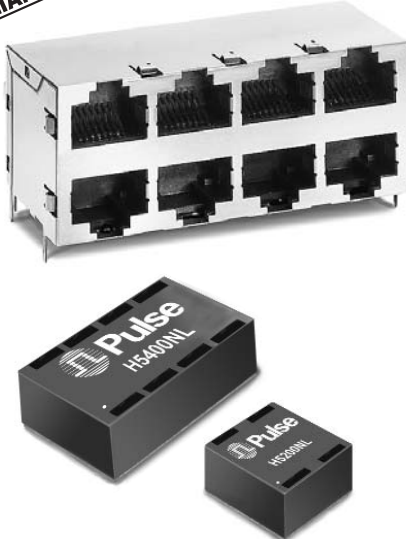


# GIGABIT (10/100/1000 BASE-T) QUAD/DUAL TRANSFORMER MODULES & UNFILTERED CONNECTORS

Designed to Support PoE, Auto MDIX



- ⊕ World's smallest Gigabit Quad/Dual isolation transformer module
- ⊕ All pairs are symmetrical and balanced
- ⊕ Reliable surface mount ball grid array
- ⊕ Compact footprint, reduced board space
- ⊕ Designed to fit behind 2x2 connectors
- ⊕ RoHS-6 peak reflow temperature rating 245°C

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

RoHS-6 Compliant Part Number	Number of Ports	Insertion Loss (dB MAX)	Return Loss (dB MIN)					Differential to Common Mode Rejection (dB MIN)			Crosstalk (dB MIN)			Hipot (Vrms)
			1-100 MHz	1-30MHz	40MHz	50MHz	60-80MHz	100MHz	30MHz	60MHz	100MHz	30MHz	60MHz	
H5200NL	2	1	-18	-18	-16	-12	-10	-43	-37	-33	-43	-37	-33	1500
H5201NL	2	1	-18	-18	-16	-12	-10	-43	-37	-33	-43	-37	-33	1500
H5400NL	4	1	-18	-18	-16	-12	-10	-43	-37	-33	-43	-37	-33	1500
H5401NL	4	1	-18	-18	-16	-12	-10	-43	-37	-33	-43	-37	-33	1500

1. MSL = Moisture Sensitivity Level: 1
2. Second level mechanical shock test, mounted to 4 layer FR-4 PCB (passed 500g in 5-axis)
3. RoHS-6: Product does not contain 5 out of the 6 banned substances specified in the RoHS directive. Some internal connections may contain lead in high-temperature solder (solder alloys containing more than 85% lead).
4. Parts come with/without lead.

## Connector Mechanical Specifications--Operating Temperature -40°C to 85°C

RoHS-6	Mounting, Tab Position	Number of Ports	Package Dimensions L/W/H (mm)	Solder Temperature (35 seconds)	LED Option	Plating
E5908-25A1J5-L	THT, Tab Down	1x2	31.24 / 21.35 / 13.6	230°C - 250°C	No LED's	Gold Plating Over Nickel
E5908-25C345-L	THT, Tab Down	1x4	59.18 / 21.35 / 13.6	230°C - 250°C	No LED's	Gold Plating Over Nickel
E5908-57A132-L	THT, Tab Up/Down	2x2	25.35 / 31.24 / 25.3	230°C - 250°C	No LED's	Gold Plating Over Nickel
E5908-5VC144-L	THT, Tab Up/Down	2x4	59.18 / 28.35 / 25.3	230°C - 250°C	No LED's	Gold Plating Over Nickel

