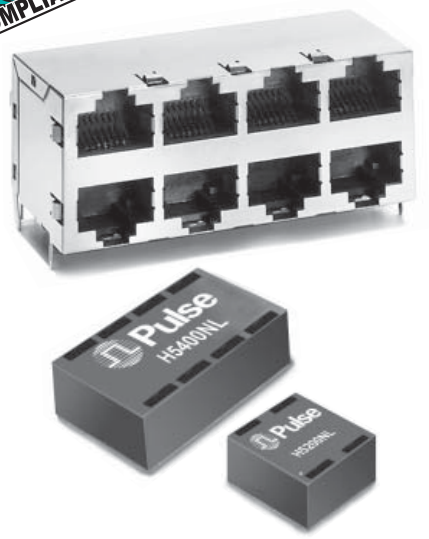
GIGABIT (10/100/1000 BASE-T QUAD- & DUAL-TRANSFORMER MODULES AND UNFILTERED CONNECTORS

Designed to Support PoE, Auto MDIX

Pulse
A TECHNITROL COMPANY

RoHS COMPLIANT



- World's smallest Gigabit Quad- and Dual-isolation transformer modules
- 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 Numaber	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	1-30 MHz	40 MHz	50 MHz	60-80 MHz	100 MHz	30 MHz	60 MHz	100 MHz	30 MHz	60 MHz	100 MHz	
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
HX5200NL	2	1	-18	-18	-16	-12	-10	-43	-37	-33	-43	-37	-33	1500
HX5201NL	2	1	-18	-18	-16	-12	-10	-43	-37	-33	-43	-37	-33	1500
HX5400NL	4	1	-18	-18	-16	-12	-10	-43	-37	-33	-43	-37	-33	1500
HX5401NL	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. **HX** = operating temperature: -40°C to +85°C (extended temperature)

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

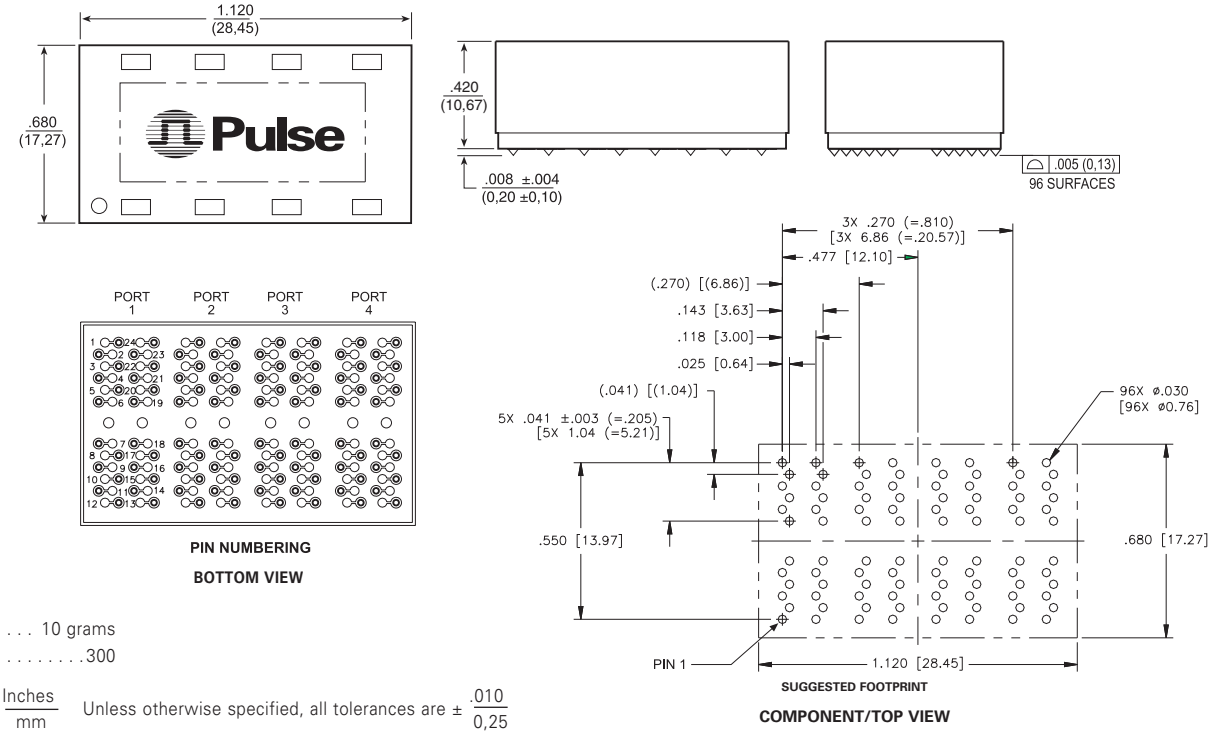
RoHS-6	Mounting, Tab Position	Number of Ports	Package Dimensions L/W/H (mm)	Solder Temperature (35 seconds)	LED Option	Plating
E6588-22A225-L	THT, Tab Down	1x2	31.24 / 21.35 / 13.6	230°C - 250°C	No LED's	Gold Plating Over Nickel
E6588-22C244-L	THT, Tab Down	1x4	59.18 / 21.35 / 13.6	230°C - 250°C	No LED's	Gold Plating Over Nickel
E6588-A5N125-L	THT, Tab Up/Down	2x2	25.35 / 31.24 / 25.3	230°C - 250°C	No LED's	Gold Plating Over Nickel
E6588-A59125-L	THT, Tab Up/Down	2x4	59.18 / 28.35 / 25.3	230°C - 250°C	No LED's	Gold Plating Over Nickel

