



PRELIMINARY

# SOLID STATE DEVICES, INC.

14830 Valley View Blvd \* La Mirada, Ca 90638  
Phone: (562) 404-7855 \* Fax: (562) 404-1773

## SVR1038N, P, B, & A

### Designer's Data Sheet

## 10 Amps ADJUSTABLE LINEAR VOLTAGE REGULATOR

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

SVR1038 N DB H

- Screening <sup>2/</sup>: \_ = Not Screened  
H = High Rel Level  
K = Space Level  
R = Radiation Tolerant
- Lead Bend: <sup>3/</sup> \_ = Straight  
DB = Down Bend  
UB = Up Bend
- Package: <sup>4/</sup> N = TO-254  
P = TO-254Z  
B = MilPack II  
A = MilPack III

#### FEATURES:

- 10A Output over 1.2 - 32V Voltage Range.
- Eutectic Die Attach
- Compatible with LM117 and LM138 Types
- Replaces LM396 Types
- Fast Switching
- Isolated Hermetically Sealed Power Package
- 150°C Operating Temperature
- Custom Lead Forming Available
- Ceramic Seal Package Available
- Class H or K (Space) Screening Available

MAXIMUM RATINGS	SYMBOL	VALUE	UNITS
Power Dissipation	$P_D$	Internally Limited	
Input to Output Voltage Differential	$\Delta V_{IN/OUT}$	35	V
Operating Junction Temperature	$T_J$	-55 TO +150 -55 TO +200	°C
			Control Section Power Transistor
Storage Temperature	$T_{STG}$	-65 TO +150	°C

TO-258 (N):	TO-259 (P):	MilPack II (B):	MilPack III (A):

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

DATA SHEET #: SVR0003A

# SVR1086-2.85N, P, B, & A

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Electrical Characteristics		t°	SYMBOL	MIN	TYP	MAX	UNITS
Reference Voltage <sup>7/</sup>	I <sub>OUT</sub> = 20mA 20mA ≤ I <sub>OUT</sub> ≤ 10A, 3V ≤ ΔV ≤ 35V, P ≤ 75W	25	V <sub>REF</sub>	1.240	1.250	1.260	V
		*		1.220	1.250	1.285	V
Line Regulation	3V ≤ ΔV ≤ 35V, I <sub>OUT</sub> = 20mA	25	$\frac{\Delta V_{OUT}}{\Delta V_{IN}}$	--	0.005	0.010	%/V
		*		--	0.02	0.03	%/V
Load Regulation <sup>6/, 7/</sup>	20mA ≤ I <sub>OUT</sub> ≤ 10A, 3V ≤ ΔV ≤ 35V (0 ≤ I <sub>OUT</sub> ≤ 1.5A)	25	$\frac{\Delta V_{OUT}}{\Delta I_{OUT}}$	--	0.1	4.00	%
		*		--	0.3	8.00	%
Thermal Regulation	30 msec Pulse	25		--	.002	.005	%/W
Ripple Rejection V <sub>OUT</sub> =10V, f=120Hz, C <sub>OUT</sub> =25μF	C <sub>ADJ</sub> = 0 C <sub>ADJ</sub> = 10μF	*		--	60	--	dB
		*		60	75	--	dB
Adjust Pin Current		*	I <sub>ADJ</sub>	--	50	100	μA
Adjust Pin Current Change	20mA ≤ I <sub>OUT</sub> ≤ 10A, 3V ≤ ΔV ≤ 35V	*	ΔI <sub>ADJ</sub>	--	0.2	3	μA
Minimum Load Current	ΔV = 35V ΔV ≤ 20V	*		--	7	20	mA
		*		--		10	mA
Current Limit	ΔV ≤ 10V <sub>DC</sub> ΔV ≤ 10V (Transient) ΔV = 30V	*	I <sub>SC</sub>	10	14	--	A
		*		14	22	--	A
		25		1	2	--	A
Temperature Stability			$\frac{\Delta V_{OUT}}{\Delta T}$	--	1	2	%
Long Term Strability	T = 1000 hrs	125	$\frac{\Delta V_{OUT}}{\Delta V_{time}}$	--	0.3	1.0	%
RMS Output Noise	10Hz ≤ f ≤ 10kHz	25	e <sub>n</sub>	--	0.001	--	%
Thermal Resistance Junction to Case	Power Transistor Control Circuitry	*	R <sub>θJC</sub>	--	--	1.0	°C/W
		*		--	--	0.5	°C/W

**NOTES:**

- \* Full Temperature Range
- <sup>1/</sup> For Ordering Information, Price, and Availability Contact Factory.
- <sup>2/</sup> Screening per MIL-PRF-19500.
- <sup>3/</sup> For Lead Bend Options Request Document # DSB-001 (Available for Download @ ssdi-power.com).
- <sup>4/</sup> For Package Outlines Request Document # DSA-001. (Available for Download @ ssdi-power.com)
- <sup>6/</sup> See Thermal Regulation specifications for changes in Output Voltage due to the heating effects. Line and Load Regulations are measured at a constant Junction Temperature by low duty cycle pulse testing. Load Regulation is measured at the Output Lead at approx. 1/8" from the package.
- <sup>5/</sup> Unless otherwise specified, these specifications apply: ΔV = 5V and I<sub>OUT</sub> = 5A. These specifications are applicable for power dissipations up to 75W. At Input-Output voltage differentials greater than 10V, achievable output current and power dissipation decrease due to the protection circuitry.

