



Solid State Devices, Inc.

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SVR333J

3 Amp NEGATIVE ADJUSTABLE LINEAR VOLTAGE REGULATOR

Designer's Data Sheet

Part Number/Ordering Information ^{1/}

SVR333

— — —

Screening ^{2/}

- = 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

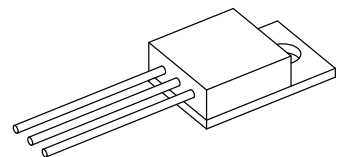
^{1/} For ordering information, price, and availability- contact factory.

^{2/} Screening based on MIL-STD-38534, actual screening flow details available.

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

^{4/} 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

DOC



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ELECTRICAL CHARACTERISTICS^{3/}

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

NOTES:

* Full Temperature Range

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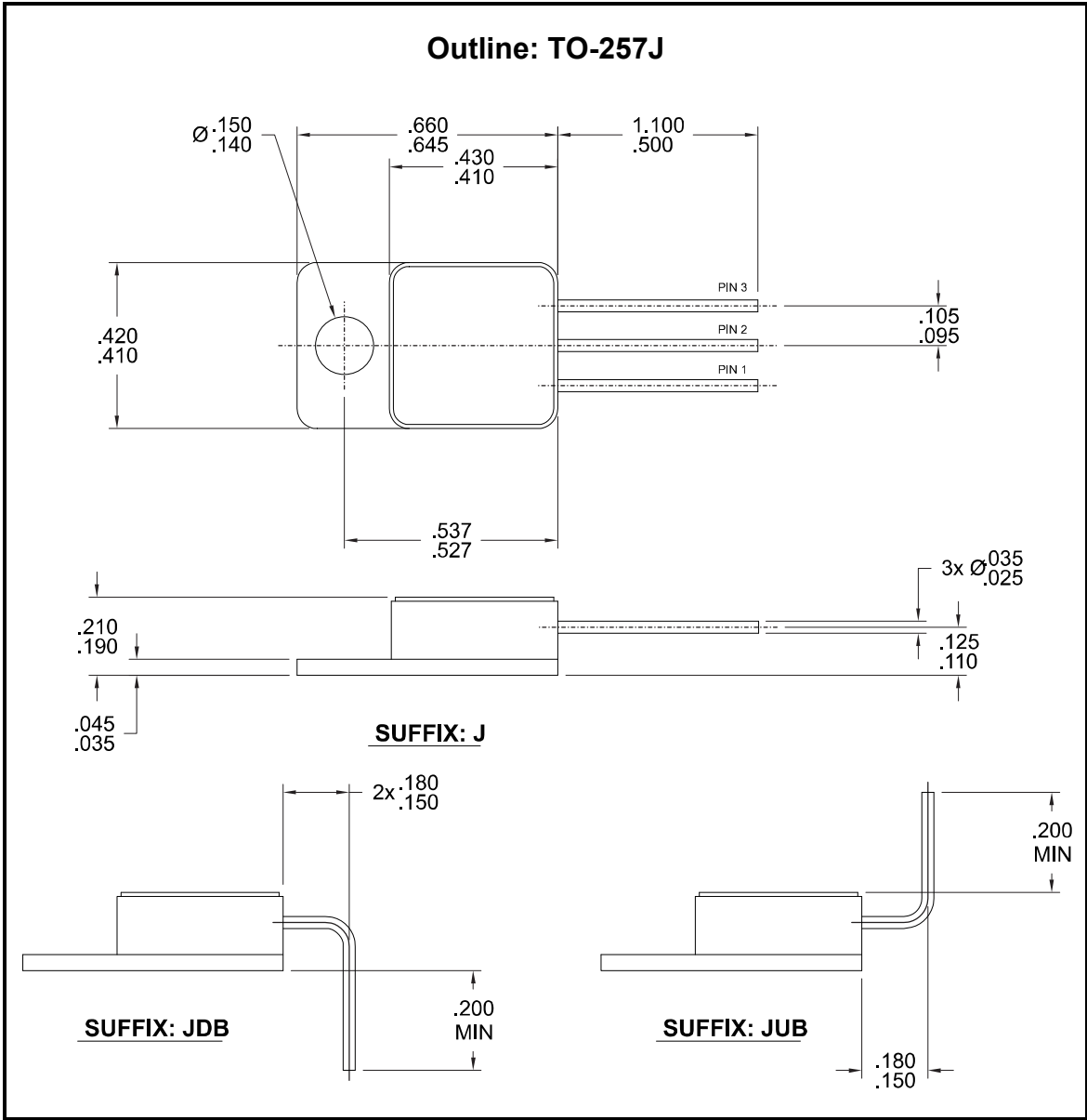
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PIN ASSIGNMENT			
FUNCTION	PIN 1	PIN 2	PIN 3
Voltage Regulator	Adjust	Input	Output

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