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

Designed to Support PoE, Auto MDIX

Mechanicals

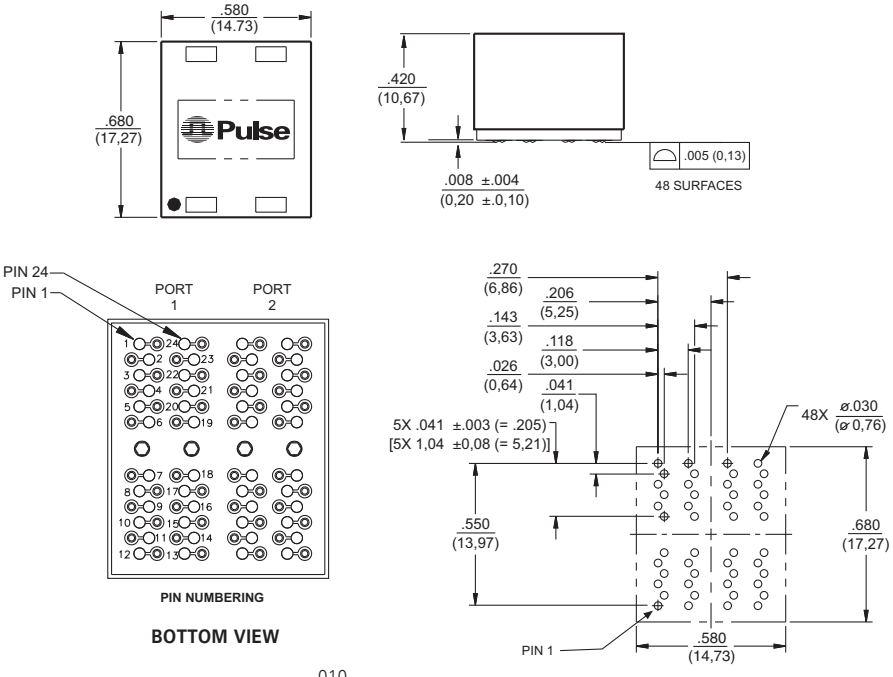
H5400NL, H5401NL, HX5400NL, HX5401NL



Weight. . . . . 10 grams
Tray 300

Dimensions: Inches / mm Unless otherwise specified, all tolerances are ± .010 / 0,25