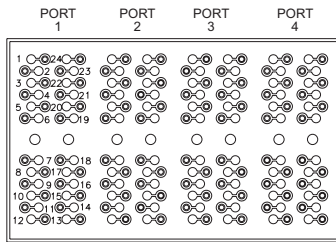
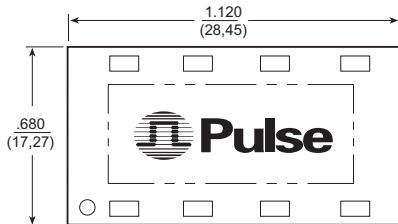
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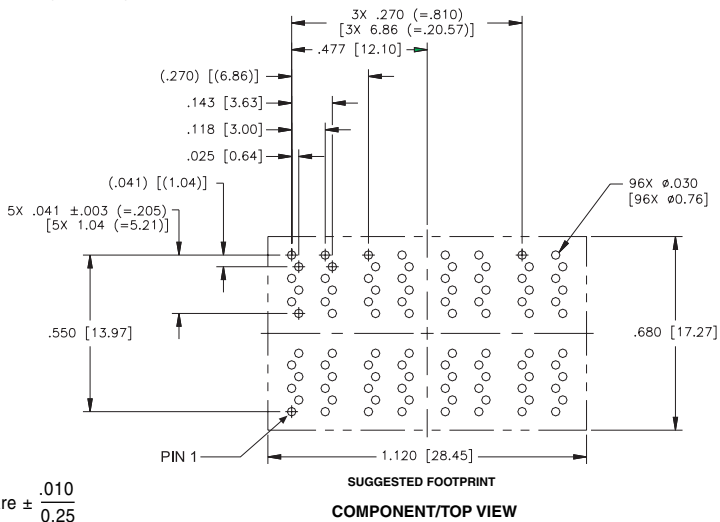
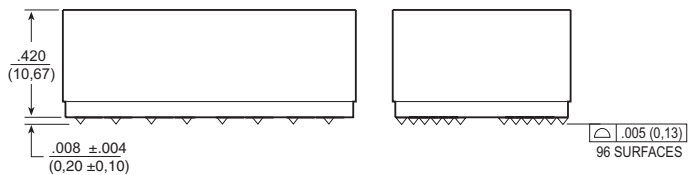


## Mechanicals

### H5400NL, H5401NL



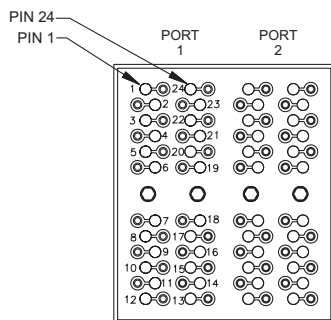
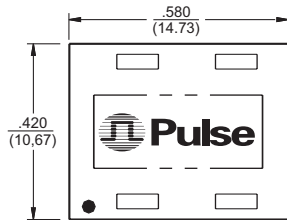
PIN NUMBERING  
BOTTOM VIEW



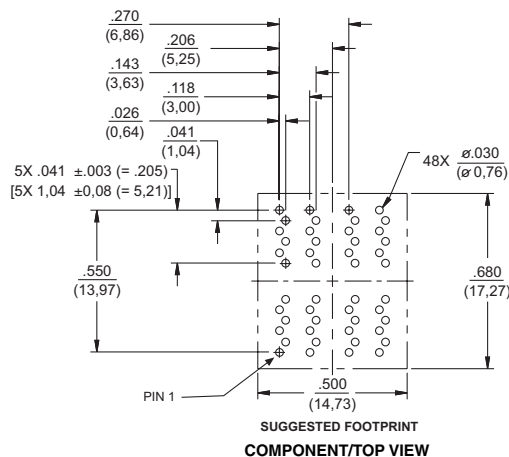
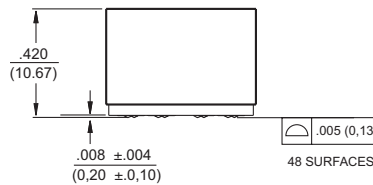
Weight .....10 grams  
Tray .....300

Dimensions:  $\frac{\text{Inches}}{\text{mm}}$  Unless otherwise specified, all tolerances are  $\pm \frac{.010}{0,25}$

### H5200NL, H5201NL



PIN NUMBERING  
BOTTOM VIEW



Weight .....5 grams  
Tray .....600

Dimensions:  $\frac{\text{Inches}}{\text{mm}}$  Unless otherwise specified, all tolerances are  $\pm \frac{.010}{0,25}$

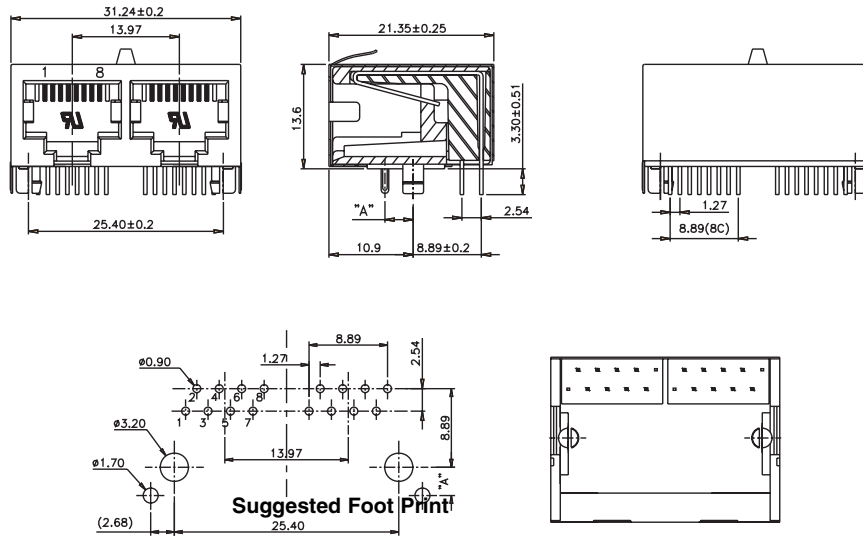
# GIGABIT (10/100/1000 BASE-T) QUAD/DUAL TRANSFORMER MODULES & UNFILTERED CONNECTORS

