



# Solid State Devices, Inc.

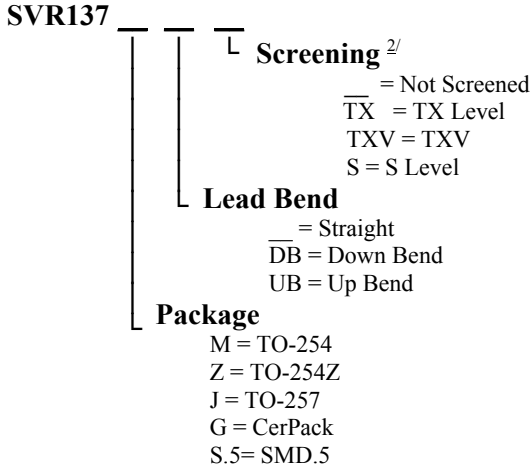
14701 Firestone Blvd \* La Mirada, Ca 90638  
Phone: (562) 404-4474 \* Fax: (562) 404-1773  
ssdi@ssdi-power.com \* www.ssdi-power.com

## SVR137 Series

### 1.5 AMP Negative Adjustable Linear Voltage Regulator 40 Volts

### Designer's Data Sheet

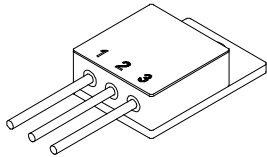
#### Part Number / Ordering Information <sup>1/</sup>



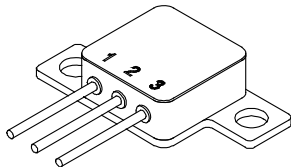
- Features:**
- Guaranteed 0.02% line regulation
  - Guaranteed 0.5% load regulation
  - Min 1.5A output current
  - Eutectic die attach
  - Superior to LM137 types
  - Complimentary use with LM117 types
  - Isolated hermetically sealed power package (M,Z,J)
  - 150°C operating temperature
  - Custom lead forming available (M,Z,J)
  - TX, TXV, and Space Level Screening Available

MAXIMUM RATINGS	Symbol	Value	Units
Power Dissipation <sup>3/</sup>	P <sub>D</sub>	Internally Limited, 20	W
Input to Output Voltage Differential	ΔV <sub>IN/OUT</sub>	40	V
Maximum Current Load	I <sub>FSM</sub>	100	Amps
Operating Junction Temperature	T <sub>J</sub>	-55 to +150	°C
Storage Temperature	T <sub>STG</sub>	-65 to +150	°C

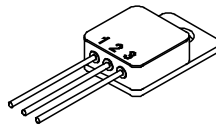
TO-254(M)



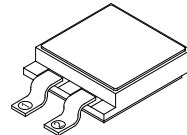
TO-254Z(Z)



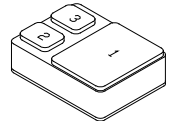
TO-257(J)



CerPack (G)



SMD.5 (S.5)



**Notes:**

<sup>1/</sup> For ordering information, price, operating curves, and availability, contact factory.

<sup>2/</sup> Screening based on MIL-PRF-19500. Screening flows available on request.

<sup>3/</sup> Unless otherwise specified, these specifications apply: ΔV = 5V and I<sub>OUT</sub> = 0.5A. Power dissipation is internally limited. However, these specifications apply for power dissipation up to 20W, I<sub>MAX</sub> = 1.5A.

<sup>4/</sup> Testing is done using a pulsed low duty cycle technique.



