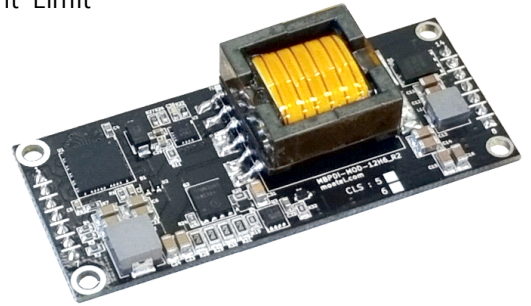


DESCRIPTION

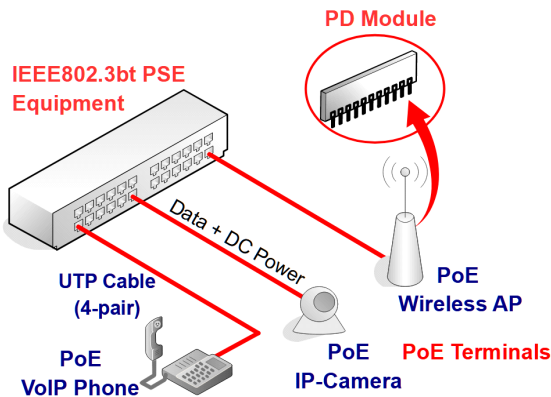
Single Port PD(Powered Device) Integrated Module (Isolation Type)

FEATURES

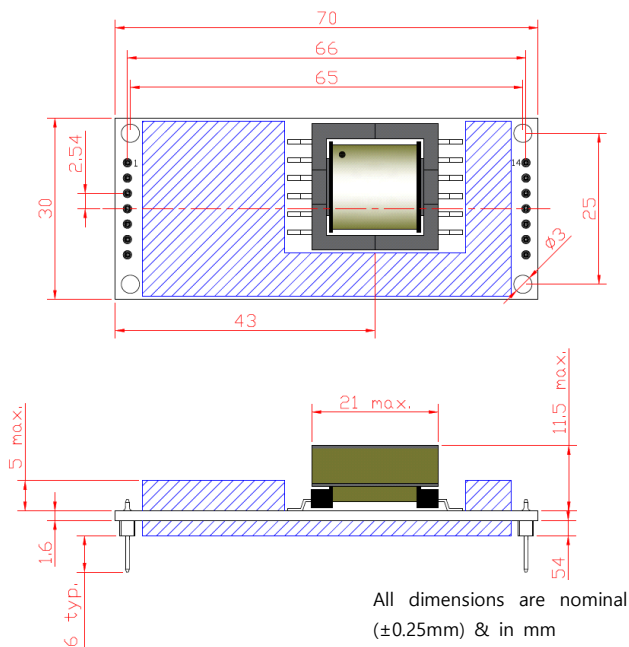
- Fully Supports IEEE802.3bt Compliant (Type-3 and Single-Signature 4-pair)
- **Embedded Dual Active Bridge** (No need to add 2 Bridge-Diodes)
- Short Circuit, Over-temperature Protection and In-rush Current Limit
- Input Voltage Range : 41V to 57V for Full Power Rate
- Default Class : 5
- Maximum Output Power : 40W
- High Efficiency (90% min. @Full Load)
- Easy Installation and Low Cost
- Low Output Ripple and Noise
- RoHS Compliant



