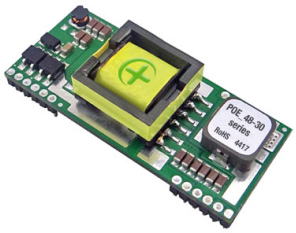
GAPTEC®
GREEN TECHNOLOGY

30POEX_48-A Series

30W - Single Output - Wide Input - Isolated & Regulated
DC-DC Converter



DC-DC Converter 30 Watt

- **Efficiency up to 85%**
- **Over load protection**
- **Short circuit protection (SCP)**
- **Operating temperature range: -40°C ~ +85°C**
- **Meet CISPR22/EN55022 CLASS A**
- **IEEE 802.3at**
- **SIP & DIP pin-style**

The 30POEX_48-A module is designed to extract power from a conventional twisted pair Category 5 Ethernet cable, conforming to the IEEE 802.3at Power-over-Ethernet (PoE) standard.

The 30POEX_48-A signature and control circuit provides the PoE compatibility signature and power classification required by the Power Sourcing Equipment (PSE) before applying up to 30W power to the port.
The 30POEX_48-A is compatible with Class 0 to Class 3 equipment.

The high efficiency DC/DC converter operates over a wide input voltage range and provides a regulated low ripple and low noise output. The DC/DC converter also has built-in overload and short-circuit output protection.

Common specifications	
Short circuit protection:	Hiccup, automatic recovery
Cooling:	Free air convection
Operation temperature range:	-40°C~+85°C
Storage temperature range:	-55°C~+125°C
Rate of change temperature:	0,5 °C/min
Case/board temperature:	-40~100°C MAX
Storage humidity range:	5%RH MIN, 95%RH MAX
Air pressure*:	70-106kPa
MTBF:	2000 khours
Weight:	22g

* Output connects 10µF tantalum capacitor and 1µF ceramic capacitor; the distance between output capacitors and module's pin is 50mm~70mm.

Output specifications					
Item	Test condition	Min	Typ	Max	Units
Voltage regulation			10		mV
Load regulation	Io = Io,min to Io,max		25		mV
Output Ripple & Noise	5~20MHz: • 30POEX_4805 • 30POEX_4812		 30 30	 50 70	 mVpk-pk mVpk-pk
Start delay time			200		ms
Set time			50		ms
Overshoot			4	8	%Vo
Transient response (0.1A/uS)	50%~75%~50%Inom Vin=48V 25V/100µF capacitor		130/160		mV/uS

Note:
30POE_4812-A, when 36V input, output current should be not more than 2.2A

Input specifications					
Item	Test condition	Min	Typ	Max	Units
Operating input voltage		36	48	57	V
Maximum input voltage		60			VDC

Isolation specifications					
Item	Test condition	Min	Typ	Max	Units
Isolation voltage	Input-output 1mA-1min			1500	VDC
Maximum input voltage				60	VDC

Protection specifications					
Item	Test condition	Min	Typ	Max	Units
Input low voltage	Auto recovery: YES		33		V
Output over load	Auto recovery: YES • 30POEX_4805 • 30POEX_4812		 7.5 3.3		 A A

Example:
30POEX_4805-A
30 = 30 Watt; POE = Power Over Ethernet; X = S = SIP; 48 = 48Vin; 05 = 5Vout; A = Pinning

Note:
1. All specifications measured at Ta = 25°C, humidity <75%, nominal input voltage and rated output load unless otherwise specified.
2. In this datasheet, all the test methods of indications are based on corporate standards.
3. Only typical models listed, other models may be different, please contact our technical person for more details.
4. Our company offer custom products.
5. Specifications subject to change without notice.

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30POEX_48-A Series

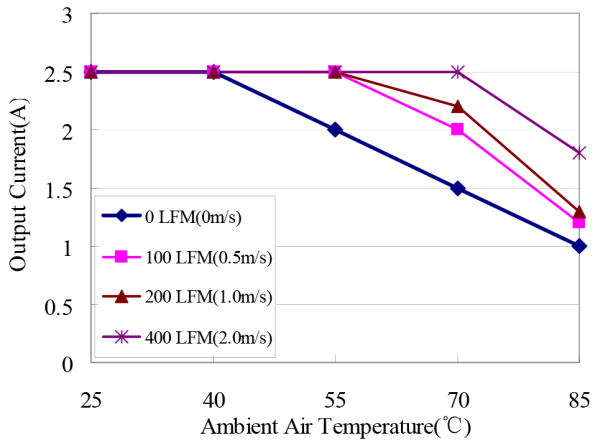
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Part Number	Input Voltage [VDC] Nominal	Range	Output Voltage [VDC]	Output Current [A]	Capacitive load [µF, max]	Efficiency [%, Typ.]
30POEX_4805-A	48	36~57	5	5	2700	83
30POEX_4812-A	48	36~57	12	2.5	1000	85

