



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/}

SDR93

Screening

— = Not Screened
 TX = TX Level
 TXV = TXV
 S = S Level

Lead Options

— = Straight Leads
 DB = Down Bend
 UB = Up Bend

Package

M = TO-254
 Z = TO-254Z

Voltage

6 = 600 V 9 = 900 V
 7 = 700 V 10 = 1000 V
 8 = 800 V 12 = 1200 V

SDR936M&Z

thru

SDR9312M&Z

30 AMP

ULTRA FAST RECTIFIER

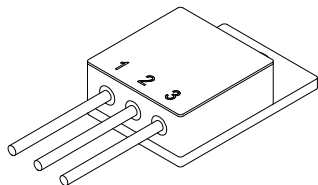
600 - 1200 VOLTS

Features:

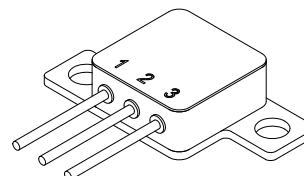
- Soft Recovery Diode
- Ultra Fast Recovery: 80 nsec maximum
- Available in faster recovery versions
- High Surge Rating
- Low Reverse Leakage Current
- Low Junction Capacitance
- Hermetically Sealed Package
- Gold Eutectic Die Attach available
- Ultrasonic Aluminum Wire Bonds
- Ceramic Seals for improved Hermeticity available
- TX, TXV, and S Level Screening Available

Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse Voltage	SDR936M&Z SDR937M&Z SDR938M&Z SDR939M&Z SDR9310M&Z SDR9312M&Z	V_{RRM}	600 700 800 900 1000 1200	Volts
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_C = 25^\circ\text{C}$)	Total	I_O	30	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ\text{C}$)		I_{FSM}	500*	Amps
Operating & Storage Temperature Range		$T_{OP} \text{ \& } T_{STG}$	-65 to +200	$^\circ\text{C}$
Maximum Total Thermal Resistance	Junction to Case	$R_{\theta JC}$	1.2	$^\circ\text{C/W}$

TO-254 (M)



TO-254Z (Z)



Notes: 1/ *Pins 2&3 connected together; available with higher surge capacity.

2/ For best results, Pins 2&3 must be connected together in the application.

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

DATA SHEET #: RU0073D

DOC



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SDR936M&Z thru SDR9312M&Z

Electrical Characteristic		Symbol	Typ	Max	Units
Instantaneous Forward Voltage Drop ($T_A = 25^\circ\text{C}$, 300 – 500 μsec Pulse)	$I_F = 15\text{A}$	V_{F1}	1.28	1.35	V_{DC}
	$I_F = 30\text{A}$	V_{F2}	1.45	1.55	
Instantaneous Forward Voltage Drop ($I_F = 15\text{A}$, 300 – 500 μsec Pulse)	$T_A = -55^\circ\text{C}$	V_{F3}	1.25	1.35	V_{DC}
	$T_A = 100^\circ\text{C}$	V_{F4}	1.30	1.40	
Reverse Leakage Current (100% of rated V_R , 300 μs pulse min.)	$T_A = 25^\circ\text{C}$	I_{R1}	10	100	μA
	$T_A = 100^\circ\text{C}$	I_{R2}	0.6	10	mA
Junction Capacitance ($V_R = 10V_{DC}$, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$)		C_J	105	150	pF
Reverse Recovery Time ($I_F = 0.5\text{A}$, $I_R = 1\text{A}$, $I_{RR} = 0.25\text{A}$, $T_A = 25^\circ\text{C}$)		t_{RR}	70	80	nsec

NOTES:

