



Solid State Devices, Inc.

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SDR623CTM & Z Thru SDR626DRM & Z

40A 35nsec 300-600 V Hyper Fast Centertap Rectifier

Designer's Data Sheet

Part Number/Ordering Information ^{1/}
SDR62

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

+ **Leg Bend Option**
(See Figure 1)

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

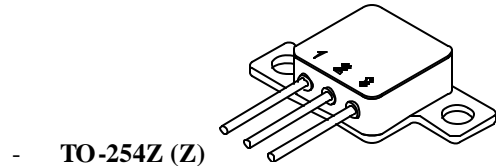
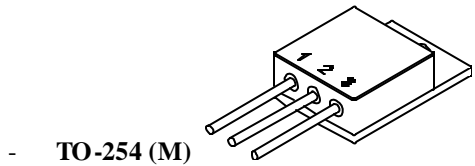
+ **Configuration** CT = Common Cathode,
CA = Common Anode, D = Doubler,
DR = Doubler Reverse

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

- Features:**
- Hyper Fast Recovery: 35nsec Maximum ^{3/}
 - High Surge Rating
 - Low Reverse Leakage Current
 - Low Junction Capacitance
 - Hermetically Sealed Package
 - Gold Eutectic Die Attach
 - Ultrasonic Aluminum Wire Bonds
 - Available in Common Anode, Common Cathode, Doubler, and Doubler Reverse Configurations
 - Ceramic Seal for Improved Hermeticity Available
 - TX, TXV, and S-Level Screening Available ^{2/}

Maximum Ratings	Symbol	Value	Units
Peak Repetitive Reverse Voltage SDR623__M & Z SDR624__M & Z SDR625__M & Z SDR626__M & Z	V_{RRM} V_{RWM} V_R	300 400 500 600	Volts
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_A = 25^\circ C$) ^{4/}	I_o	40	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ C$) ^{5/}	I_{FSM}	200	Amps
Operating & Storage Temperature	$T_{OP} \& T_{STG}$	-65 to +200	$^\circ C$
Maximum Total Thermal Resistance Junction to Case ^{4/} Junction to Case ^{5/}	R_{qJC}	1.0 2.0	$^\circ C/W$

- Notes:
1/ For ordering information, Price, Operating Curves, and Availability- Contact Factory.
2/ Screened to MIL-PRF-19500.
3/ Recovery Conditions: $I_F = 0.5$ Amp, $I_R = 1.0$ Amp, rec. to .25 Amp.
4/ Both Legs Tied Together.
5/ Per Leg.





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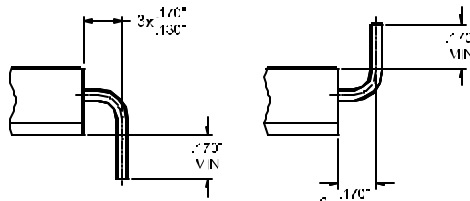
SDR623CTM & Z

Thru

SDR626DRM & Z

Electrical Characteristics, per leg		Symbol	Max	Units
Instantaneous Forward Voltage Drop ($I_F = 10\text{Adc}$, Pulse) ($I_F = 20\text{Adc}$, Pulse)	$T_A = 25^\circ\text{C}$	V_{F1}	1.35	V_{DC}
	$T_A = 25^\circ\text{C}$	V_{F2}	1.55	
Instantaneous Forward Voltage Drop ($I_F = 10\text{Adc}$, Pulse)	$T_A = 100^\circ\text{C}$	V_{F3}	1.25	V_{DC}
	$T_A = -55^\circ\text{C}$	V_{F4}	1.45	
Reverse Leakage Current (80% of rated V_R , Pulse)	$T_A = 25^\circ\text{C}$	I_{R1}	50	mA
	$T_A = 100^\circ\text{C}$	I_{R2}	5	mA
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}	35	nsec
Junction Capacitance ($V_R = 10V_{DC}$, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$)		C_J	150	pF

Figure 1- Optional Lead Bends



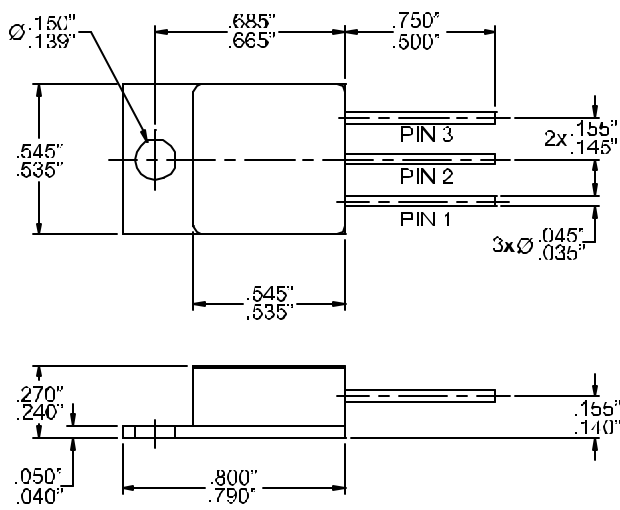
Suffix MDB & ZDB

Suffix MU & ZU

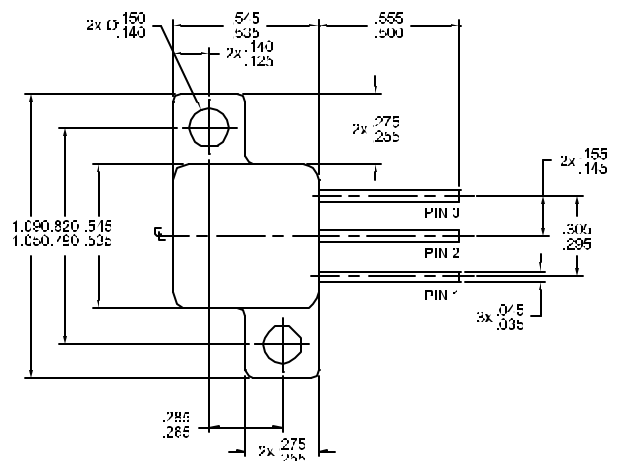
PIN ASSIGNMENT

Code	FUNCTION	Pin 1	Pin 2	Pin 3
CT	Common Cathode	Anode	Cathode	Anode
CA	Common Anode	Cathode	Anode	Cathode
D	Doubler	Cathode	Common	Anode
DR	Doubler Reverse	Anode	Common	Cathode

TO-254 (Suffix M) Outline:



TO-254Z (Suffix Z) Outline:



Measured in Inches

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

DATA SHEET #: RH0049C

DOC