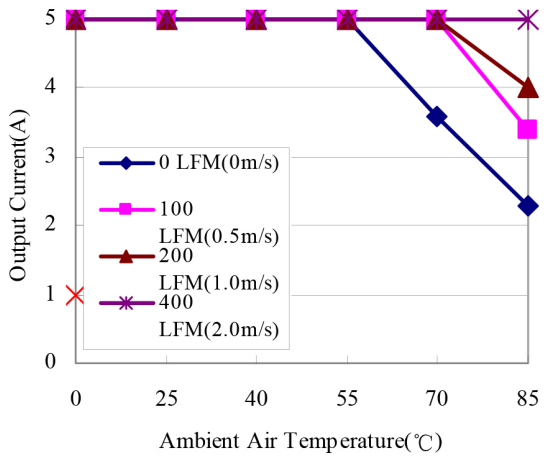
Note:
X = S: SIP layout, f. ex. 30POE**S**_4805-A
X = D: DIP layout, f. ex. 30POE**D**_4805-A

Derating curve

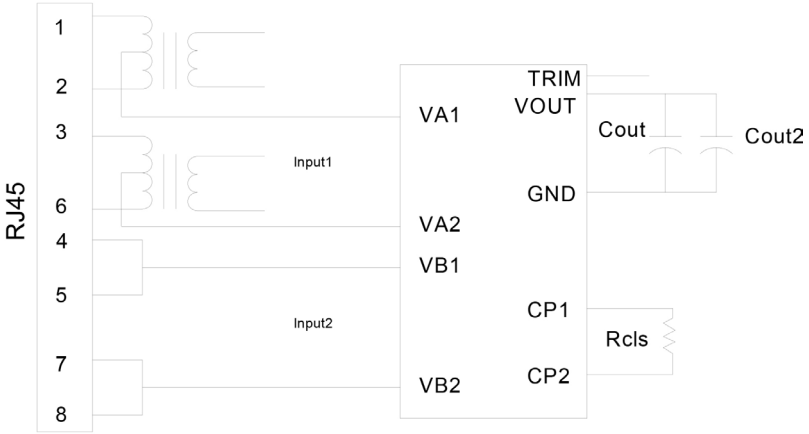
30POEX_4812-A



30POEX_4805-A



Recommended application circuit



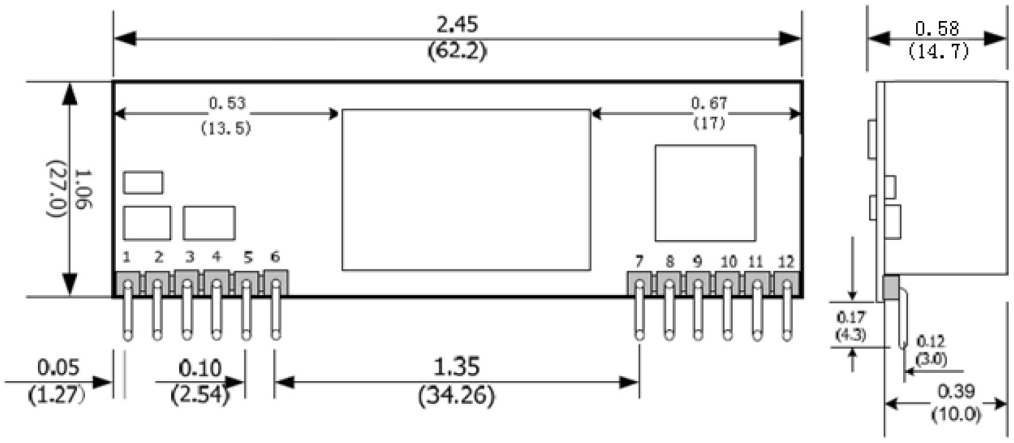
Rcls:

Level	Resistance value (Ω)
0	1270
1	243
2	137
3	90.9
Reserved	Off

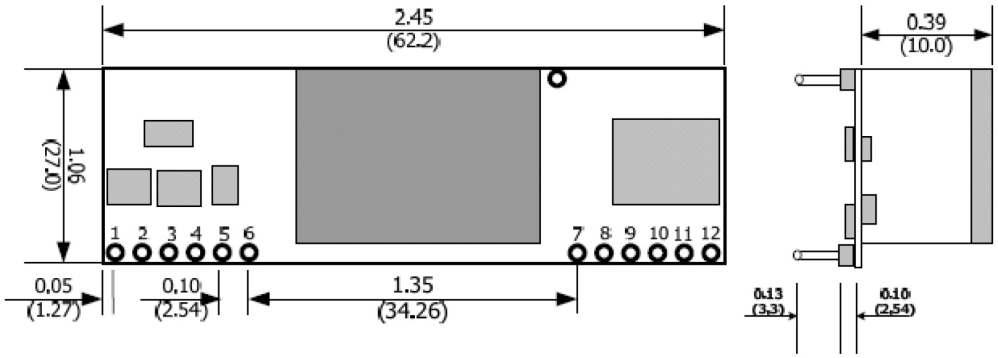
Cout: 100µf 25V electrolytic capacitor
Cout2: µf ceramic capacitor

Mechanical dimensions

SIP



DIP



Note:
Unit: mm[inch]
General tolerances X.Xmm: ±0.50mm [±0.020inch]
General tolerances X.XXmm: ±0.25mm [±0.010inch]

Pin	Funktion
1	VA1
2	VA2
3	VB1
4	VB2
5	CP1
6	CP2
7, 8	GND
9, 10	Vout
11	TRIM
12	NC