H5200NL, H5201NL, HX5200NL, HX5201NL



Weight . . . . . 5 grams
Tray 600

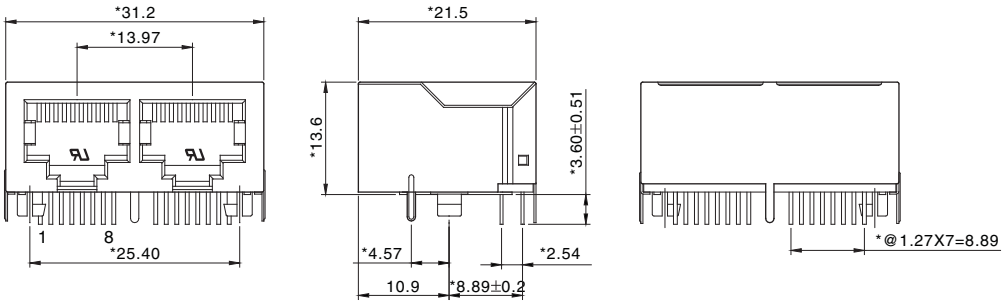
Dimensions: Inches / mm Unless otherwise specified, all tolerances are ± .010 / 0,25

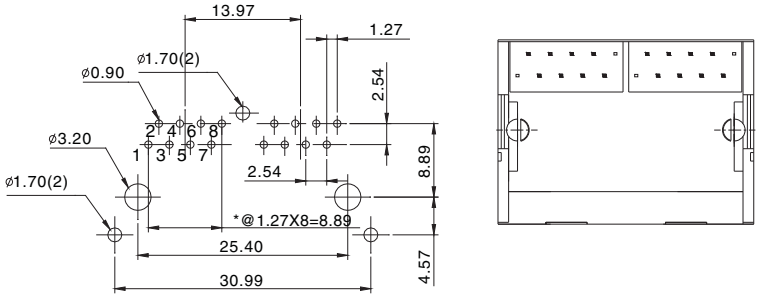
GIGABIT (10/100/1000 BASE-T QUAD- & DUAL-TRANSFORMER MODULES AND UNFILTERED CONNECTORS