Designed to Support PoE, Auto MDIX

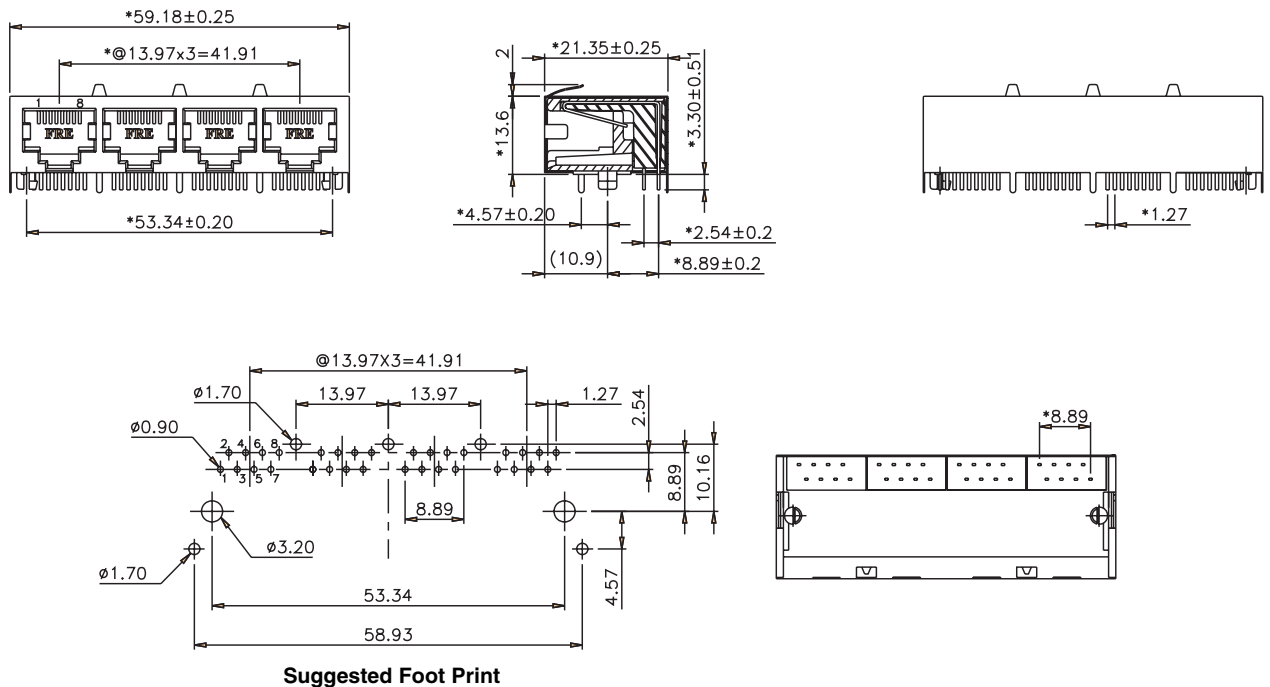


## Mechanicals (continued)

### E5908-25A1J45-LNL



### E5908-25C345-LNL



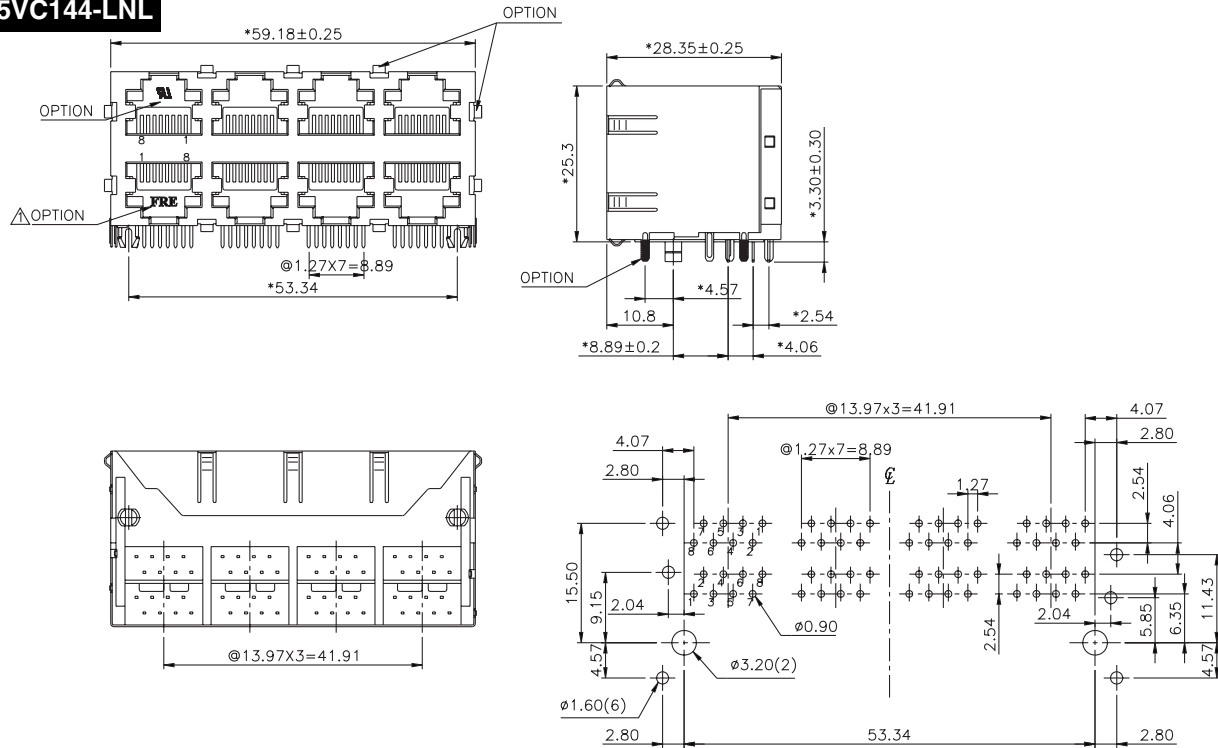
