



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 ^{1/}

SVR1038 N DB H

- Screening ^{2/}: _ = Not Screened
H = High Rel Level
K = Space Level
R = Radiation Tolerant
- Lead Bend: ^{3/} _ = Straight
DB = Down Bend
UB = Up Bend
- Package: ^{4/} 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

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Electrical Characteristics		t°	SYMBOL	MIN	TYP	MAX	UNITS
Reference Voltage ^{7/}	I _{OUT} = 20mA 20mA ≤ I _{OUT} ≤ 10A, 3V ≤ ΔV ≤ 35V, P ≤ 75W	25	V _{REF}	1.240	1.250	1.260	V
		*		1.220	1.250	1.285	V
Line Regulation	3V ≤ ΔV ≤ 35V, I _{OUT} = 20mA	25	$\frac{\Delta V_{OUT}}{\Delta V_{IN}}$	--	0.005	0.010	%/V
		*		--	0.02	0.03	%/V
Load Regulation ^{6/, 7/}	20mA ≤ I _{OUT} ≤ 10A, 3V ≤ ΔV ≤ 35V (0 ≤ I _{OUT} ≤ 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 _{OUT} =10V, f=120Hz, C _{OUT} =25μF	C _{ADJ} = 0 C _{ADJ} = 10μF	*		--	60	--	dB
		*		60	75	--	dB
Adjust Pin Current		*	I _{ADJ}	--	50	100	μA
Adjust Pin Current Change	20mA ≤ I _{OUT} ≤ 10A, 3V ≤ ΔV ≤ 35V	*	ΔI _{ADJ}	--	0.2	3	μA
Minimum Load Current	ΔV = 35V ΔV ≤ 20V	*		--	7	20	mA
		*		--		10	mA
Current Limit	ΔV ≤ 10V _{DC} ΔV ≤ 10V (Transient) ΔV = 30V	*	I _{SC}	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 _n	--	0.001	--	%
Thermal Resistance Junction to Case	Power Transistor Control Circuitry	*	R _{θJC}	--	--	1.0	°C/W
		*		--	--	0.5	°C/W

NOTES:

- * Full Temperature Range
- ^{1/} For Ordering Information, Price, and Availability Contact Factory.
- ^{2/} Screening per MIL-PRF-19500.
- ^{3/} For Lead Bend Options Request Document # DSB-001 (Available for Download @ ssdi-power.com).
- ^{4/} For Package Outlines Request Document # DSA-001. (Available for Download @ ssdi-power.com)
- ^{6/} 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.
- ^{5/} Unless otherwise specified, these specifications apply: ΔV = 5V and I_{OUT} = 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