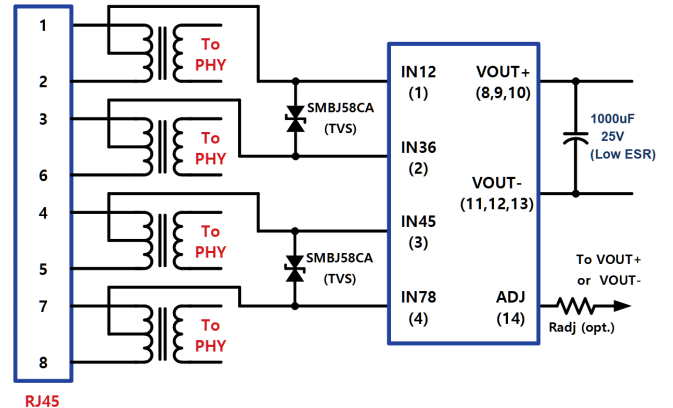
APPLICATION DIAGRAM



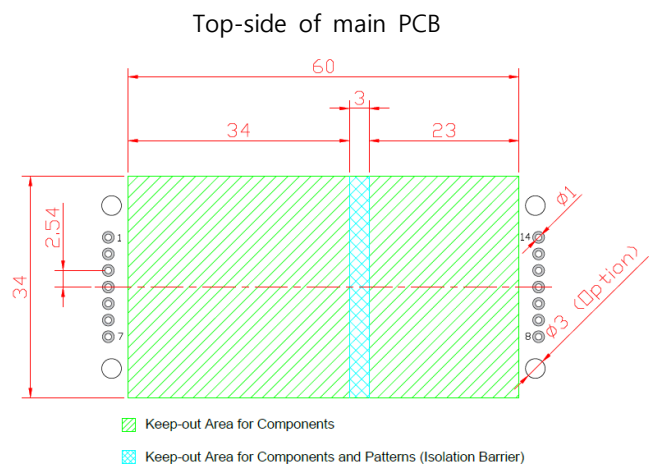
OUTLINE DRAWING



TYPICAL CONNECTION



LAYOUT RECOMMENDATION



Fix-Hole (3-pi) Notice :

- No Electrical Connections are allowed to 2 fix-holes on the left.
- DGND Connections are allowed to 2 fix-holes on the right.
- All fix-holes are deletable when there is no stand-off(or spacer).
- In case of using stand-off(or spacer), be careful of interference.

PIN ASSIGNMENT

| Pin # | Name | Description |
|----------|---------|--|
| 1 | IN12 | Input 12 : This input pin connects to the Center-Tab (1-2) of PoE Interface Transformer for PSE Equipment. |
| 2 | IN36 | Input 36 : This input pin connects to the Center-Tab (3-6) of PoE Interface Transformer for PSE Equipment. |
| 3 | IN45 | Input 45 : This input pin connects to the Center-Tab (4-5) of PoE Interface Transformer for PSE Equipment. |
| 4 | IN78 | Input 78 : This input pin connects to the Center-Tab (7-8) of PoE Interface Transformer for PSE Equipment. |
| 5 | T0 | ID0 : This output pin is indicated PSE type identification signal #0. (Normally NC) |
| 6 | T1 | ID1 : This output pin is indicated PSE type identification signal #1. (Normally NC) |
| 7 | Pri-GND | Primary GND : This output pin is Reference GND for T0 and T1. (Normally NC) |
| 8,9,10 | VOUT+ | PD Output : This pin provides the +12VDC output of PD. |
| 11,12,13 | VOUT- | PD GND : This pin provides the GND output of PD. |
| 14 | 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-. |

SPECIFICATIONS

| No | Item | Specification |
|----------------------------------|--|-------------------------------|
| Electrical Specification | | |
| 1 | Input Voltage | 41~57VDC |
| 2 | Output Voltage | 12V typ. |
| 3 | Maximum Output Current | 3.4A |
| 4 | OCP (Over Current Protection) | 110~130% |
| 5 | Line Regulation (Vin=41~57V, Full Load) | 1% |
| 6 | Load Regulation (Vin=54V, 0.1~Full Load) | 1% |
| 7 | Ripple & Noise (Vin=54V, Full Load) | 100mVp-p max. |
| 8 | Efficiency (Vin=54V, Full Load) | 90% min. |
| 9 | Input to Output Isolation | 1500 Vrms |
| 10 | Type of DC/DC Converter | Active Clamped Fly-back Type |
| 11 | Short Circuit Protection Duration | Inf. |
| 12 | Protection | OCP, Short Circuit Protection |
| Environment Specification | | |
| 13 | Operating Environment | -20 ~ 50 °C / 10 ~ 80 % |
| 14 | Storage Environment | -40 ~ 100 °C / 5 ~ 95 % |

PSE IDENTIFICATION CODE TABLE (for Data Link Layer supported PSE)