# GIGABIT (10/100/1000 BASE-T) QUAD/DUAL TRANSFORMER MODULES & UNFILTERED CONNECTORS

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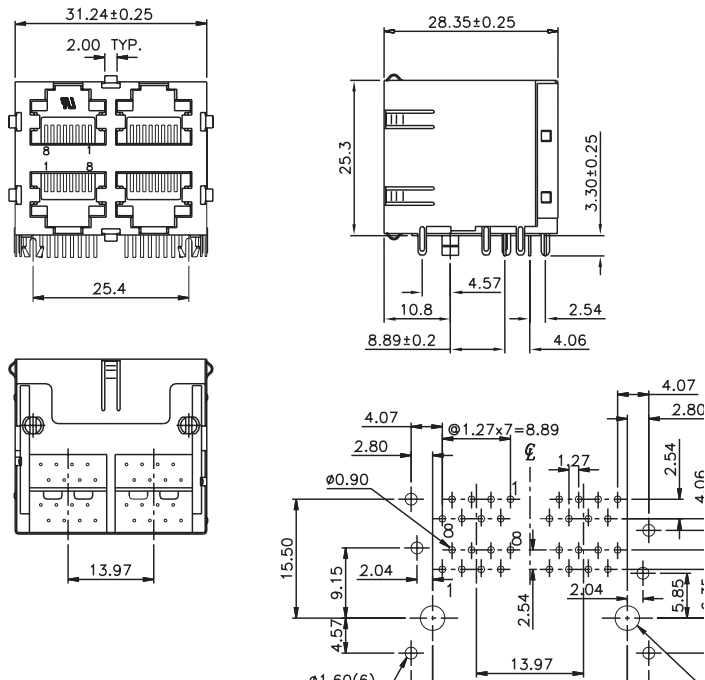
## Mechanicals (continued)

