12V High Power PD(Powered Device) Module, PN : MHPDI-MOD-12VT

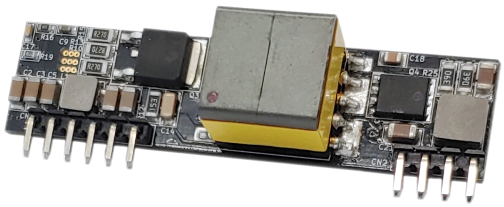
May. 15, 2020

DESCRIPTION

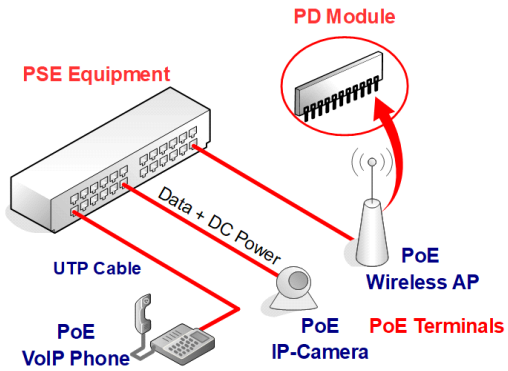
12V, 24W max. PD(Powered Device) Integrated Module (Isolation Type)

FEATURES

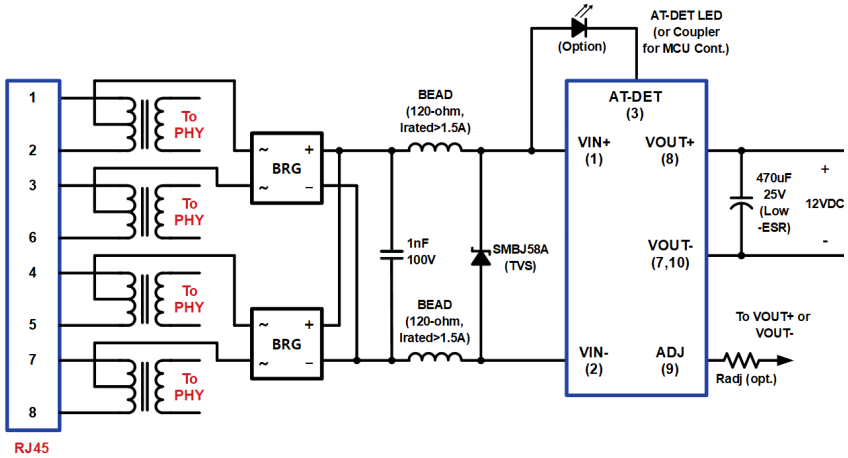
- Fully Supports IEEE802.3at Compliant
- Input Voltage Range : 42.5VDC to 57VDC (Type-2)
- In-rush Current Limit
- Over-Current, Short Circuit and Over-temperature Protection
- Default Class : 4
- High Efficiency (89% min. @ Full Load)
- Adjustable Output Voltage
- Easy Installation and Low Cost
- Low Output Ripple and Noise
- 1500Vrms Isolation (Input-Output)
- RoHS Compliant



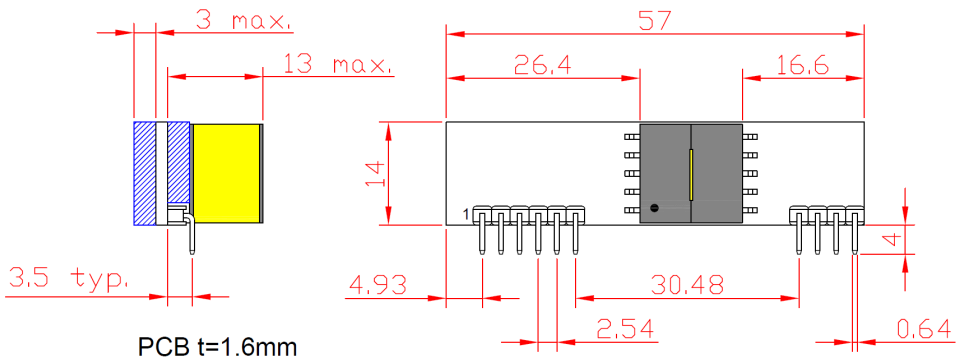
APPLICATION DIAGRAM



TYPICAL CONNECTION



OUTLINE DRAWING



Recommended PC Board Hole Dia.=1mm

(Margin of Error : ±0.5mm)

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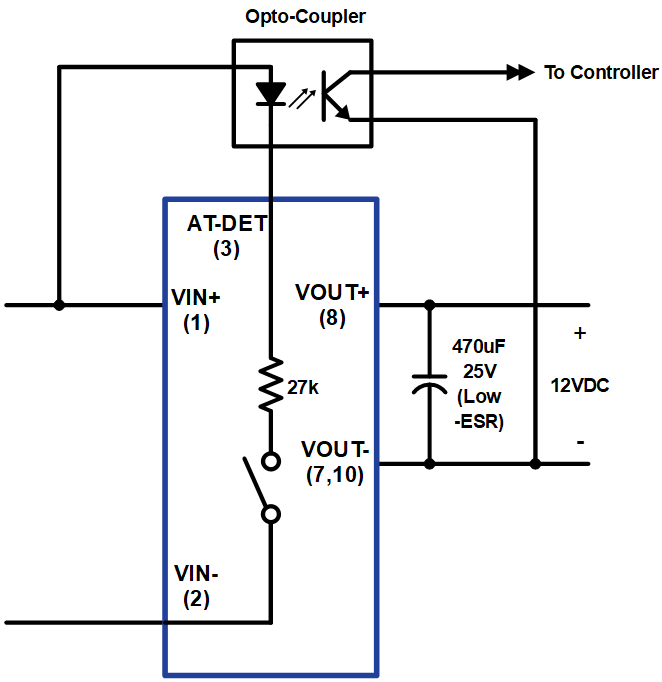
#1906, 53, Gasan Digital 2-ro, Geumcheon-Gu, Seoul 08588, Korea
Tel:+82)2-858-6772, Fax:+82)2-869-9730
E-mail:moatel@moatel.com