Designed to Support PoE, Auto MDIX

Mechanicals *(continued)*

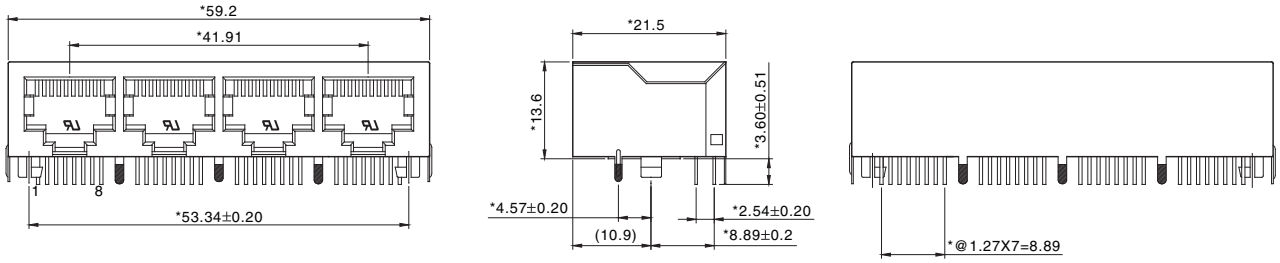
E6588-22A225-L

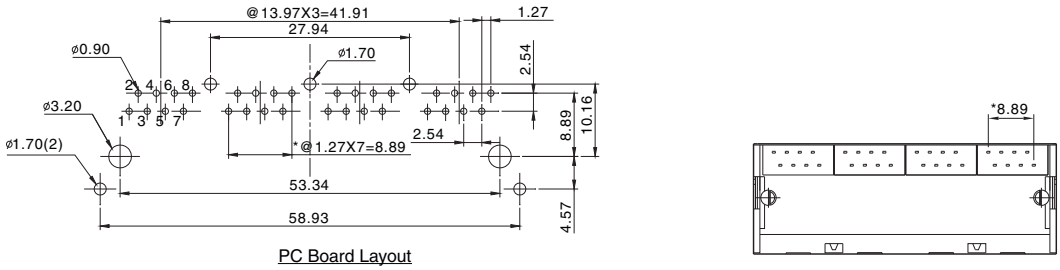




PC Board Layout
Component Side Shown

E6588-22C244-L





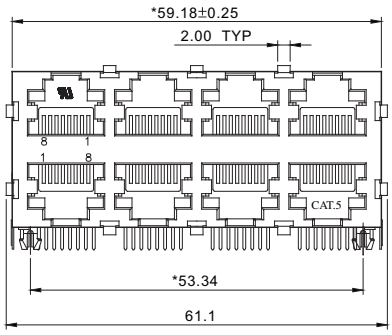
PC Board Layout
Component Side Shown

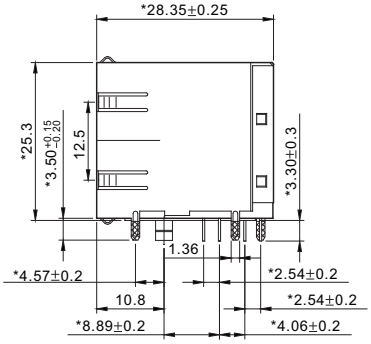
GIGABIT (10/100/1000 BASE-T QUAD- & DUAL-TRANSFORMER MODULES AND UNFILTERED CONNECTORS

