

Features

- Low output ripple
- 10 amp output current
- 92 % efficiency
- Low 0.5" profile
- Remote sense
- Adjustable Vout
- Short-circuit protection with auto-restart
- Fast transient response
- High-temperature operation
- Remote enable
- Output precharge capability

SLN10A-3SA Series – Power Module

General Information

The SLN10A is a non-isolated SIP using a 3.3 V input to provide 10 Amps of output current at voltages ranging from 0.8 V to 2.5 V. The SLN10A output is adjustable by the user to provide any voltage within its range. Its extra low 0.8 V output will power even the latest in ASICs, microprocessors, and DSPs.

The SLN10A has an industry standard pin-out, is 2 inches long, and only 0.5 inches high. Its total footprint is a space saving 0.75 in². Features include Enable/Disable, output voltage trim, remote sense, short circuit protection with auto-restart, fast transient response, and high temperature operation. The SLN10A is one of the most cost-effective DC-DC converters available.

Input Specifications

Voltage3.0 VDC Min.
 3.3 VDC Nom.
 3.6 VDC Max.
 Current10 A Nom.
 Remote Enable
 High = Disable2.4 VDC Min.
 Low = Enable0.4 VDC Max.
 (open = enable)
 Enable/Disable Current250 μ A Nom.

Output Specifications

Current0 to 10 A
 Current Limit11 to 18 A
 Voltage Setpoint Accuracy
 ± 1 %Vnom (Nominal)
 ± 2 %Vnom (Max.)
 optional ± 0.5 %Vnom (Nominal)
 ± 1 %Vnom (Max.)
 Line Regulation ± 0.1 %Vnom
 Load Regulation ± 0.2 %Vnom
 Ripple20 mV pp (Nominal)
 Dynamic Response
 50 to 100 % load40 mV Nom.
 20 μ s Nom.
 100 to 50 % load40 mV Nom.
 20 μ s Nom.
 Temperature Regulation
 ± 0.02 %Vout/ $^{\circ}$ C Max.

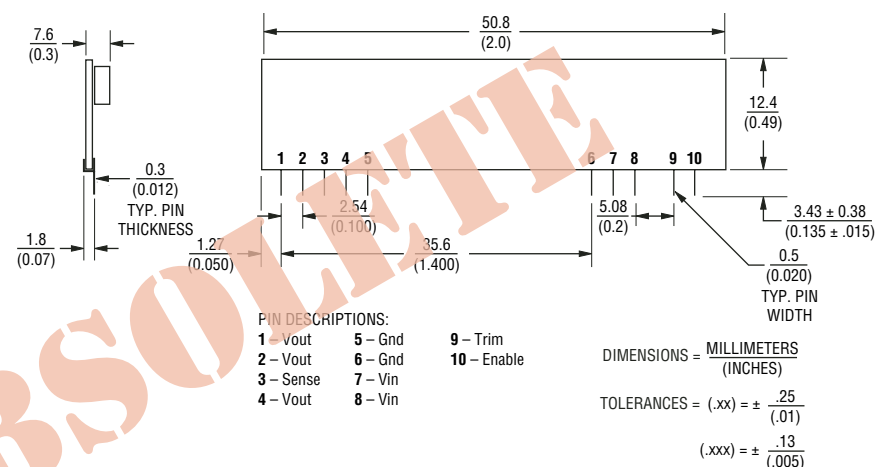
General Specifications

MBTF...2,000 kHrs Nom. (80 % load, 25 $^{\circ}$ C)
 Operating Temperature.....-40 to +100 $^{\circ}$ C
 Storage Temperature.....-55 to +125 $^{\circ}$ C
 Switching Frequency.....300 kHz Nom.

