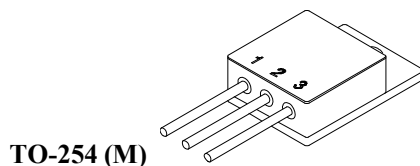
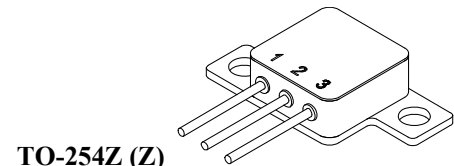
1/ For ordering information, Price, Operating Curves, and Availability- Contact Factory.

2/ Screening Based on MIL-PRF-19500. Screening Flows Available on Request.

3/ Recovery Conditions: $I_F = .5$ Amp, $I_R = 1$ A, $I_{RR} = .25$ A.

4/ Pins 2 and 3 Tied Together.

5/ Available with higher surge ratings.



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

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DOC



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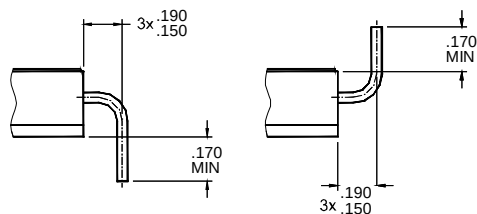
SDR953M & Z

Thru

SDR956M & Z

Electrical Characteristics		Symbol	Max	Units
Instantaneous Forward Voltage Drop ^{4/} (I _F = 25A, Pulse) (I _F = 50A, Pulse)	T _A = 25 °C	V _{F1}	1.30	V _{DC}
	T _A = 25 °C	V _{F2}	1.65	
Instantaneous Forward Voltage Drop ^{4/} (I _F = 25Adc, Pulse)	T _A = -55 °C	V _{F3}	1.4	V _{DC}
	T _A = 100 °C	V _{F4}	1.2	
Reverse Leakage Current	T _A = 25 °C, Rated V _R , Pulse	I _{R1}	200	μA
	T _A = 100 °C, 80% Rated V _R , Pulse	I _{R2}	10	mA
Reverse Recovery Time (I _F = .5 Amp, I _R = 1A, I _{RR} = .25A)	T _A = 25 °C	t _{RR}	35	nsec
Junction Capacitance (V _R = 10V _{DC} , T _A = 25°C, f = 1MHz)		C _J	250	pF

Figure 1- Optional Lead Bends



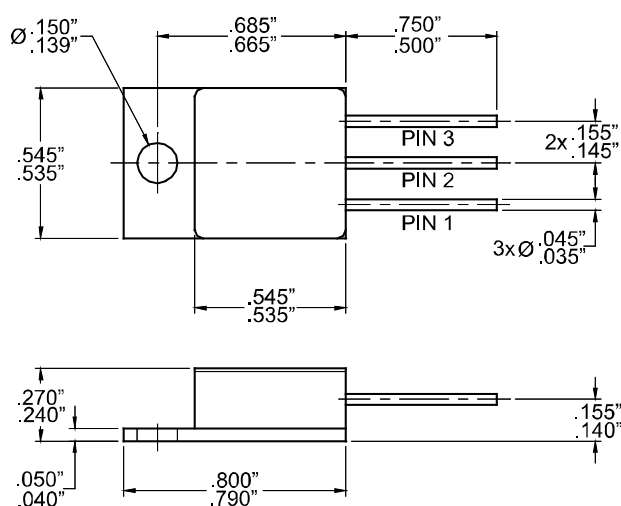
Suffix DB

Suffix UB

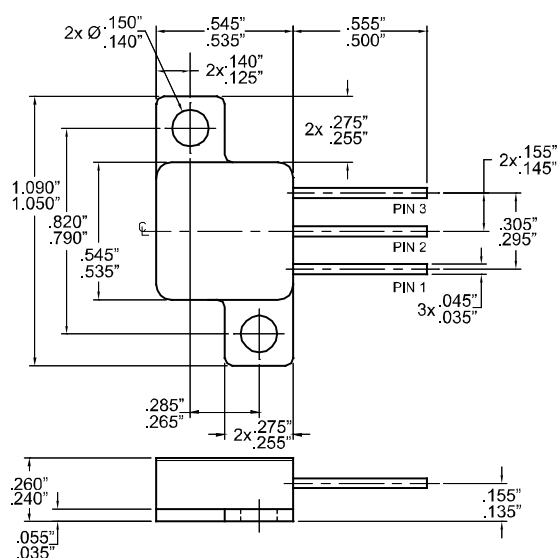
PIN ASSIGNMENT (TO-254 and TO-254Z Packages)

Code	FUNCTION	Pin 1	Pin 2	Pin 3
		Cathode	Anode	Anode

TO-254 (Suffix M) Outline:



TO-254Z (Suffix Z) Outline:



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