



# Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, CA 90638  
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# SVR333J

## 3 Amp NEGATIVE ADJUSTABLE LINEAR VOLTAGE REGULATOR

### Designer's Data Sheet

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

SVR333

#### Screening <sup>2/</sup>

- = Not Screened
- H = High Rel Level
- K = Space Level
- R = Radiation Tolerant

#### Lead Bend

- = Straight
- DB = Down Bend
- UB = Up Bend

#### Package Type

J = TO-257

#### FEATURES:

- Output voltage adjustable: -1.25V to -32V
- 3A output current guaranteed over temperature
- Precision reference, 2% tolerance
- Stable output voltage, 1% load regulation
- Survives short circuit condition
- Internal protection includes current limit, thermal shutdown and safe area (power) operation
- Replaces LM333 and LT1033 devices
- Category I die attach, eutectic bond
- Isolated power package, hermetically sealed
- 150°C Operating Temperature
- Ceramic eyelet package seals available
- Class H or K (Space) screening available

### MAXIMUM RATINGS

RATING	SYMBOL	VALUE	UNIT
Power Dissipation	$P_{MAX}$	Internally Limited, 35	W
Input to Output Voltage Differential	$\Delta V_{IN/OUT}$	35	V
Maximum Current	$I_{MAX}$	Internally Limited, 3	A
Operating Junction Temperature	$T_J$	-55 to +150	°C
Storage Temperature	$T_{STG}$	-65 to +150	°C

#### NOTES:

\* Full Temperature Range

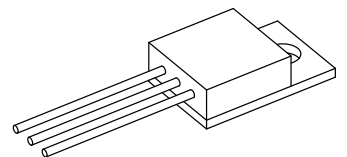
<sup>1/</sup> For ordering information, price, and availability- contact factory.

<sup>2/</sup> Screening based on MIL-STD-38534, actual screening flow details available.

<sup>3/</sup> Unless otherwise specified, these specifications apply:  $\Delta V = 5V$  and  $I_{OUT} = 10mA$ . These specifications apply for power dissipation up to 35W,  $I_{MAX} = 3A$ .

<sup>4/</sup> Low duty cycle pulse testing is used to ensure constant junction temperature to avoid changes in output voltage caused by heating effects.

TO-257 (J)



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

DATA SHEET #: LA0010D

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## ELECTRICAL CHARACTERISTICS<sup>3/</sup>

CHARACTERISTICS	TEMP, °C	SYMBOL	MIN	TYP	MAX	UNIT
<b>Reference Voltage</b> $\Delta V = 5V$ and $I_{OUT} = 10mA$ $10mA \leq I_{OUT} \leq I_{MAX}$ , $3V \leq \Delta V \leq 35V$ , $P \leq P_{MAX}$	25 *	$V_{REF}$	-1.225 -1.200	-1.250 -1.250	-1.275 -1.300	V V
<b>Line Regulation<sup>4/</sup></b> $3V \leq \Delta V \leq 35V$	25 *	$\Delta V_{OUT} / \Delta V_{IN}$	-- --	0.01 0.02	0.05 0.06	%/V %/V
<b>Load Regulation<sup>4/</sup></b> $(10mA \leq I_{OUT} \leq I_{MAX})$	*	$\Delta V_{OUT} / \Delta V_{IN}$	--	0.4	1.5	%
<b>Thermal Regulation</b> 10 msec Pulse	25		--	.002	.02	%/W
<b>Ripple Rejection</b> $V_{OUT} = -10V$ , $f = 120Hz$	25 25		-- 65	66 75	-- --	dB dB
<b>Adjust Pin Current</b>	*	$I_{ADJ}$	--	140	200	$\mu A$
<b>Adjust Pin Current Change</b> $10mA \leq I_{OUT} \leq I_{MAX}$ $3V \leq \Delta V \leq 35V$	*	$\Delta I_{ADJ}$	--	4	11	$\mu A$
<b>Minimum Load Current</b>	* *		-- --	5 3	10 6	mA mA
<b>Current Limit</b>	* 25	$I_{CL}$	3 0.5	4.2 0.8	7 --	A A
<b>Temperature Stability</b> $T_{MIN} \leq T \leq T_{MAX}$	*	$\Delta V_{OUT} / \Delta T$	--	0.5	--	%
<b>Long Term Stability</b> $T_J = 125^\circ C$ , $D = 1000$ Hours	--	$\frac{\Delta V_{OUT}}{V_{OUT}} @ T=0$	--	0.25	--	%
<b>RMS Output Noise</b> (% of $V_{OUT}$ ) $10Hz \leq f \leq 10kHz$	25	$e_n$	--	0.003	--	%
<b>Thermal Resistance</b> Junction to Case		$R_{\theta JC}$	--	2.2	4	$^\circ C/W$

