



PRELIMINARY

**SOLID STATE DEVICES, INC.**

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

**SVR1033N, P, E, & B**

**Designer's Data Sheet**

**3 Amp  
 NEGATIVE ADJUSTABLE  
 LINEAR  
 VOLTAGE REGULATOR**

**Part Number /Ordering Information** <sup>1/</sup>  
**SVR1033 N DB H**

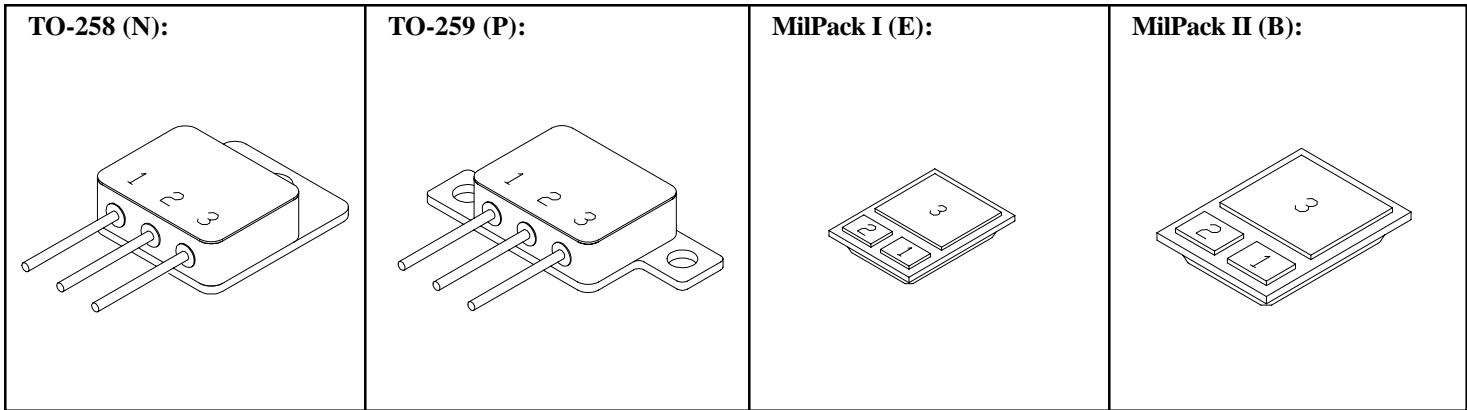
**Screening** <sup>2/</sup>: \_ = Not Screened  
 H = High Rel Level  
 K = Space Level  
 R = Radiation Tolerant

**Lead Bend:** <sup>3/</sup> \_ = Straight  
 DB = Down Bend  
 UB = Up Bend

**Package:** N = TO-254  
 P = TO-254Z  
 E = MilPack I  
 B = MilPack II

- FEATURES:**
- 3A Output over -1.2 to -32V Voltage Range
  - Internal Current, Power, and Thermal Limiting
  - Eutectic Die Attach
  - Replaces LT1033 Types
  - Maximum Output Voltage Error of 1%
  - 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 <sup>4/</sup>	P <sub>D</sub>	Internally Limited, 30	W
Input to Output Voltage Differential	ΔV <sub>IN/OUT</sub>	35	V
Maximum Current	I <sub>MAX</sub>	3	A
Operating Junction Temperature	T <sub>J</sub>	-55 TO +150	°C
Storage Temperature	T <sub>STG</sub>	-65 TO +150	°C



