



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

**SDR936M&Z
 thru
 SDR9312M&Z**

**30 AMP
 ULTRA FAST RECTIFIER
 600 - 1200 VOLTS**

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SDR93

Screening = Not Screened
 TX = TX Level
 TXV = TXV
 S = S Level

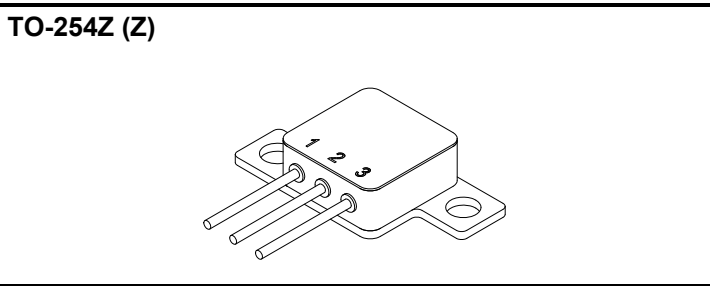
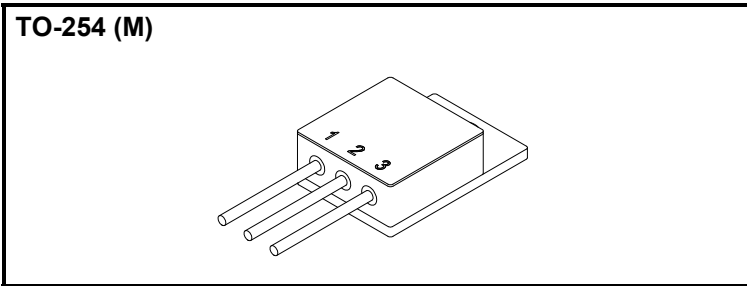
Lead Options = Straight Leads
 DB = Down Bend
 UB = Up Bend

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

- 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	V_{RRM}	600	Volts
	SDR937M&Z		700	
	SDR938M&Z		800	
	SDR939M&Z		900	
	SDR9310M&Z		1000	
	SDR9312M&Z		1200	
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		$T_{OP} \ \& \ T_{STG}$	-65 to +200	°C
Maximum Total Thermal Resistance	Junction to Case	$R_{\theta JC}$	1.2	°C/W



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.



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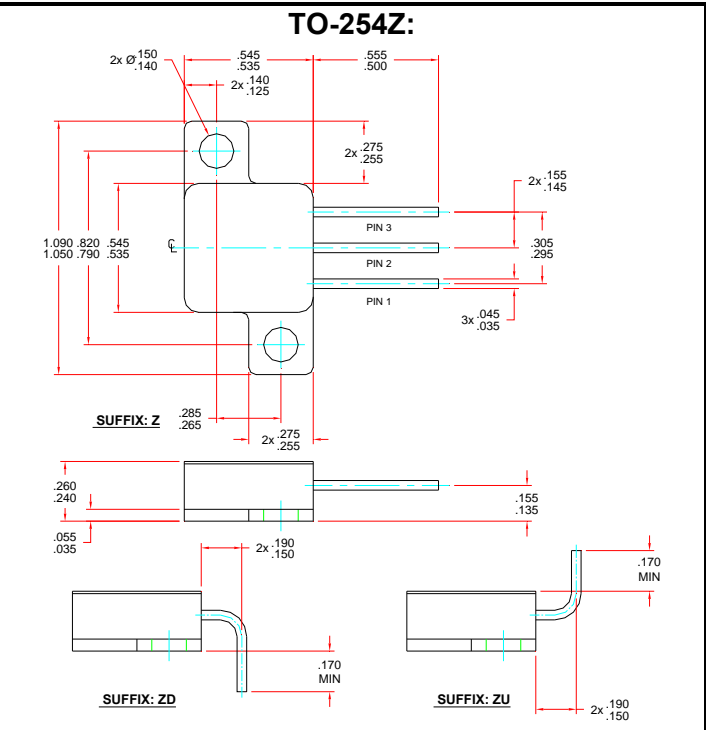
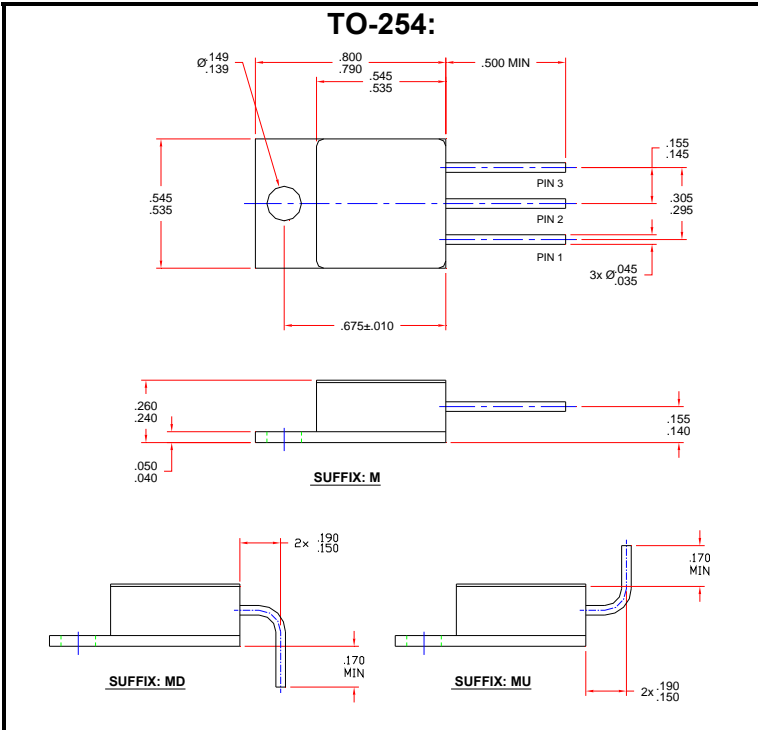
**SDR936M&Z
 thru
 SDR9312M&Z**

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 mA
	$T_A = 100^\circ\text{C}$	I_{R2}	0.6	10	
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



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

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