### E5908-5VC144-LNL



### Suggested Foot Print

### ES908-57A132-LNL



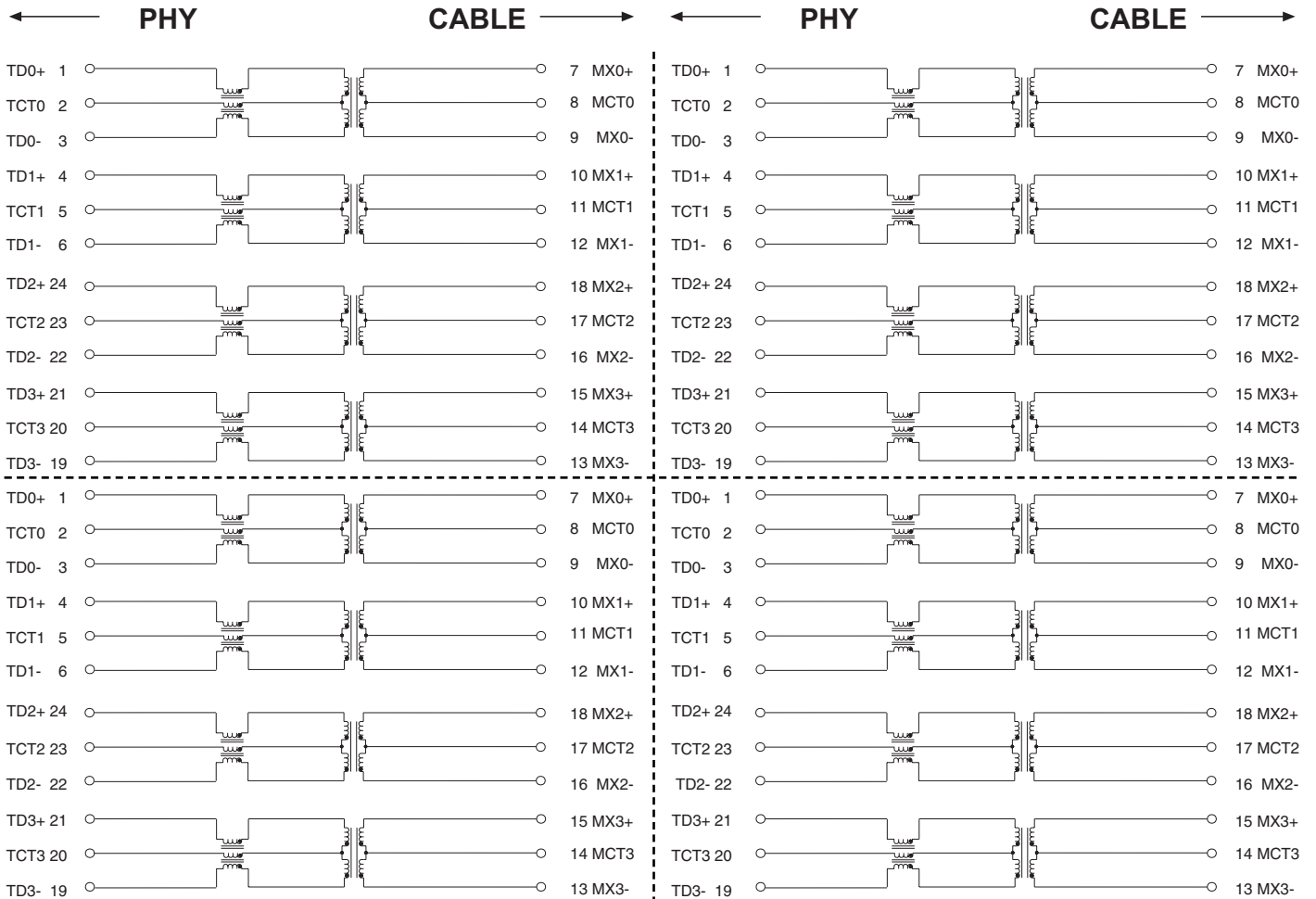
# GIGABIT (10/100/1000 BASE-T) QUAD/DUAL TRANSFORMER MODULES & UNFILTERED CONNECTORS