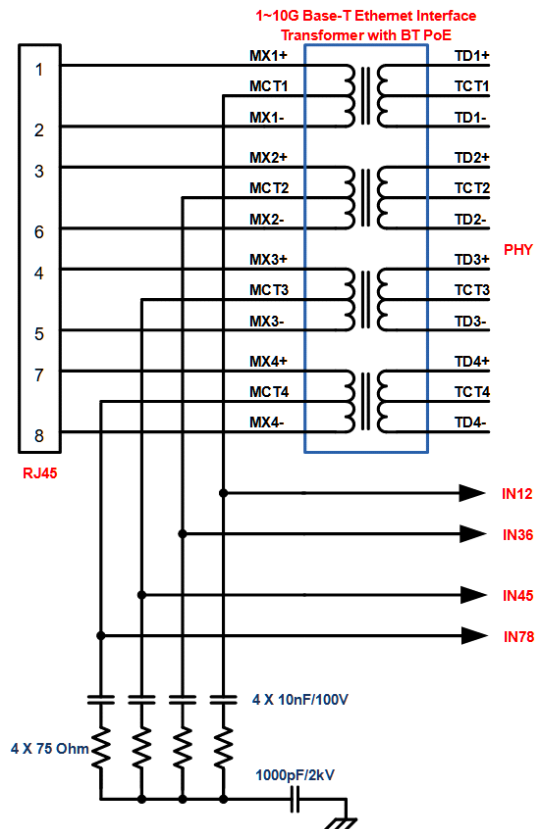
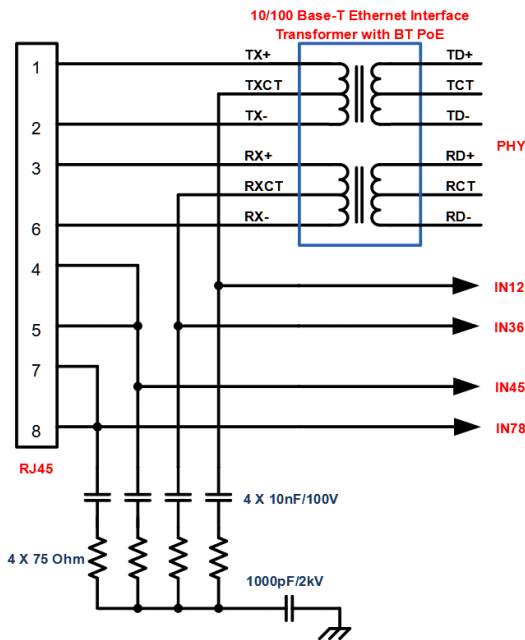
| PN | PD Class | Class Events | PD allocated Power | T0 | T1 | Ref |
|----------------|----------|--------------|--------------------|----|----|---------|
| MBPDI-MOD-12H5 | 5 | 4 | 40W | 1 | 0 | Pri-GND |

ADJUSTING THE OUTPUT VOLTAGE LEVELS AND REQUIRED EXTERNAL RESISTORS

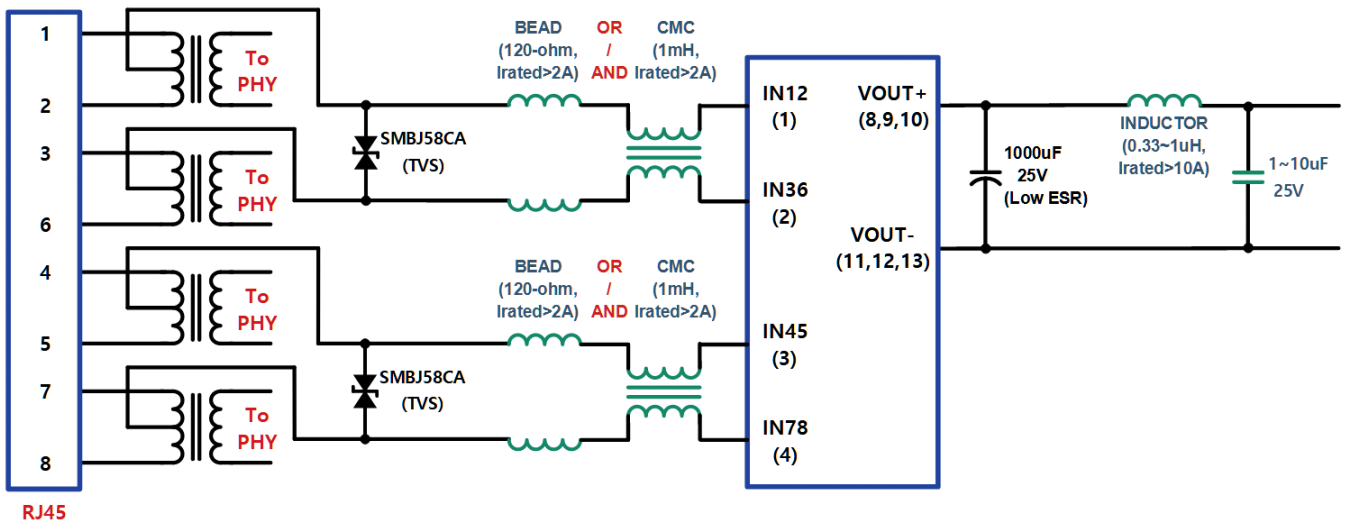
| Vout | Radj | |
|-------|----------|----------|
| | To VOUT+ | To VOUT- |
| 12.6V | - | 0 Ohm |
| 10V | 0 Ohm | - |

