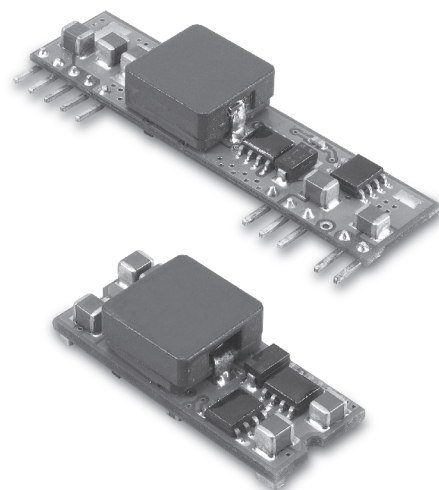


S E R I E S

UL
C **UL** US
E176177

RoHS



- Non-Isolated POL Converter
- SIP / SMT Package
- Output Current 10AMP
- Input Voltage Range 9-14VDC
- 300KHz Switching Frequency
- High Efficiency to 95%
- Over Temperature Protection
- Continuous Short Circuit Protection
- Remote On/Off Control
- UL/c-UL 60950 Certified

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		% EFF.
				NO LOAD	FULL LOAD	
SIP 10-12S10 SMT10-12S10	9.0-14 VDC	1.0VDC	10 A	50mA	992mA	84
SIP 10-12S12 SMT10-12S12	9.0-14 VDC	1.2VDC	10 A	50mA	1163mA	86
SIP 10-12S15 SMT10-12S15	9.0-14 VDC	1.5VDC	10 A	50mA	1404mA	89
SIP 10-12S18 SMT10-12S18	9.0-14 VDC	1.8VDC	10 A	60mA	1666mA	90
SIP 10-12S20 SMT10-12S20	9.0-14 VDC	2.0VDC	10 A	60mA	1832mA	91
SIP 10-12S25 SMT10-12S25	9.0-14 VDC	2.5VDC	10 A	60mA	2264mA	92
SIP 10-12S33 SMT10-12S33	9.0-14 VDC	3.3VDC	10 A	70mA	2956mA	93
SIP 10-12S05 SMT10-12S05	9.0-14 VDC	5.0VDC	10 A	70mA	4385mA	95
SIP 10-12S05A SMT10-12S05A	8.3-14 VDC	0.75-5VDC	10 A	70mA	2956mA	93%@3.3V

The schematic shows a buck converter circuit. The input is +V_{IN}, which is connected to a capacitor C₁ and the gate of MOSFET Q₁. The source of Q₁ is connected to the COM pin of the PWM IC and to the source of MOSFET Q₂. The drain of Q₁ is connected to the drain of Q₂ and to an inductor L₁. The other end of L₁ is connected to the +V_O pin and to a capacitor C₂. The negative terminal of C₂ is connected to the COM pin and to the wiper of a trimmer resistor R_t. The trimmer resistor R_t is connected between the COM pin and the junction of resistors R₁ and R₂. The other end of R₂ is connected to ground. The PWM IC is a block with two pins: COM and ERR AMP. The ERR AMP pin is connected to the junction of R₁ and R₂. The ON/OFF pin of the PWM IC is connected to the ON/OFF input of the system. The output of the converter is +V_O, which is also connected to a sense resistor R_{sense} and the +SENSE pin. The other end of R_{sense} is connected to the COM pin.

Figure 1. Simplified Schematic

<i>Vo, set (V)</i>	<i>Rtrim (KΩ)</i>
0.75	Open
1.2	22.33
1.5	13.0
1.8	9.0
2.0	7.4
2.5	5.0
3.3	3.12
5.0	1.47

**Table 1. Suffix "A" to the model number
External Resistor Values for
programming output voltage**

INPUT SPECIFICATIONS:

Input Voltage Range.....	12V.....	9.0 – 14V
	12V.....	8.3 – 14V
Under Voltage Lock-out	Power up	8.0V Typ.
	Power down.....	7.7V Typ.
Input Filter Type.....		Capacitive
Positive Remote on/off Control :		
Module ON.....		Open Circuit or = Vin
Module Off.....		< 0.4 Vdc

