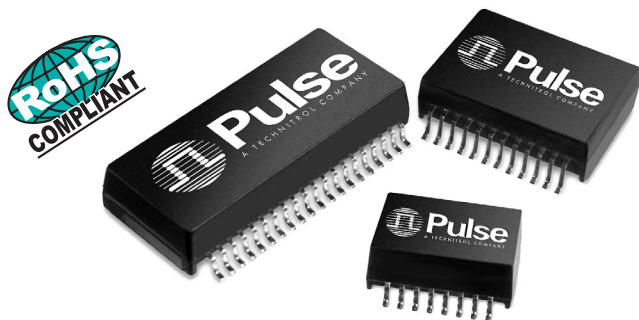
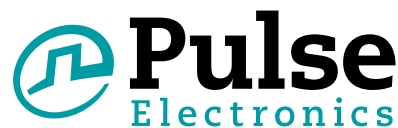


# Star Magnetics™ Gigabit Transformer Modules with PoE\* Option

\*Power over Ethernet



- RoHS reflow temperature rating 245° C
- Meets IEEE 802.3 specification
- Compact footprint

## Electrical Specifications @ 25°C — Operating Temperature 0°C to 70°C

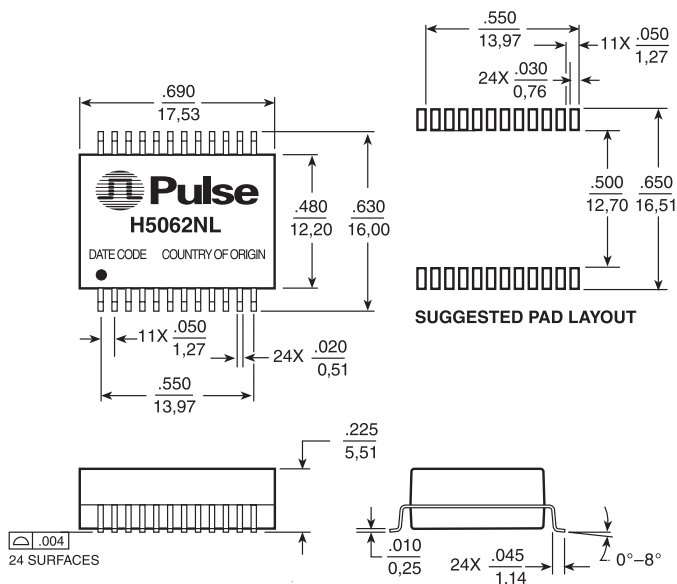
| RoHS Compliant Part Number | PoE | Turns Ratio |     | Number of Ports | Insertion Loss (dB MAX) |         |         | Return Loss (Zout = 100 Ω ±15%) |        |        |         | Crosstalk (adjacent channels dB MIN) |        |         | Hipot (Vrms MIN) |
|----------------------------|-----|-------------|-----|-----------------|-------------------------|---------|---------|---------------------------------|--------|--------|---------|--------------------------------------|--------|---------|------------------|
|                            |     | Tx          | Rx  |                 | 0.1 MHz                 | 100 MHz | 125 MHz | 30 MHz                          | 60 MHz | 80 MHz | 100 MHz | 30 MHz                               | 60 MHz | 100 MHz |                  |
| H5062NL <sup>2a</sup>      | No  | 1:1         | 1:1 | 1               | -1.1                    | -1.0    | -2.0    | -18                             | -12    | -12    | -10     | -43                                  | -37    | -33     | 1500             |
| H6062NL <sup>2a</sup>      | Yes | 1:1         | 1:1 | 1               | -1.1                    | -1.0    | -2.0    | -18                             | -12    | -12    | -10     | -43                                  | -37    | -33     | 1500             |
| H6080NL <sup>2a</sup>      | Yes | 1:1         | 1:1 | 2               | -1.1                    | -1.0    | -2.0    | -18                             | -12    | -12    | -10     | -43                                  | -37    | -33     | 1500             |