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ELECTRICAL CHARACTERISTICS <sup>3/</sup>	Temp (°C)	Symbol	Min	Typ	Max	Unit	
<b>Reference Voltage</b> 10mA ≤ I <sub>OUT</sub> ≤ I <sub>MAX</sub> , 3V ≤ ΔV ≤ 40V, P ≤ P <sub>MAX</sub>	25 *	V <sub>REF</sub>	-1.225 -1.200	-1.250 -1.250	-1.275 -1.300	V	
<b>Line Regulation</b> <sup>4/</sup> 3V ≤ ΔV ≤ 40V	25 *	$\frac{\Delta V_{OUT}}{\Delta V_{IN}}$	-- --	0.01 0.02	0.02 0.05	%/V	
<b>Load Regulation</b> <sup>4/</sup> 10mA ≤ I <sub>OUT</sub> ≤ I <sub>MAX</sub>	25 *	$\frac{\Delta V_{OUT}}{\Delta I_{OUT}}$	-- --	0.3 0.3	0.5 1.0	%	
<b>Thermal Regulation</b> 10 msec Pulse	25		--	.002	.02	%/W	
<b>Ripple Rejection</b> V <sub>OUT</sub> = -10V, f = 120Hz	C <sub>ADJ</sub> = 0		--	60	--	dB	
	C <sub>ADJ</sub> = 10μF		66	77	--		
<b>Adjust Pin Current</b>	*	I <sub>ADJ</sub>	--	65	100	μA	
<b>Adjust Pin Current Change</b> 10mA ≤ I <sub>OUT</sub> ≤ I <sub>MAX</sub> , 3.0V ≤ ΔV ≤ 40V	25	Δ I <sub>ADJ</sub>	--	2	5	μA	
<b>Minimum Load Current</b>	ΔV ≤ 40V	*	--	2.5	5.0	mA	
	ΔV ≤ 10V			1.2	3.0		
<b>Current Limit</b>	ΔV ≤ 15V	*	1.5	2.2	-	A	
	ΔV = 40V	25	0.24	0.4	-		
<b>Temperature Stability</b> -55°C ≤ T <sub>J</sub> ≤ +150°C	*	$\frac{\Delta V_{OUT}}{\Delta T}$	--	0.6	--	%	
<b>Long Term Stability</b> 1000hrs	125	$\frac{\Delta V_{OUT}}{\Delta time}$	--	0.3	1.0	%	
<b>RMS Output Noise</b> % of V <sub>OUT</sub>	10Hz ≤ f ≤ 10kHz	25	e <sub>n</sub>	--	0.003	%	
<b>Thermal Resistance</b> Junction to Case	Package J, M, and Z		R <sub>θJC</sub>	--	--	4.0	°C/W
	Package G, S, 5			--	--	2.5	

### Notes:

#### \*Full Temperature Range

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2/ Screening based on MIL-PRF-19500. Screening flows available on request.

3/ Unless otherwise specified, these specifications apply: ΔV = 5V and I<sub>OUT</sub> = 0.5A. Power dissipation is internally limited. However, these specifications apply for power dissipation up to 20W, I<sub>MAX</sub> = 1.5A.

4/ Testing is done using a pulsed low duty cycle technique.

