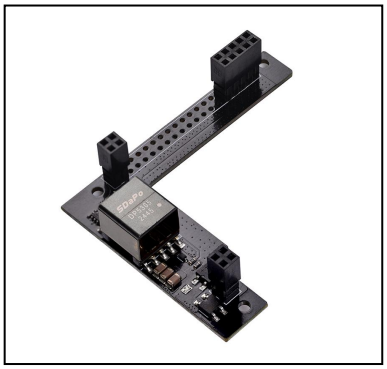
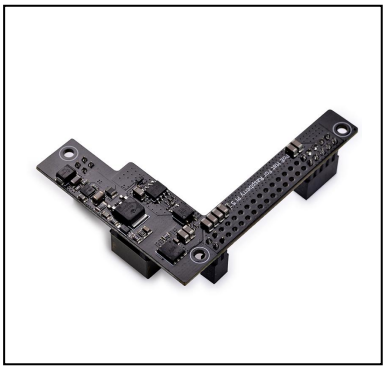


DESCRIPTION

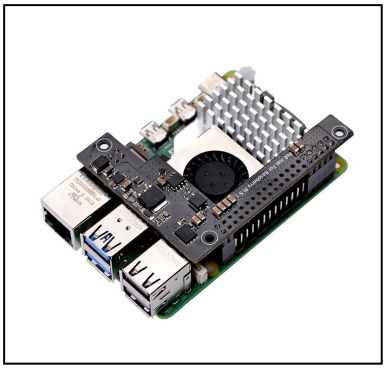
- Raspberry Pi 5 POE HAT Module (Isolation Type)

(This POE HAT needs to be equipped with a dedicated radiator.
Otherwise, structural interference may occur.)



FEATURES

- Fully IEEE 802.3af/at compliant
- 25 watt output load
- IEEE Power class programmable (Green)
- 1500 Volt DC isolation (Input to Output)
- 5V output voltage models
- Overload and short circuit protection
- Wide input voltage (36V to 57V DC)
- Support PoE applications in both of Fast / Gigabit Ethernet environments.
- Low output ripple and noise
- Low cost
- RoHS Compliant



APPLICATION AREAS

- Raspberry Pi 5 POE HAT

1 Product Overview

1.1 Raspberry Pi 5 POE HAT Product Selector

Part Number	Nominal Output Voltage	Output Power	
		70˚C	85˚C
Pi 5 POE HAT	5.0V	25 Watts	22.5 Watts

Table 1: Ordering Information

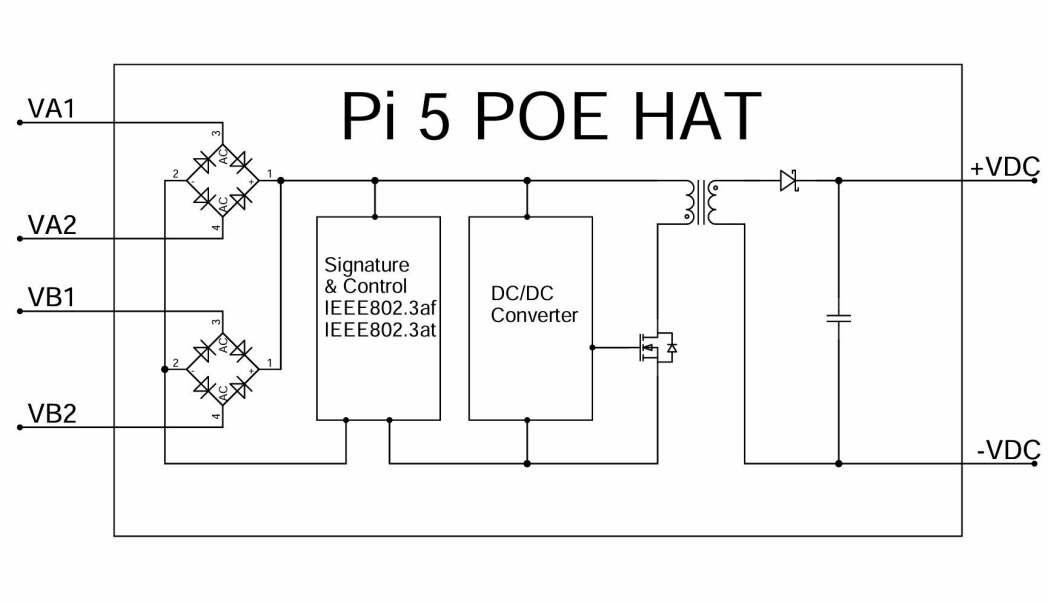
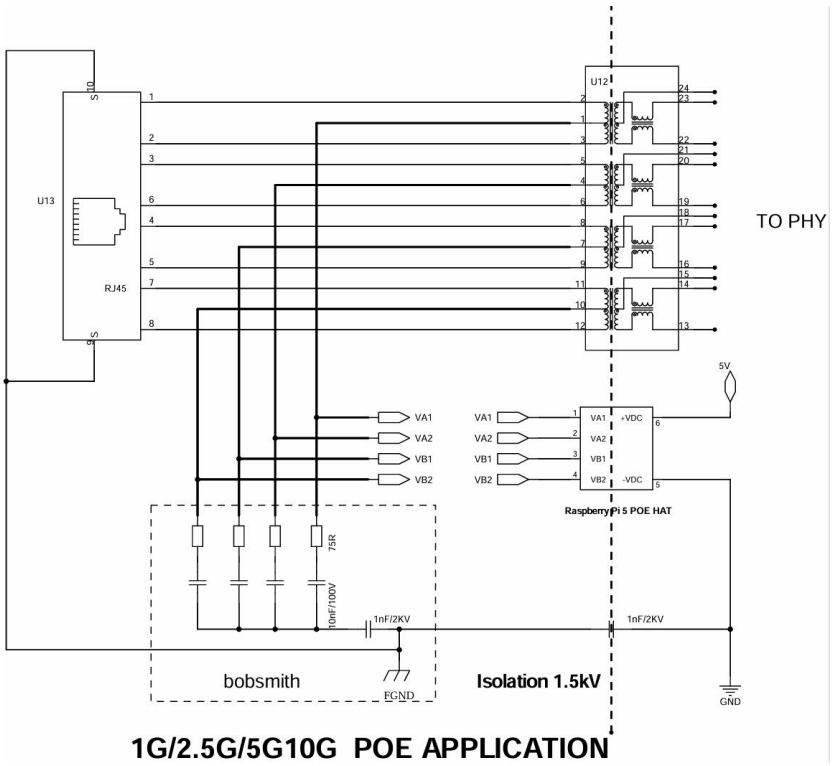