**PIN ASSIGNMENT**

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



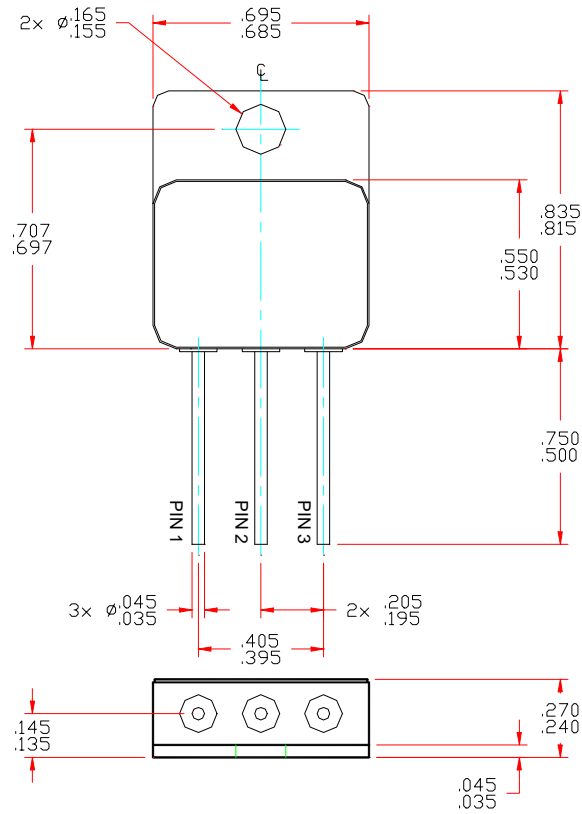
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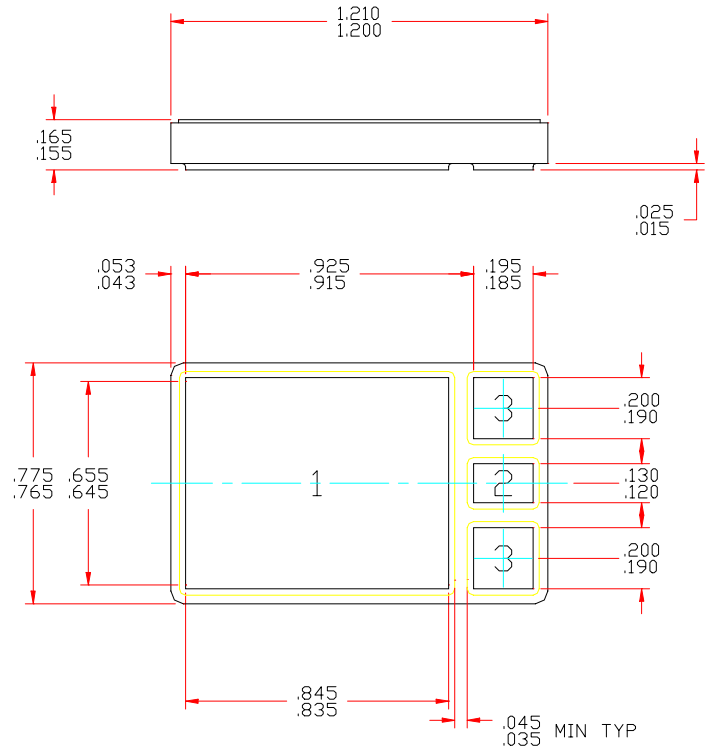
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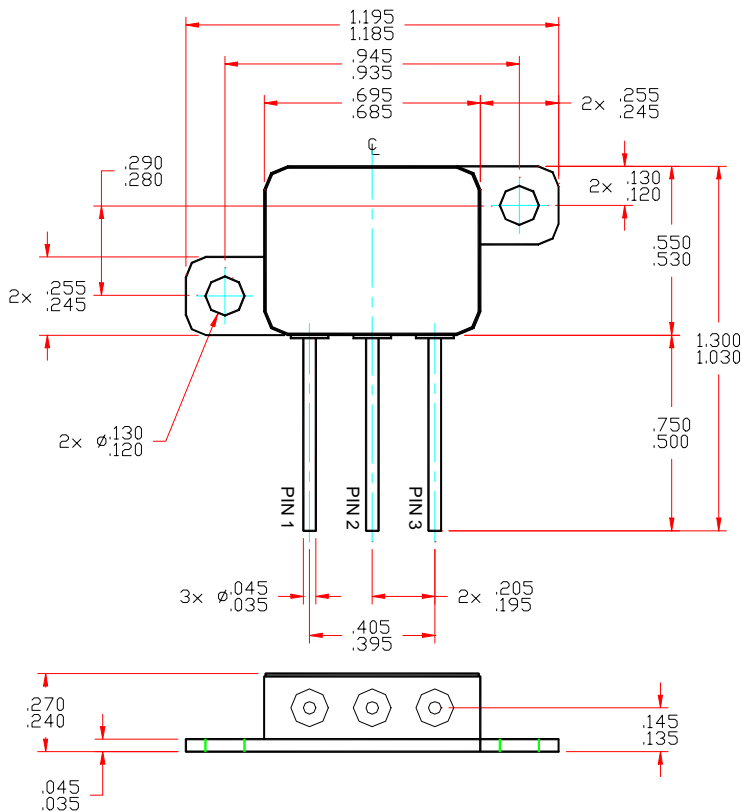
**TO-258 (N):**



**MilPack II (B):**



**TO-259 (P)**



**MilPack III (A):**