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

DATA SHEET #: LA0011B

DOC

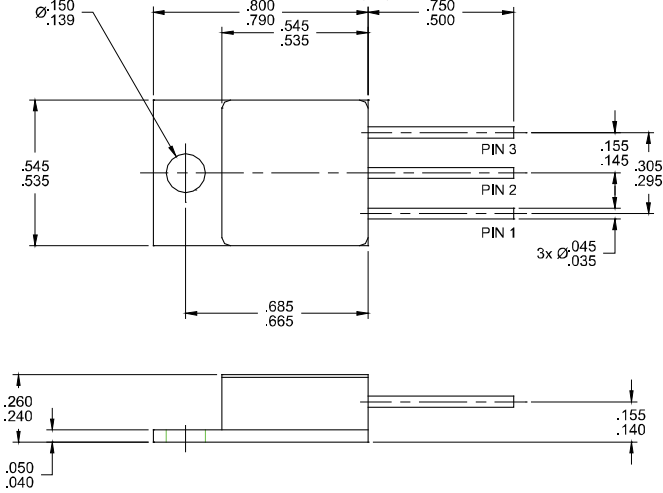


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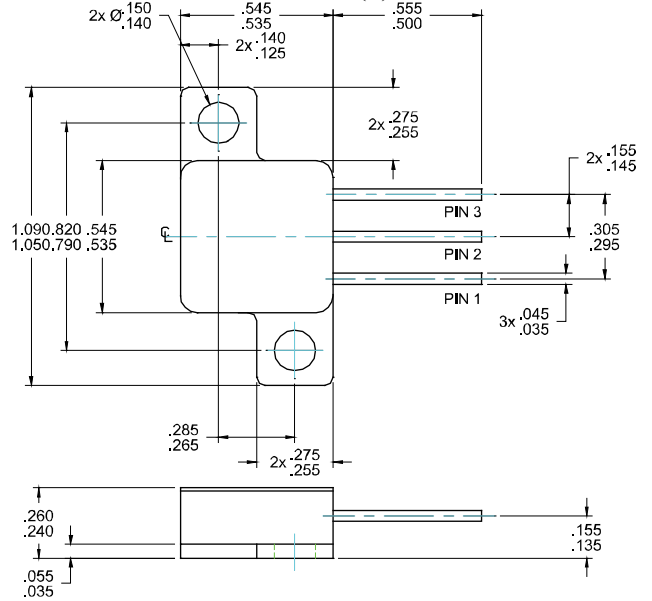
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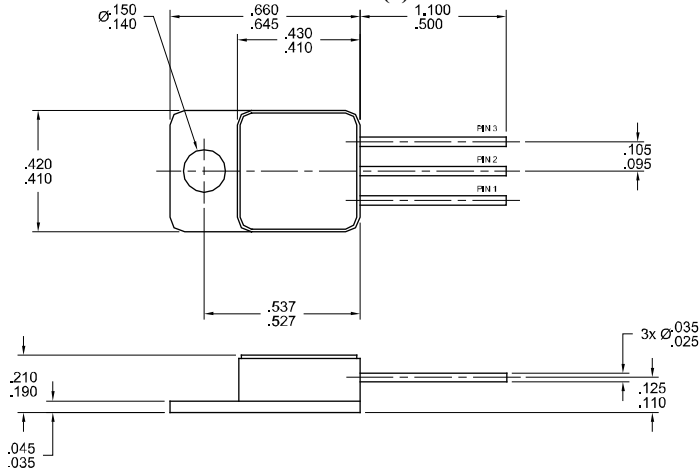
**TO-254 (M)**



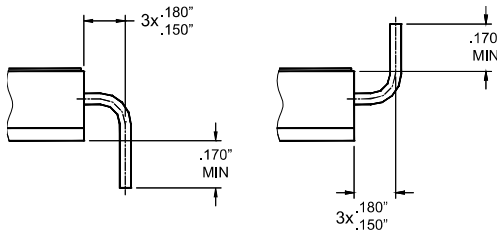
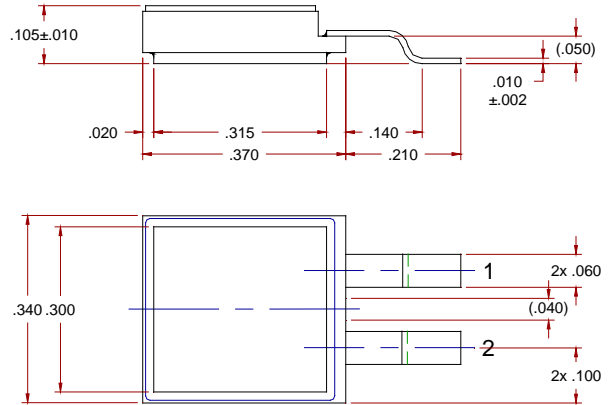
**TO-254Z (Z)**



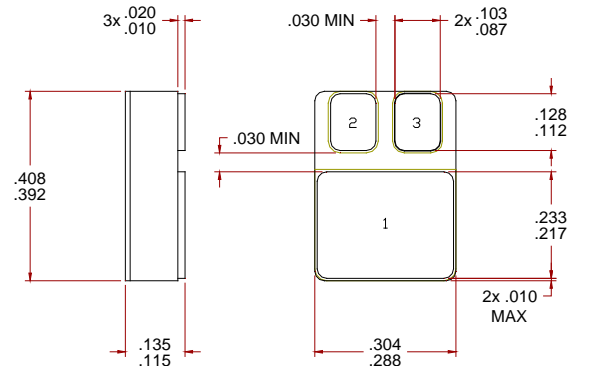
**TO-257 (J)**



**CerPack (G)**



**SMD.5 (S.5)**



**PIN ASSIGNMENT**

Package	Adjust	Output	Input
TO-254 (M), TO254Z (Z), TO-257 (J), SMD.5 (S.5)	Pin 1	Pin 2	Pin 3
Cerpack (G)	Base	Pin 1	Pin 2

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**DOC**