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## Schematics

**H5400NL**



Schematics for quad ports

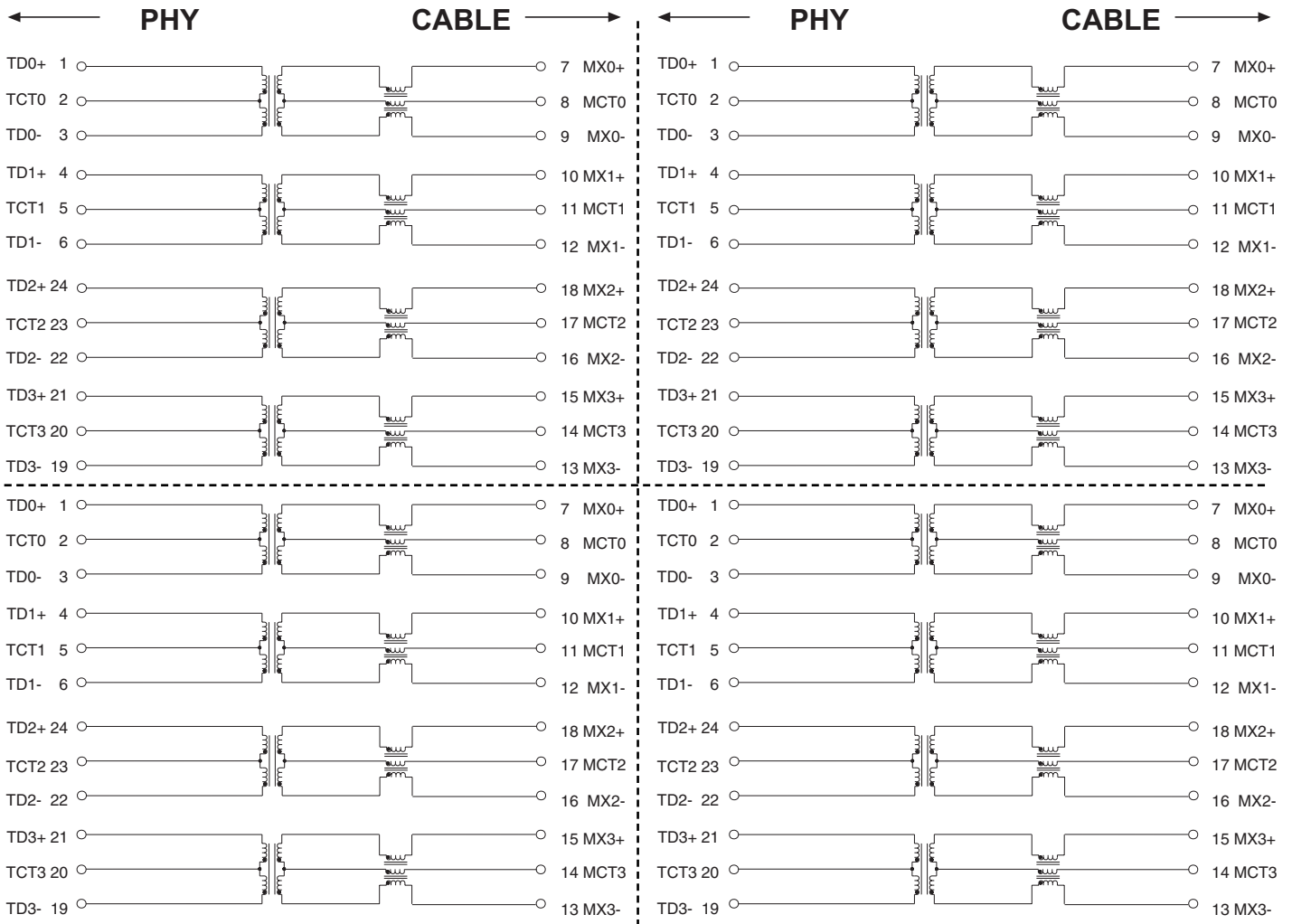
# GIGABIT (10/100/1000 BASE-T) QUAD/DUAL TRANSFORMER MODULES & UNFILTERED CONNECTORS

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## Schematics (continued)