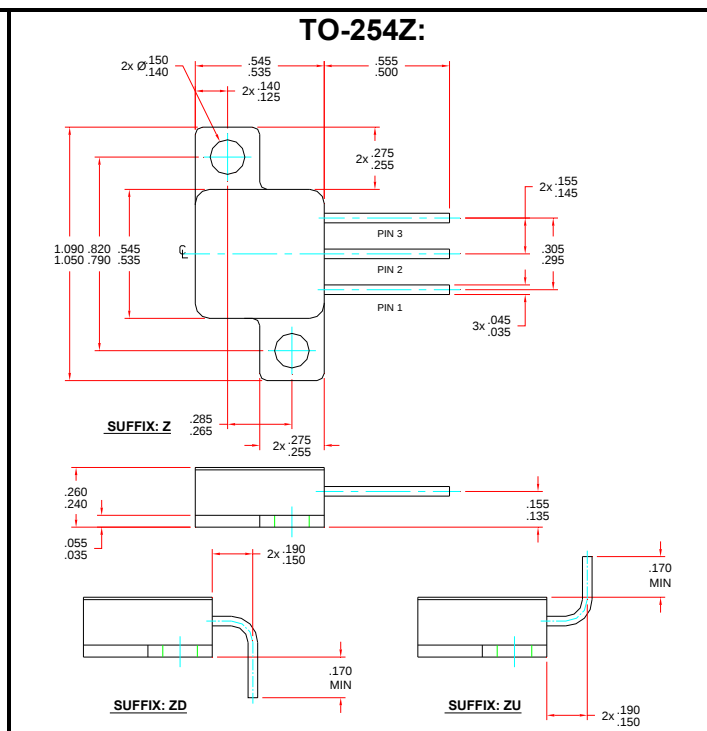
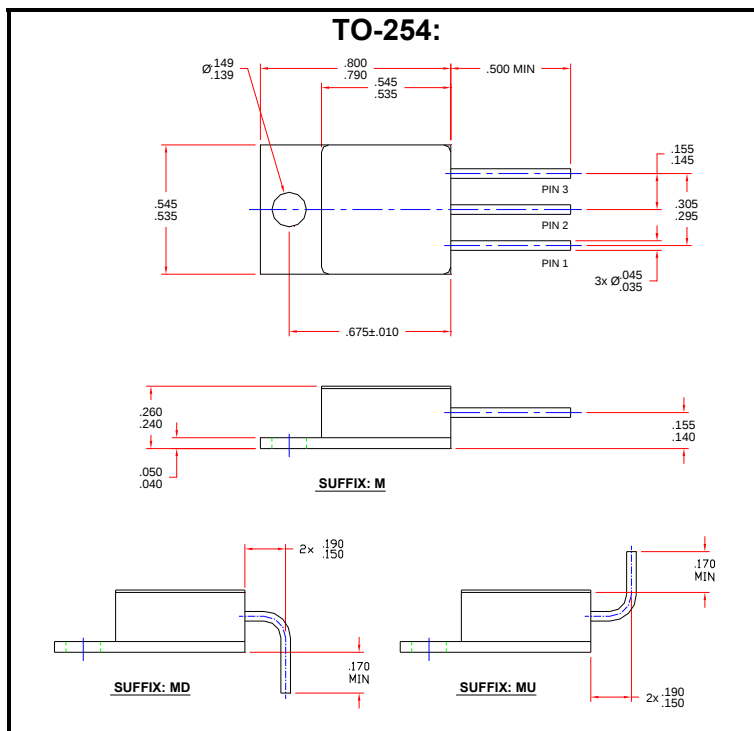
1/ For Ordering Information, Price, and Availability Contact Factory.

Available Part Numbers:

SDR936M, SDR936Z, SDR936MDB, SDR936ZDB, SDR936MUB, SDR936ZUB,
SDR937M, SDR937Z, SDR937MDB, SDR937ZDB, SDR937MUB, SDR937ZUB,
SDR938M, SDR938Z, SDR938MDB, SDR938ZDB, SDR938MUB, SDR938ZUB,
SDR939M, SDR939Z, SDR939MDB, SDR939ZDB, SDR939MUB, SDR939ZUB,
SDR9310M, SDR9310Z, SDR9310MDB, SDR9310ZDB, SDR9310MUB, SDR9310ZUB,
SDR9312M, SDR9312Z, SDR9312MDB, SDR9312ZDB, SDR9312MUB, SDR9312ZUB

PIN ASSIGNMENT

PACKAGE	Pin 1	Pin 2	Pin 3
TO-254 (M)	Cathode	Anode	Anode
TO-254Z (Z)	Cathode	Anode	Anode



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