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

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

**DATA SHEET #: SVR004A**

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Electrical Characteristics <sup>4/</sup>	t°	SYMBOL	MIN	TYP	MAX	UNITS
Reference Voltage $\Delta V = 5V, I_{OUT} = 5mA$ $5mA \leq I_{OUT} \leq I_{MAX}, 3V \leq \Delta V \leq 35V, P \leq P_{MAX}$	25 *	V <sub>REF</sub>	-1.238 -1.215	-1.250 -1.250	-1.262 -1.850	V V
Line Regulation <sup>5/</sup> $3V \leq \Delta V \leq 35V$	25 *	$\frac{\Delta V_{OUT}}{\Delta V_{IN}}$	-- --	0.005 0.02	0.015 0.04	%/V %/V
Load Regulation <sup>5/</sup> (10mA ≤ I <sub>OUT</sub> ≤ I <sub>MAX</sub> )	25 25 * *	$\frac{\Delta V_{OUT}}{\Delta I_{OUT}}$	-- -- -- --	10 0.2 20 0.4	50 1.0 75 1.5	mV % mV %
Thermal Regulation 10 msec Pulse	25		--	.002	.02	%/W
Ripple Rejection V <sub>OUT</sub> = -10V, f=120Hz	25 25		56 70	66 80	-- --	dB dB
Adjust Pin Current	*	I <sub>ADJ</sub>	--	65	100	μA
Adjust Pin Current Change $10mA \leq I_{OUT} \leq I_{MAX}$ $3V \leq \Delta V \leq 35V$	* *	ΔI <sub>ADJ</sub>	-- --	0.2 1.0	2 5	μA μA
Minimum Load Current $\Delta V \leq 35V$ $\Delta V \leq 10V$	25 25		-- --	2.5 1.2	5.0 3.0	mA mA
Current Limit $\Delta V \leq 10V_{DC}$ <sup>5/</sup> $\Delta V = 35V$	25 25	I <sub>SC</sub>	3 0.5	4.3 1.3	6 2.5	A A
Temperature Stability $T_{MIN} \leq T \leq T_{MAX}$	*	$\frac{\Delta V_{OUT}}{\Delta T}$	--	0.3	1.5	%
Long Term Strability T = 1000 Hours	125	$\frac{\Delta V_{OUT}}{\Delta V_{time}}$	--	0.003	1.0	%
RMS Output Noise (% of V <sub>OUT</sub> ) 10 Hz ≤ f ≤ 10 kHz	25	e <sub>n</sub>	--	--	--	%
Thermal Resistance Junction to Case		R <sub>θJC</sub>	-- --		1.6 1.2	°C/W °C/W

**NOTES:**

- \* Full Temperature Range
- 1/ For Ordering Information, Price, and Availability Contact Factory.
- 2/ Screening per MIL-STD-883.
- 3/ For Lead Bend Options Request Document # DSB-001 (Available for Download @ ssdi-power.com).
- 4/ Unless otherwise specified, these specifications apply: ΔV = 5V and I<sub>OUT</sub> = 5mA. Power dissipation is internally limited. However, these specifications apply for power dissipation up to 30W, I<sub>MAX</sub> = 3A.
- 5/ Testing is done using a pulsed low duty cycle technique.