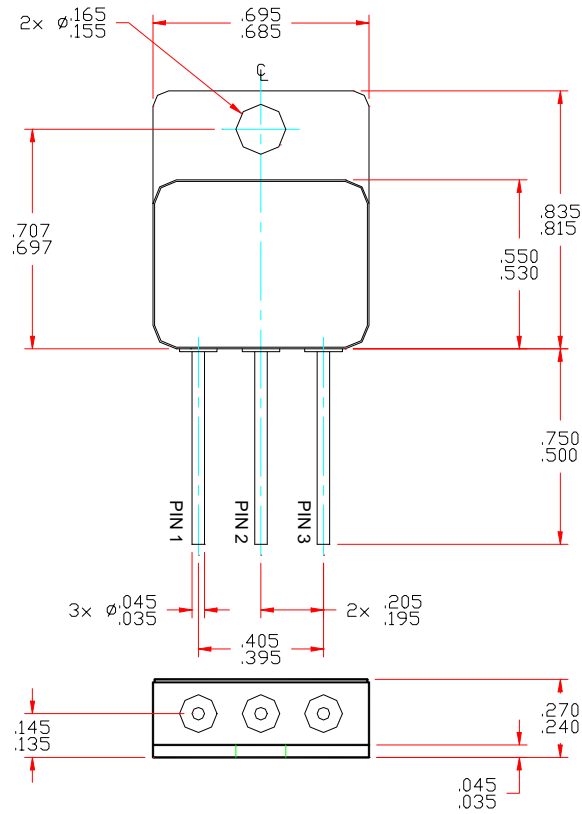
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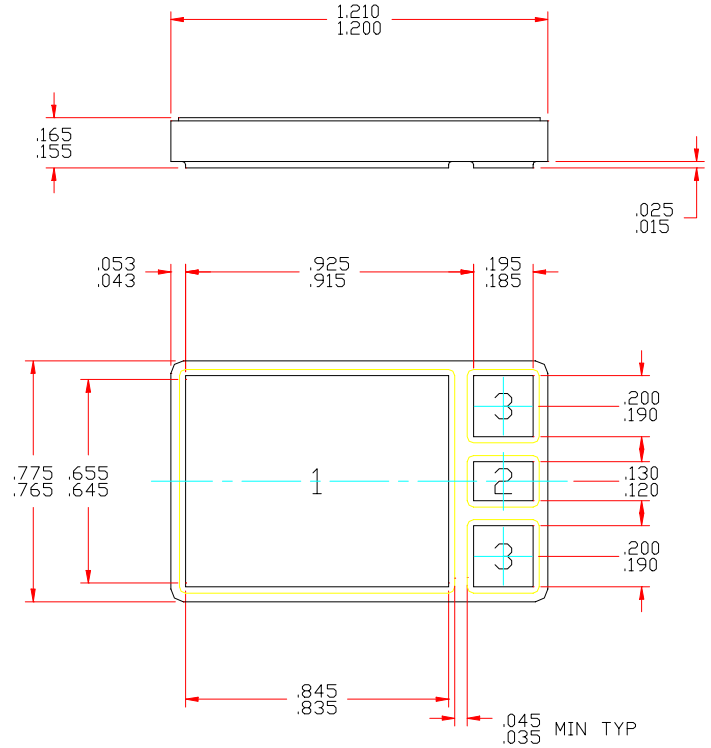
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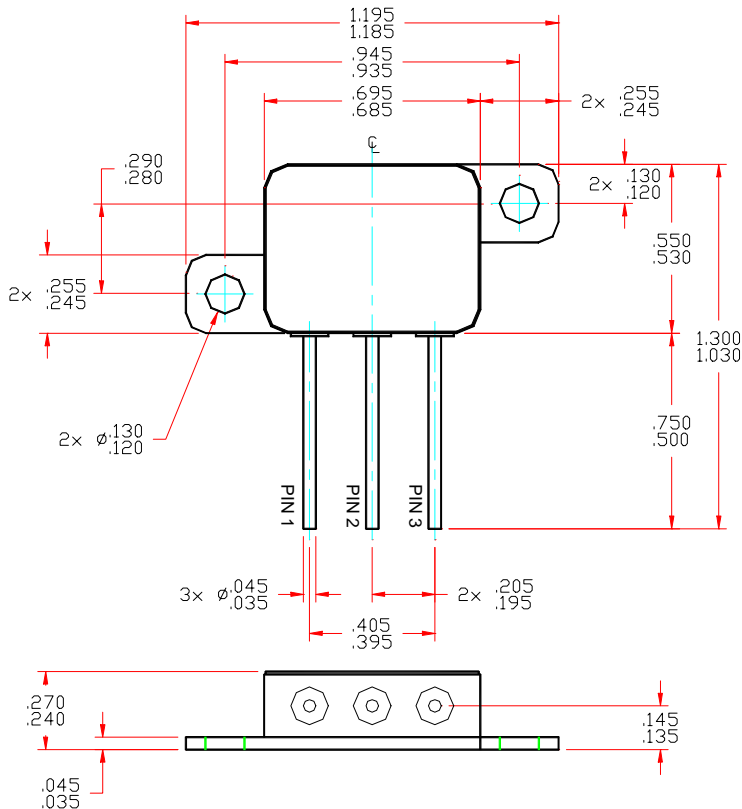
TO-258 (N):



MilPack II (B):



TO-259 (P)



MilPack III (A):