10/100 Base-T APPLICATION

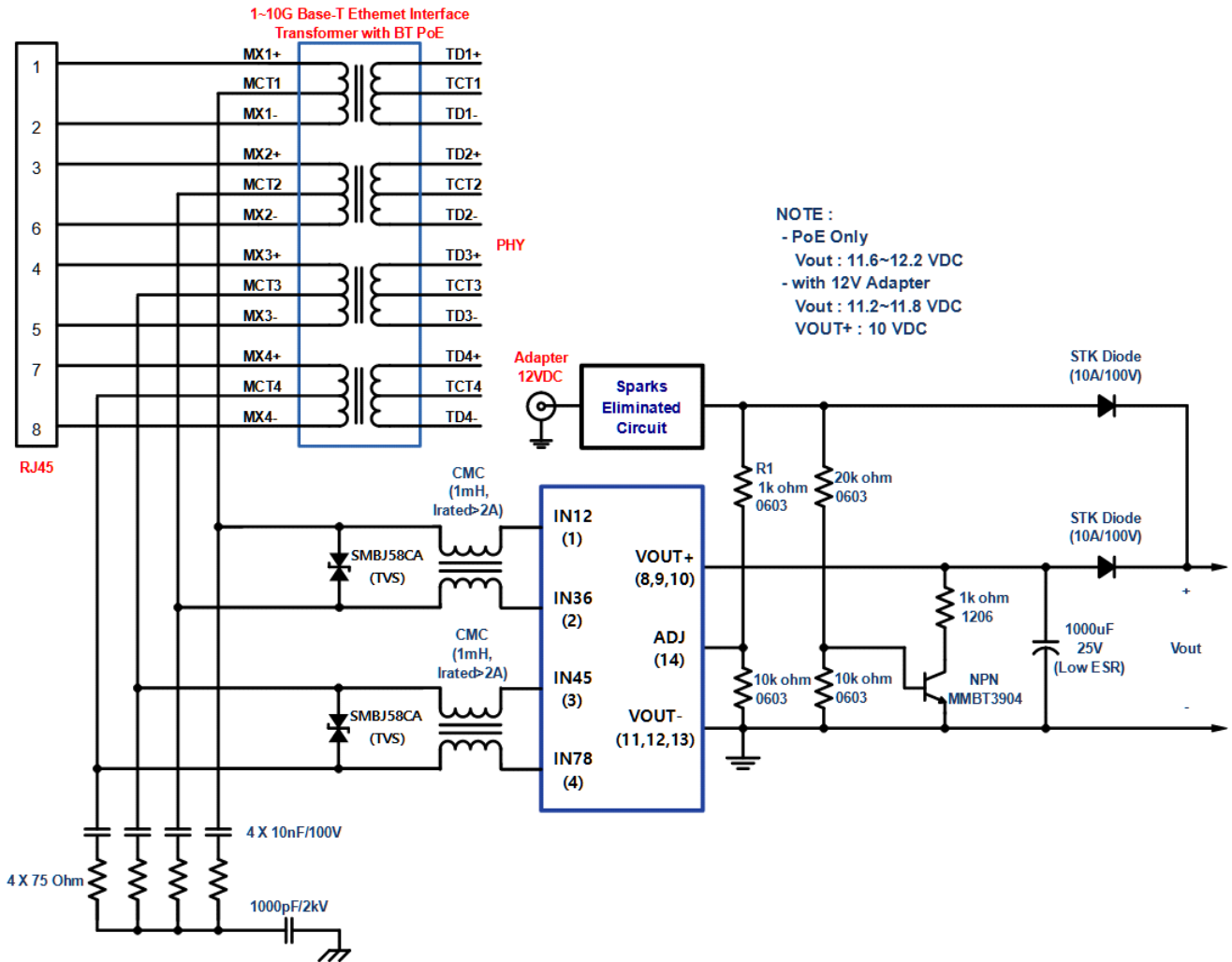
1~10G Base-T APPLICATION



ADVANCED CONNECTION (LOWER NOISE)



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



OPTIONAL CONFIGURATION (ONLY for DLL Supported PSE)