H5401NL



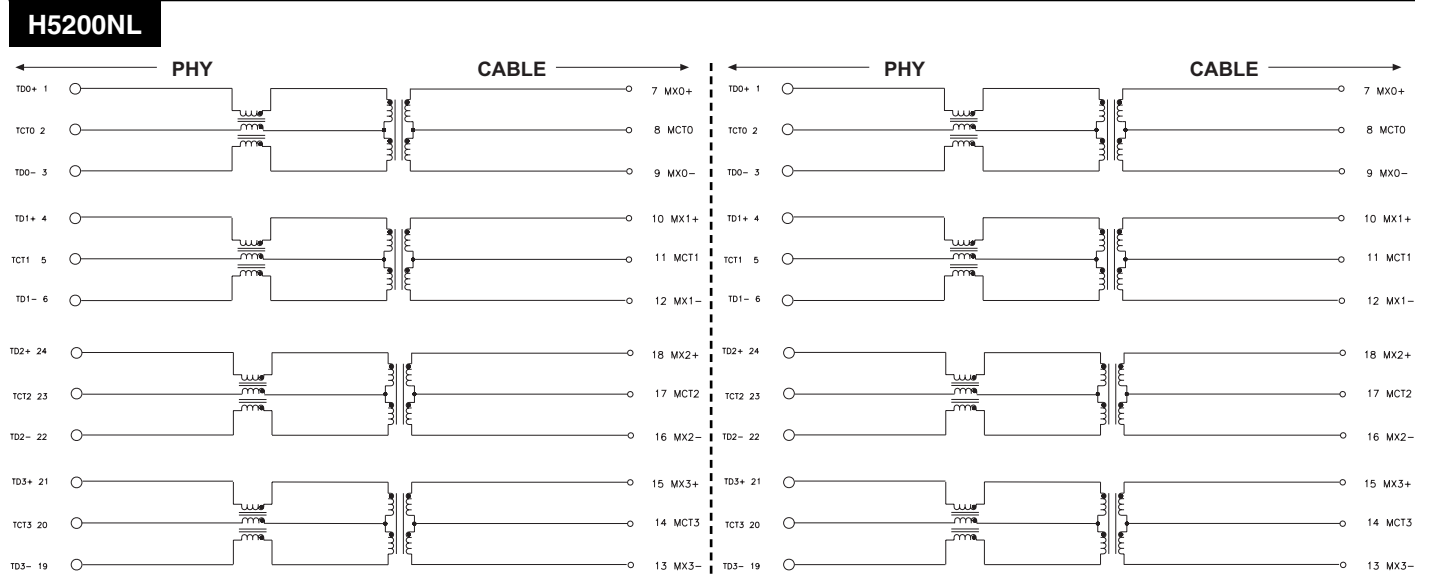
Schematics for quad ports

# GIGABIT (10/100/1000 BASE-T) QUAD/DUAL TRANSFORMER MODULES & UNFILTERED CONNECTORS

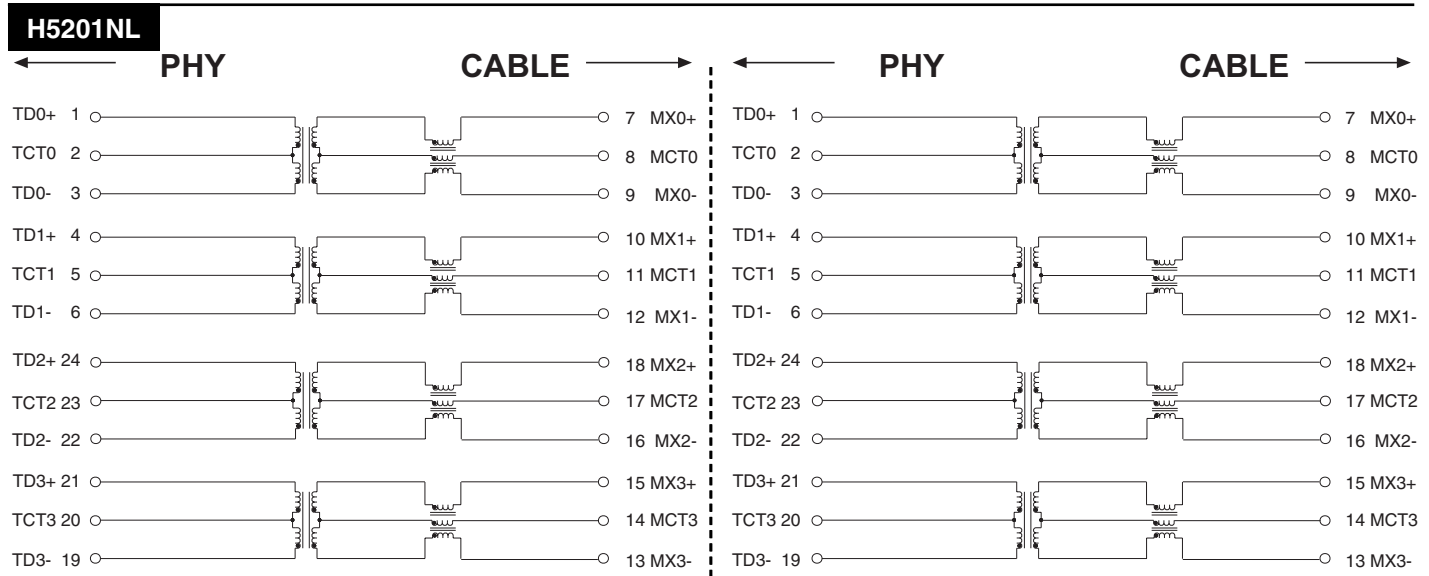
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## Schematics (continued)