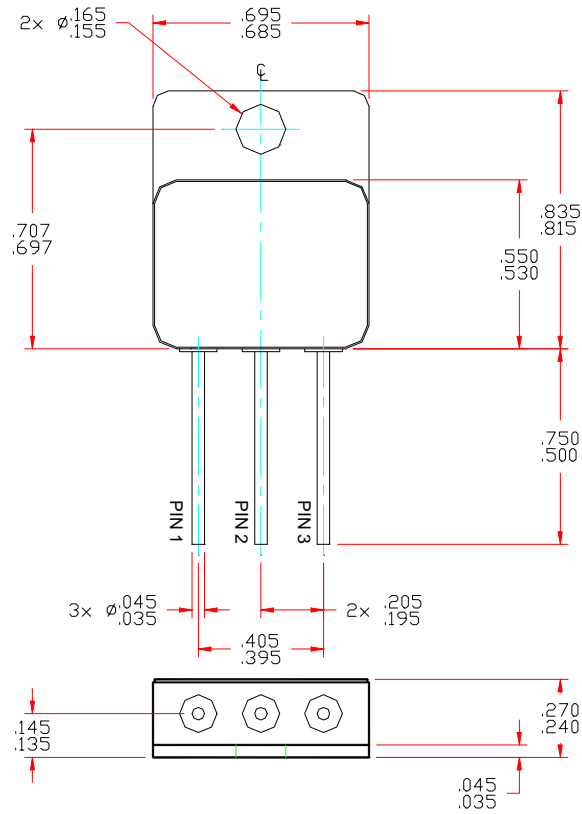
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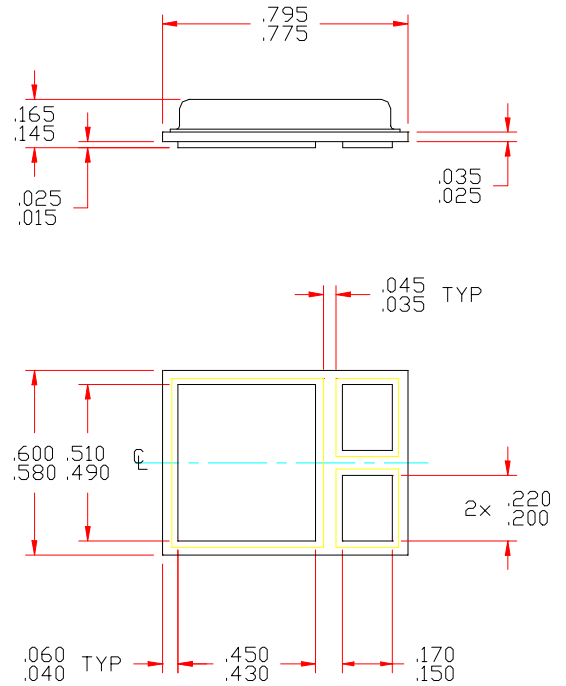
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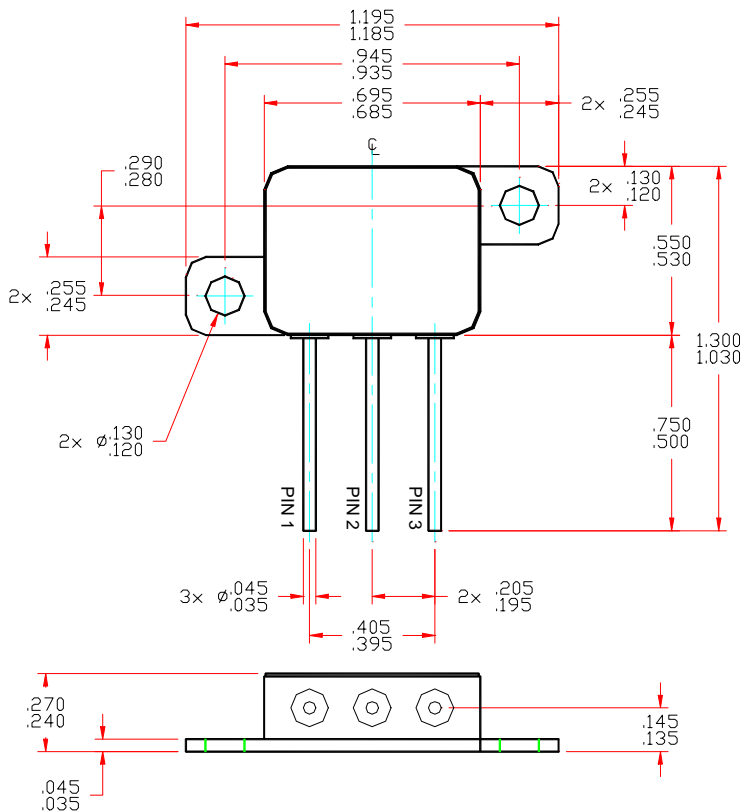
TO-258 (N):



MilPack II (B):



TO-259 (P)



MilPack I (E):