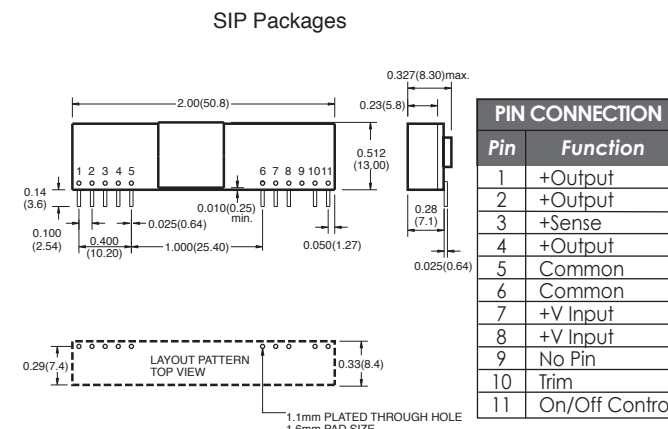
OUTPUT SPECIFICATIONS:

Voltage Accuracy.....	±1.5% max.
Transient Response :25% Step Load Change.....	<200μ sec.
Ripple and Noise, 20MHz BW ³	20mV rms max.
	50mV pk-pk max.
Temperature Coefficient.....	±0.03%/C max.
Short Circuit Protection.....	Continuous
Line Regulation ¹	± 0.2% max.
Load Regulation ²	± 0.5% max.
Capacitive Load, Low ESR.....	8000μF max.
External Trim Adj. Range.....	±10%
(SIP/SMT10-12S05).....	+5%, -10%
(SIP/SMT10-12S05A).....	0.75V-5.0V

GENERAL SPECIFICATIONS:

Efficiency.....	See Table
Isolation Voltage.....	Non-isolation
Switching Frequency	300KHz Typ.
Over Temperature Protection	120°C Typ.
Operating Ambient Temperature Range.....	-40°C to +85°C
Power Derating Curve	see Figure 2.3
Storage Temperature Range	-55°C to +125°C
Dimensions:	
SIP Package: 2.00 x 0.512 x 0.327 inches (50.8 x 13.0 x 8.30 mm)	
SMT Package: 1.30 x 0.530 x 0.366 inches (33.0 x 13.46 x 9.30 mm)	
Structure.....	Non-potted With Open Frame Type
Weight.....	10g

All Dimensions In Inches(mm)
Tolerance Inches: x.xx= ±0.02, x.xxx= ±0.010
 Millimeters: x.x= ±0.5, x.xx= ±0.25



Ambient Temperature (°C)	0LFM (A)	100LFM (A)	200LFM (A)	300LFM (A)
30	10.0	10.0	10.0	10.0
40	10.0	10.0	10.0	10.0
50	10.0	10.0	10.0	10.0
60	9.0	10.0	10.0	10.0
70	7.2	10.0	10.0	10.0
80	5.5	9.5	10.0	10.0
90	3.5	8.0	8.0	8.0

Figure 2. Typical Power Derating vs. Output Current for 12V IN

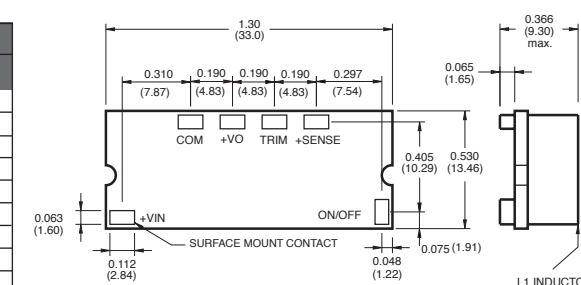
Ambient Temperature (°C)	0LFM (A)	100LFM (A)	200LFM (A)	300LFM (A)
30	10.0	10.0	10.0	10.0
40	10.0	10.0	10.0	10.0
50	10.0	10.0	10.0	10.0
60	8.2	10.0	10.0	10.0
70	7.0	9.5	10.0	9.8
80	5.5	8.8	9.0	9.0
90	3.5	7.2	7.5	7.5

Figure 3. Typical Power Derating vs. Output Current for 12V IN

NOTE:

1. Measured From High Line to Low Line
2. Measured From Full Load to Zero Load
3. The output noise is measured with 100uf tantalum capacitor and 1uf ceramic capacitor across output.
- 4.The Input Terminal Recommend to Parallel With 100uF Capacitor ESR<100mΩ to Reduce The Input Ripple Voltage
- 5.Suffix "N" to the Model Number with Negative Logic Remote on/off
 Model ON.....Open Circuit or < 0.4VDC
 Model OFF.....>+2.8VDC to Vin

SMT Packages
BOTTOM VIEW OF BOARD



All Specifications Typical At Nominal Line, Full Load and 25°C Unless Otherwise Noted.

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

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- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
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- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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