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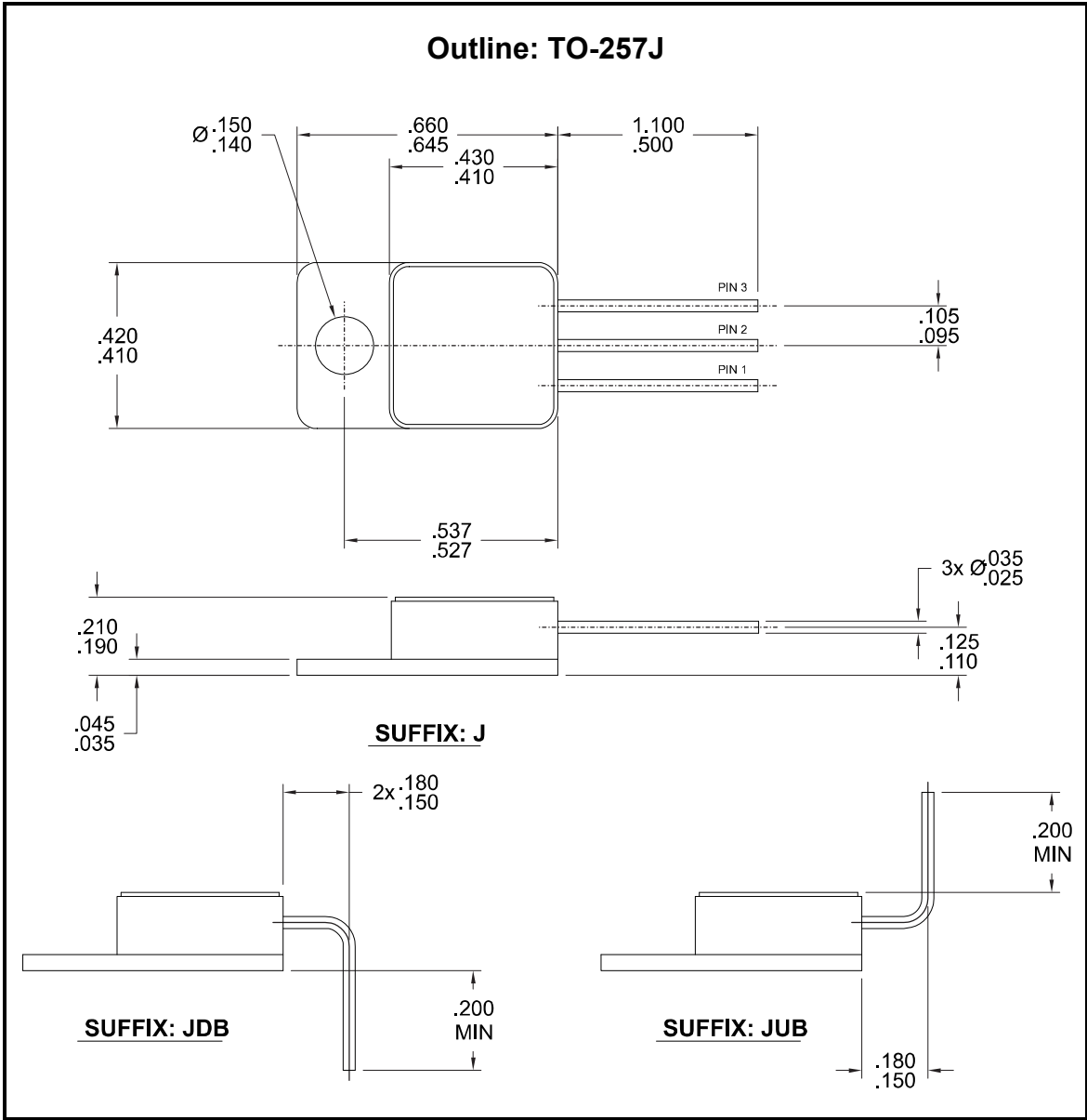
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PIN ASSIGNMENT			
FUNCTION	PIN 1	PIN 2	PIN 3
Voltage Regulator	Adjust	Input	Output

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