



# 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

## SDR623CTM & Z Thru SDR626DRM & Z

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

**Designer's Data Sheet**

**Part Number/Ordering Information <sup>1/</sup>**  
SDR62

+ **Screening <sup>2/</sup>** \_\_\_ = Not Screened  
TX = TX Level  
TXV = TXV Level  
S = S Level

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

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

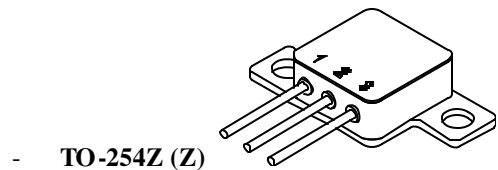
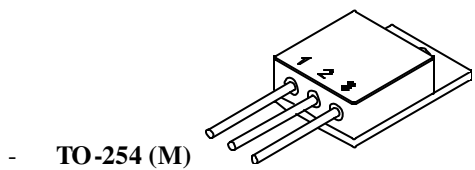
+ **Configuration** CT = Common Cathode,  
CA = Common Anode, D = Doubler,  
DR = Doubler Reverse

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

- Features:**
- Hyper Fast Recovery: 35nsec Maximum <sup>3/</sup>
  - 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 <sup>2/</sup>

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, $T_A = 25^\circ C$ ) <sup>4/</sup>	$I_o$	40	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ C$ ) <sup>5/</sup>	$I_{FSM}$	200	Amps
Operating & Storage Temperature	$T_{OP} \& T_{STG}$	-65 to +200	$^\circ C$
Maximum Total Thermal Resistance Junction to Case <sup>4/</sup> Junction to Case <sup>5/</sup>	$R_{\theta JC}$	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.





**Solid State Devices, Inc.**

14701 Firestone Blvd \* La Mirada, CA 90638

Phone: (562) 404-7855 \* Fax: (562) 404-1773

ssdi@ssdi-power.com \* www.ssdi-power.com

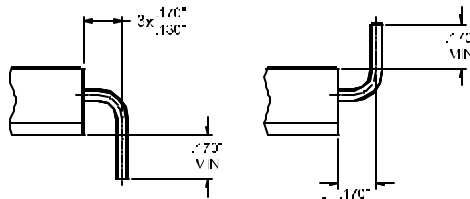
**SDR623CTM & Z**

**Thru**

**SDR626DRM & Z**

Electrical Characteristics, per leg		Symbol	Max	Units
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 10\text{Adc}$ , 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	
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 10\text{Adc}$ , Pulse)	$T_A = 100^\circ\text{C}$	$V_{F3}$	1.25	$V_{DC}$
	$T_A = -55^\circ\text{C}$	$V_{F4}$	1.45	
<b>Reverse Leakage Current</b> (80% of rated $V_R$ , Pulse)	$T_A = 25^\circ\text{C}$	$I_{R1}$	50	$\mu\text{A}$
	$T_A = 100^\circ\text{C}$	$I_{R2}$	5	<b>mA</b>
<b>Reverse Recovery Time</b> ( $I_F = 0.5\text{A}$ , $I_R = 1\text{A}$ , $I_{RR} = 0.25\text{A}$ , $T_A = 25^\circ\text{C}$ )		$t_{RR}$	35	<b>nsec</b>
<b>Junction Capacitance</b> ( $V_R = 10V_{DC}$ , $T_A = 25^\circ\text{C}$ , $f = 1\text{MHz}$ )		$C_J$	150	<b>pF</b>

**Figure 1- Optional Lead Bends**



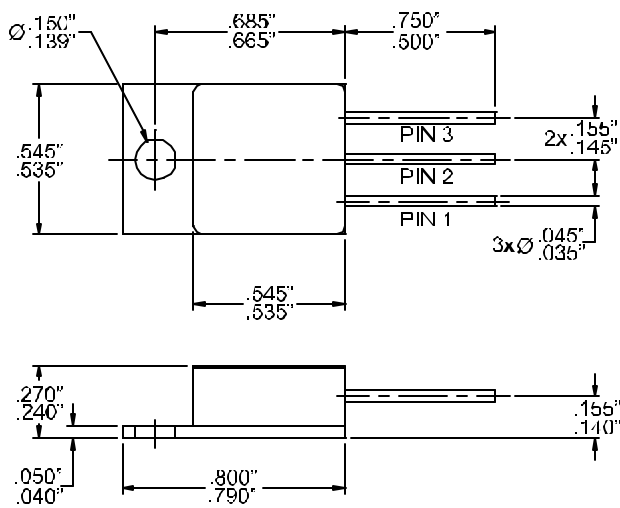
**Suffix MDB & ZDB**

**Suffix MU & ZU**

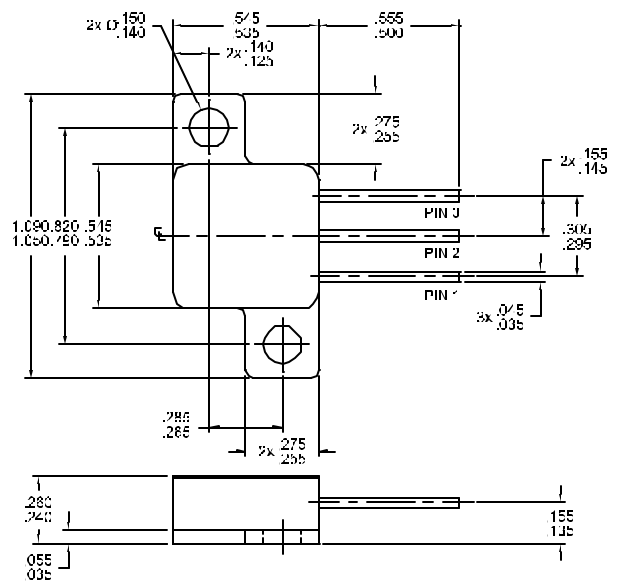
**PIN ASSIGNMENT**

Code	FUNCTION	Pin 1	Pin 2	Pin 3
<b>CT</b>	Common Cathode	Anode	Cathode	Anode
<b>CA</b>	Common Anode	Cathode	Anode	Cathode
<b>D</b>	Doubler	Cathode	Common	Anode
<b>DR</b>	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**