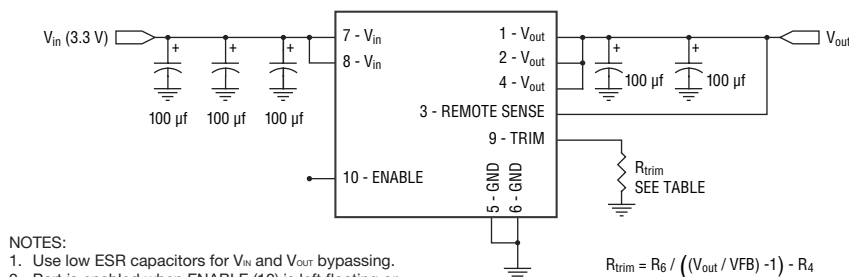
Electrical Specifications

	Nominal Input (V)	Input Voltage (V)	Output Voltage (V)	Output Current (A)	Ripple Max. (mV pp)	Efficiency Typ. (%)
SLN10A-3SA	3.3	3.0 to 3.6	0.8 to 2.5	10	40	90

Product Dimensions



Product Schematic



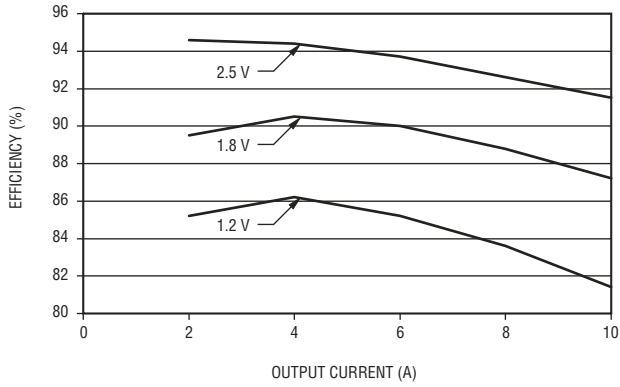
- NOTES:
1. Use low ESR capacitors for V_{in} and V_{out} bypassing.
 2. Part is enabled when ENABLE (10) is left floating or grounded.
 3. Apply 2.4 Vdc to V_{in} to ENABLE (10) to disable (shut down) the part.
 4. Use the table below to determine an R_{TRIM} resistor for the desired voltage.
 5. To get an intermediate voltage between 0.800 V and 2.500 V, use the equation at right.

$$R_{trim} = R_6 / ((V_{out} / V_{FB}) - 1) - R_4$$

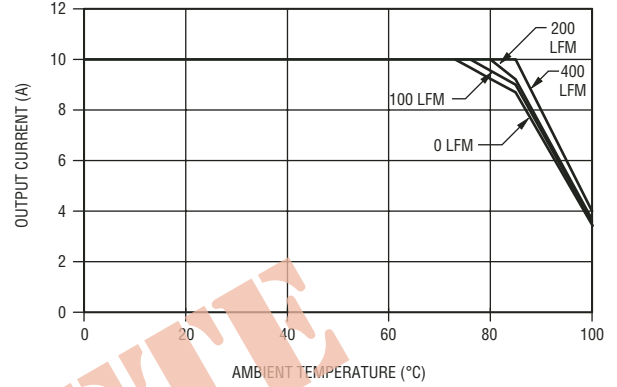
WHERE $R_4 = 37.4k \text{ Ohms}$
 $R_6 = 80.6k \text{ Ohms}$
 $V_{FB} = 0.800 \text{ VDC}$

V_{OUT}	R_{TRIM} (k Ω)
2.5	0.523
1.9	21.0
1.8	27.0
1.5	54.9
1.2	124
0.8	open

Efficiency Curve

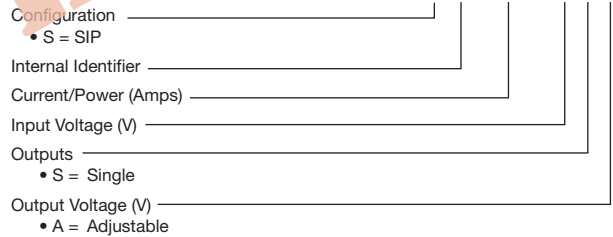


Temperature Derating



How to Order

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