Schematics for dual ports



Schematics for dual ports

# GIGABIT (10/100/1000 BASE-T) QUAD/DUAL TRANSFORMER MODULES & UNFILTERED CONNECTORS

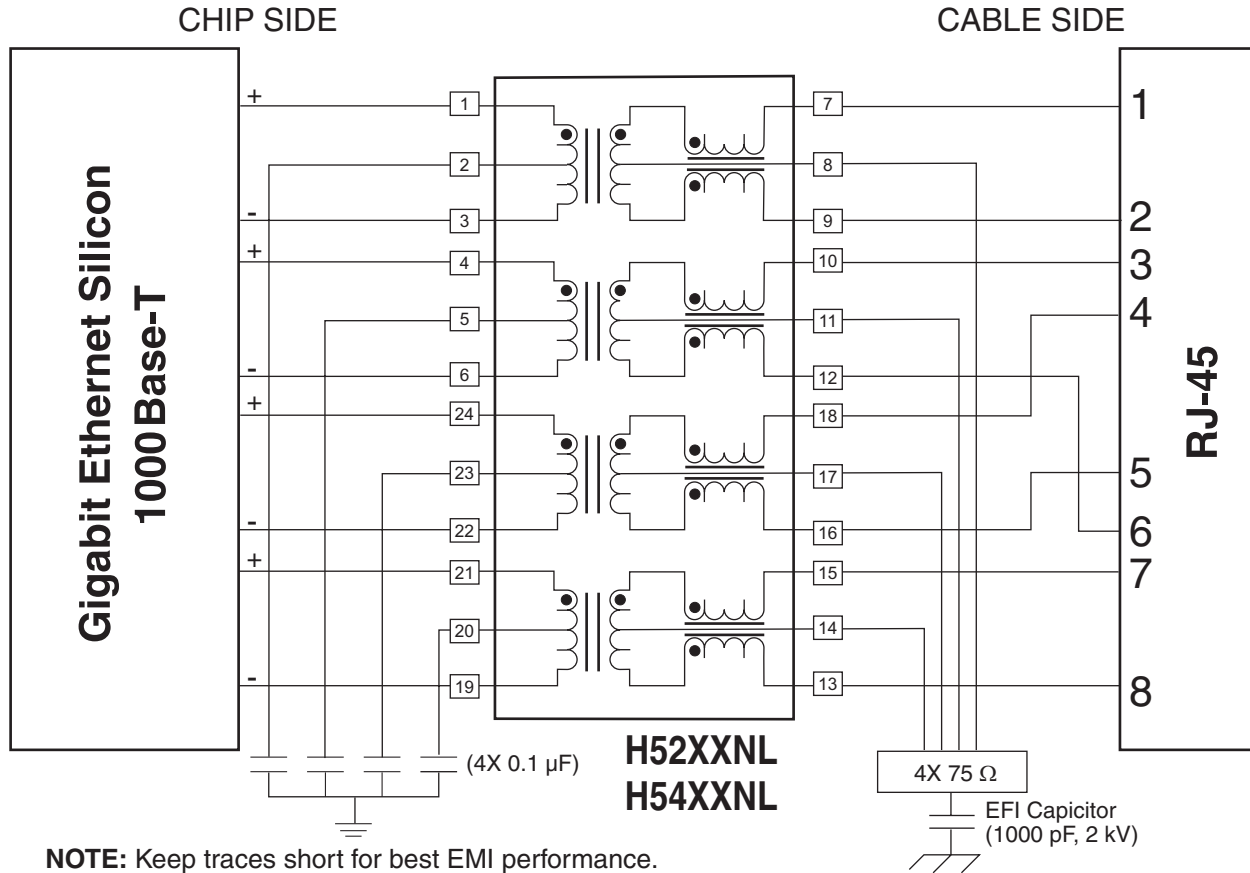
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## Application Notes

**H5200NL, H5201NL, H5400NL, H5401NL**

### Gigabit Circuit



### For More Information:

#### Pulse Worldwide Headquarters

12220 World Trade Dr.  
San Diego, CA 92128  
U.S.A.

[www.pulseeng.com](http://www.pulseeng.com)

Tel: 858 674 8100  
Fax: 858 674 8262

#### Pulse Europe

Einsteinstrasse 1  
D-71083 Herrenberg  
Germany

Tel: 49 7032 7806  
Fax: 49 7032 7806 135

#### Pulse China Headquarters

B402, Shenzhen  
Tech-Innovation International  
Tenth Kejinan Rd.  
High-Tech Industrial Park  
Nanshan District, Shenzhen  
China

Tel: 86 755 33966678  
Fax: 86 755 33966700

#### Pulse North China

Room 1503  
XinYin Building  
No. 888 YiShan Rd.  
Shanghai 200233  
China

Tel: 86 21 54643211/2  
Fax: 86 21 54643210

#### Pulse South Asia

150 Kampong Ampat  
#07-01/02  
KA Centre  
Singapore 368324

Tel: 65 6287 8998  
Fax: 65 6280 0080

#### Pulse North Asia

No. 26  
Kao Ching Rd.  
Yang Mei Chen  
Taoyuan Hsien  
Taiwan, R. O. C.

Tel: 886 3 4641811  
Fax: 886 3 4641911

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