Figure 1: Block Diagram

2 Functional Description

2.1 Typical Connections



1G/2.5G/5G10G POE APPLICATION

3 Electrical Characteristics

3.1Absolute Maximum Ratings

	Parameter	Symbol	Min	Max	Units
1	DC Supply Voltage	V_{CC}	-0.3	60	V
2	DC Supply Voltage Surge for 1ms	V_{SURGE}	-0.6	80	V
3	Storage Temperature	T_S	-40	+100	˚C

3.2 Recommended Operating Conditions

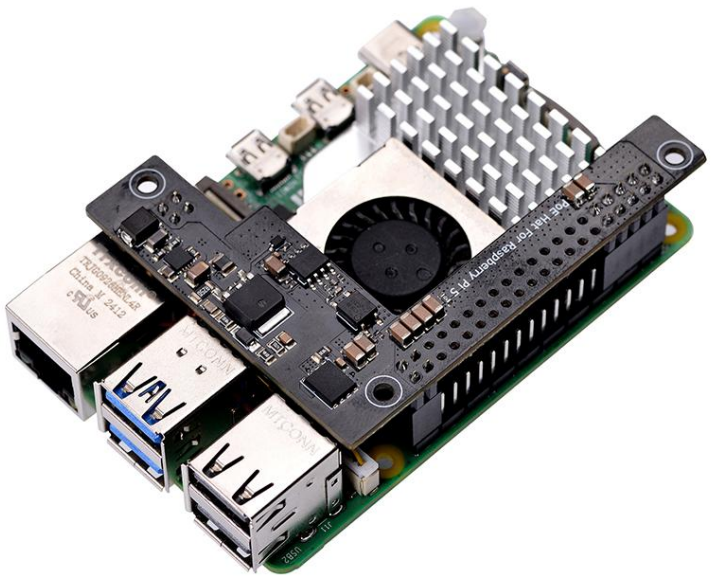
	Parameter	Min	Typ	Max	Units
1	Input Supply Voltage	36	48	57	V
2	Under Voltage Lockout	30		36	V
3	Input Curren		600	660	mA
4	Operating Temperature	-40	25	85	℃
5	IEEE 802.3af/at	Class 4			

3.3 DC Electrical Characteristics

	DC Characteristic	Sym	Min	Typ[1]	Max	Units
1	Nominal Output Voltage		4.75	5	5.25	V
2	Minimum Load[2]	I_{LOAD}	0			mA
3	Output Current (VIN = 48V)	I_{OUT}		4	4.5	A
4	Line Regulation	V_{LINE}		0.15		%
5	Load Regulation – Min to Max (VIN = 48V)	V_{LOAD}		0.15		%
6	Output Ripple and Noise5@ Max load	V_{RN}		100		mV_{p-p}
7	Peak Efficiency	EFF		87		%
8	Short-Circuit Duration	T_{SC}			∞	sec
9	Isolation Voltage (I/O) - Impulse Test	VISO			1500	VPK

Note 1: Typical figures are at 25°C with a nominal 48V supply and are for design aid only. Not Guaranteed

Note 2: The module can emit an audible noise, if operated at less than the stated minimum I_{LOAD} and cause the PSE to fail its MPS.



Typical Connection Diagram