1. For Tape & Reel packaging add a "T" suffix to the end of the part number when ordering, e.g. H5062NLT

2. MSL = Moisture Sensitivity Level a=1 b=2 c=3 d=4 e=5

## Mechanicals

### H5062NL

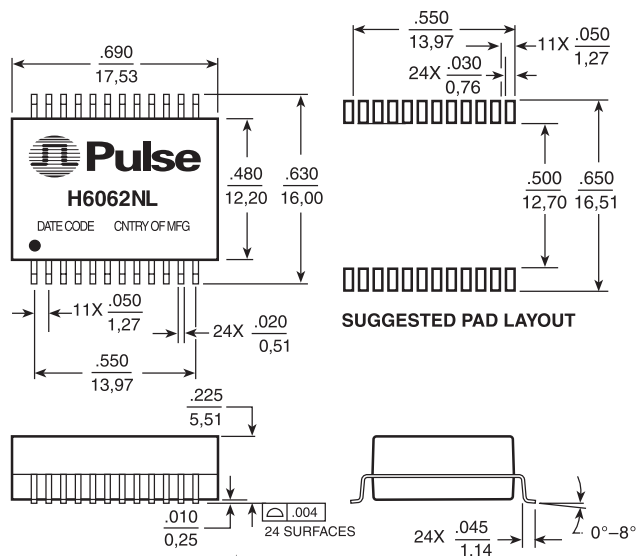


Weight ..... 2.7 grams  
Tape & Reel ..... 300/reel  
Tube ..... 25/tube

Dimensions:  $\frac{\text{Inches}}{\text{mm}}$

Unless otherwise specified, all tolerances are  $\pm \frac{.010}{0.25}$

### H6062NL



Weight ..... 2.63 grams  
Tape & Reel ..... 300/reel  
Tube ..... 25

\*Power over Ethernet



**Weight** . . . . . 4.0 grams  
**Tape & Reel** . . . . . 250/reel  
**Tube** . . . . . 15/tube

## Schematics

Figure 1 shows four schematic diagrams of transformer-based power supply units (TCT1, TCT2, TCT3, TCT4) for a 100 W LED lamp. Each diagram illustrates a 1:1 transformer with a primary winding connected to a 230 V AC source and a secondary winding connected to a full-bridge rectifier. The output of the rectifier is connected to a filter capacitor and a load. The output voltage is labeled as 24 MCT1, 23 MX1 +, 22 MX1 - for TCT1; 21 MCT2, 20 MX2 +, 19 MX2 - for TCT2; 18 MCT3, 17 MX3 +, 16 MX3 - for TCT3; and 15 MCT4, 14 MX4 +, 13 MX4 - for TCT4.

**CHANNEL 1**

TD1+ 2

TCT1 1

TD1- 3

23 MX1+

24 MCT1

22 MX1-

1:1

**CHANNEL 2**

TD2+ 5

TCT2 4

TD2- 6

20 MX2+

21 MCT2

19 MX2-

1:1

**CHANNEL 3**

TD3+ 8

TCT3 7

TD3- 9

17 MX3+

18 MCT3

16 MX3-

1:1

**CHANNEL 4**

TD4+ 11

TCT4 10

TD4- 12

14 MX4+

15 MCT4

13 MX4-

1:1

CHIP SIDE

LEGEND

Td  $\longleftrightarrow$  Mx

Td  $\longleftrightarrow$  Mx

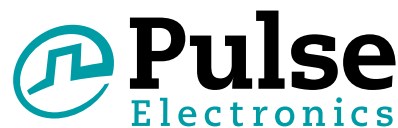
Td  $\longleftrightarrow$  Mx

Td  $\longleftrightarrow$  Mx

MEDIA SIDE

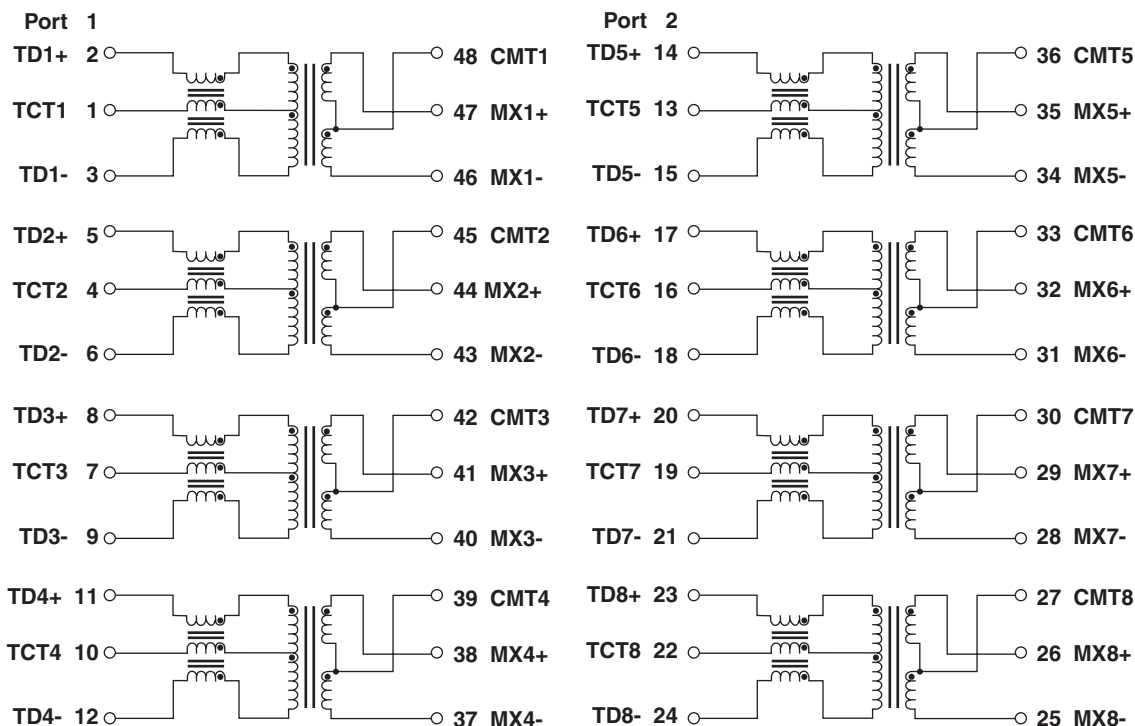
# Star Magnetics™ Gigabit Transformer Modules with PoE\* Option

\*Power over Ethernet



## Schematics (continued)

### H6080NL



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