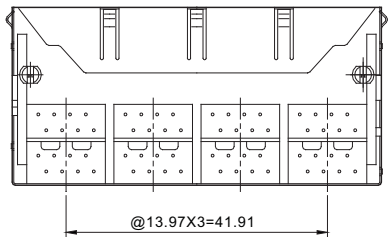
Designed to Support PoE, Auto MDIX

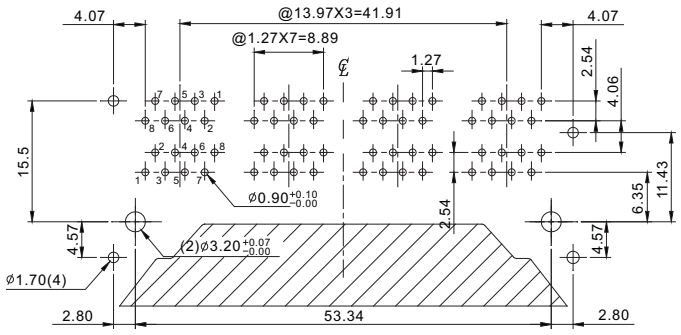
Mechanicals *(continued)*

E6588-A59125-L



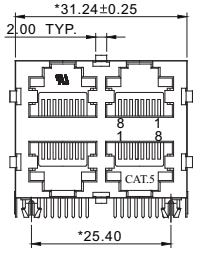


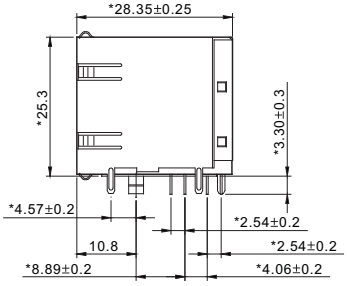


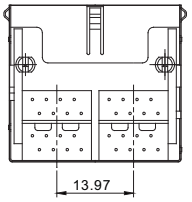


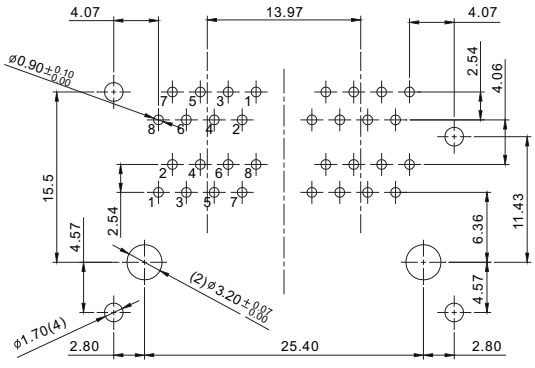
PC Board Layout
Component Side Shown

E6588-G5N125-L









PC Board Layout
Component Side Shown

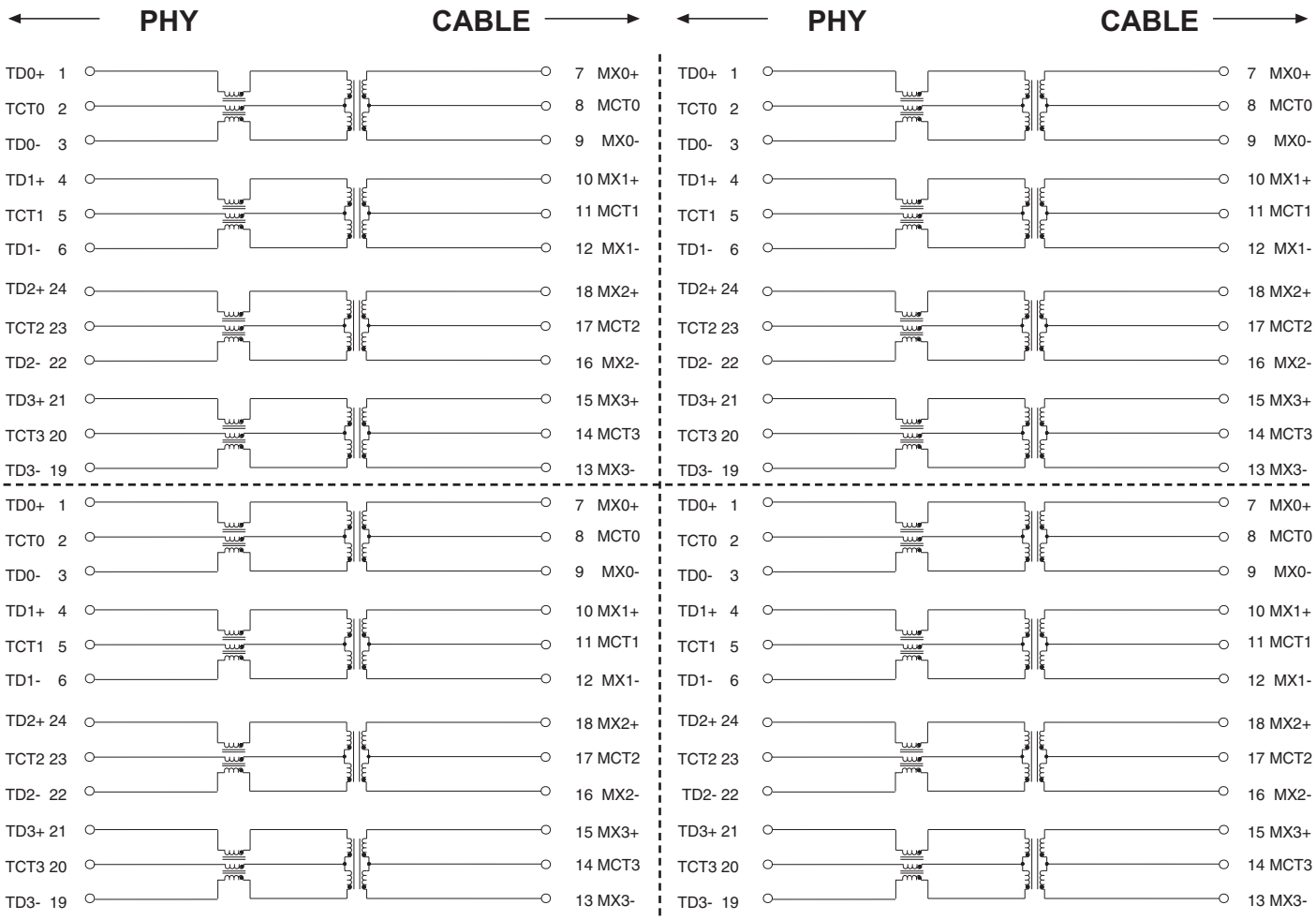
GIGABIT (10/100/1000 BASE-T QUAD- & DUAL-TRANSFORMER MODULES AND UNFILTERED CONNECTORS