PIN ASSIGNMENT

Pin #	Name	Description
1	VIN+	**Input (+) :** This pin connects to the positive(+) outputs of the Bridge Diodes.
2	VIN-	**Input (-) :** This pin connects to the negative(-) outputs of the Bridge Diodes.
3	AT-DET	**AT-DET :** Refer to the circuit and description below.
4~6	NC	**Do Not Connect.**
7,10	VOUT-	**DC GND :** This pin provides the GND output.
8	VOUT+	**DC Output :** This pin provides the +12VDC output.
9	ADJ	**Output Voltage Adjust** : The output voltage can be adjusted from nominal value by connecting an external resistor from this pin to VOUT+ or VOUT-.

AT-DET (Pin #3)

- This pin is indicated IEEE802.3at operation.
- IEEE802.3at : Active LOW



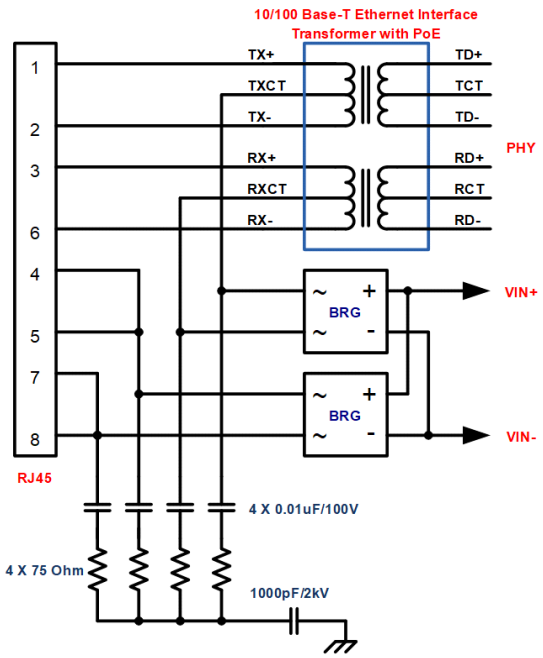
ADJUSTING THE OUTPUT VOLTAGE LEVELS AND REQUIRED EXTERNAL RESISTORS (Pin #9)

Vout	Radj	
	To VOUT+	To VOUT-
12.6VDC	-	0 Ohm
10.3VDC	0 Ohm	-

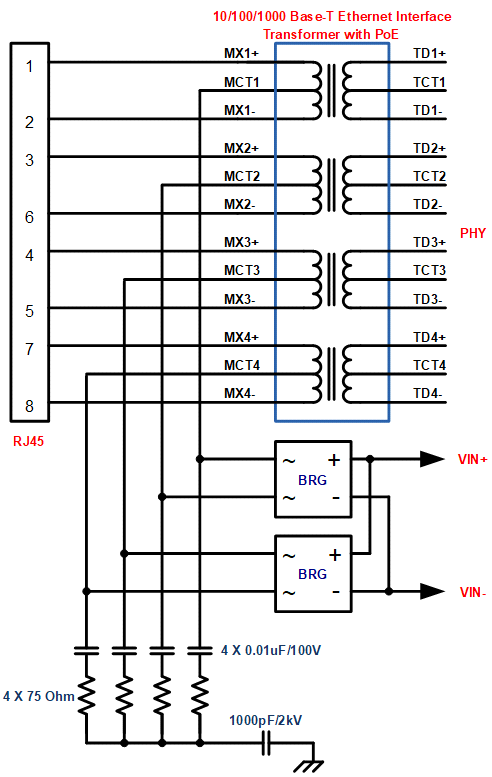
SPECIFICATIONS

No	Item	Specification
1	Input Voltage	42.5~57VDC (Type-2, Pout=24W max.)
2	Input Under Voltage Lockout	30.5~33.6VDC
3	Nominal Output Voltage	12VDC (±4%, 11.52~12.48VDC)
4	Continuous Output Current	2.0A max.
5	Peak Output Current	2.5A max.
6	Line Regulation (Vin=42.5~57VDC, Pout=24W)	±0.1%
7	Load Regulation (Vin=54VDC, Pout=0.12~24W)	±0.2%
8	Ripple & Noise (Vin=54VDC, Pout=24W)	50mVp-p max.
9	Efficiency (Vin=54VDC, Pout=24W)	89% min.
10	Input to Output Isolation	1500 Vrms (10mA Cut-off, 60Hz)
11	Type of DC/DC Converter	Synchronous Flyback Type
12	Short Circuit Protection Duration	Inf.
13	Operating Temperature	-20 ~ 70 ℃
14	Storage Temperature	-40 ~ 100 ℃
15	Typical Dimension (W×D×H)	57×17.6×14 (mm)

10/100 Base-T APPLICATION



10/100/1000 Base-T APPLICATION



OPTIONAL EXTERNAL SCHEMATIC FOR LOCAL POWER SUPPLY (12VDC Adapter)