Designed to Support PoE, Auto MDIX

Pulse A TECHNITROL COMPANY

Schematics

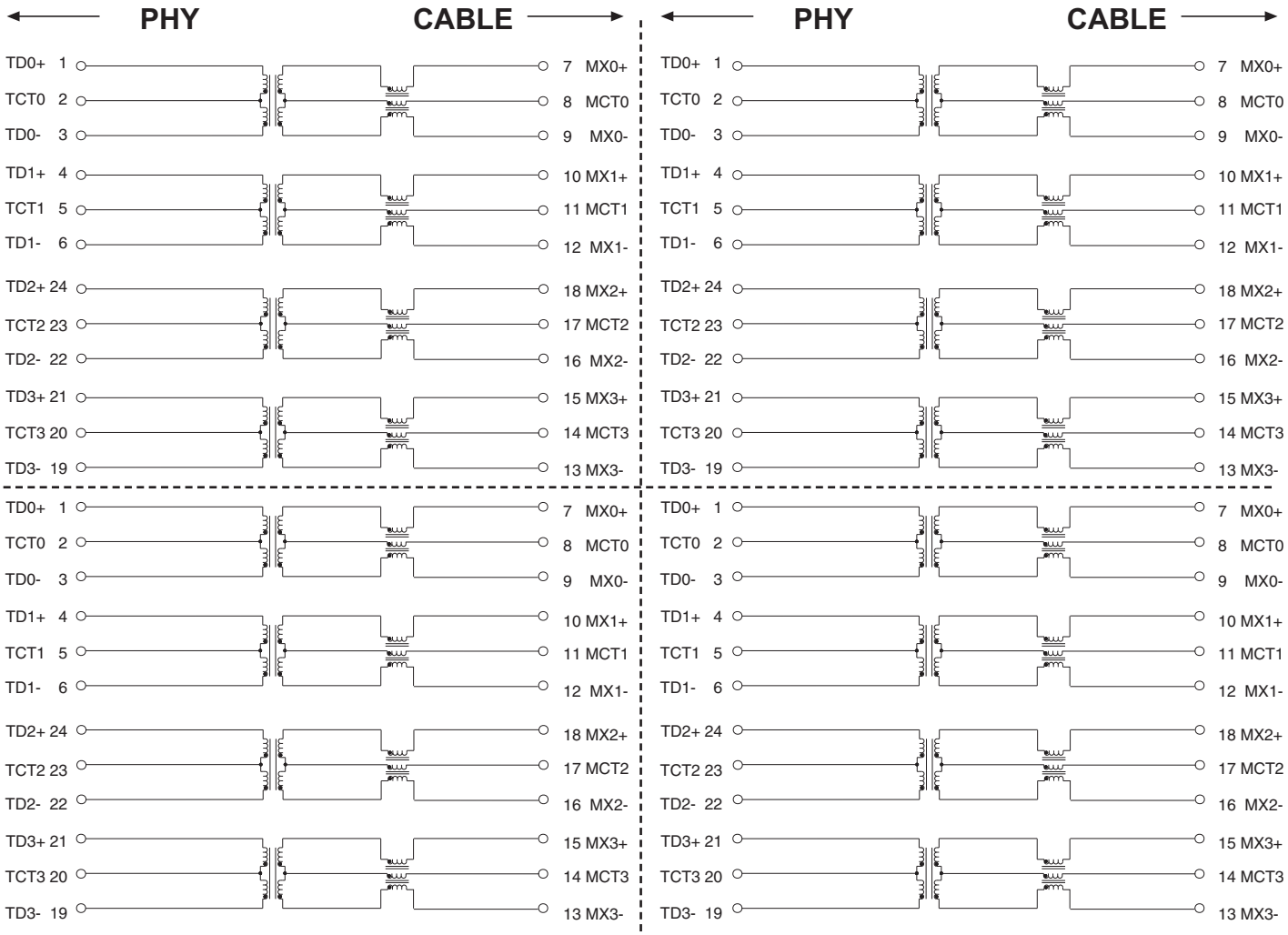
H5400NL, HX5400NL



Schematics for quad ports

Schematics *(continued)*

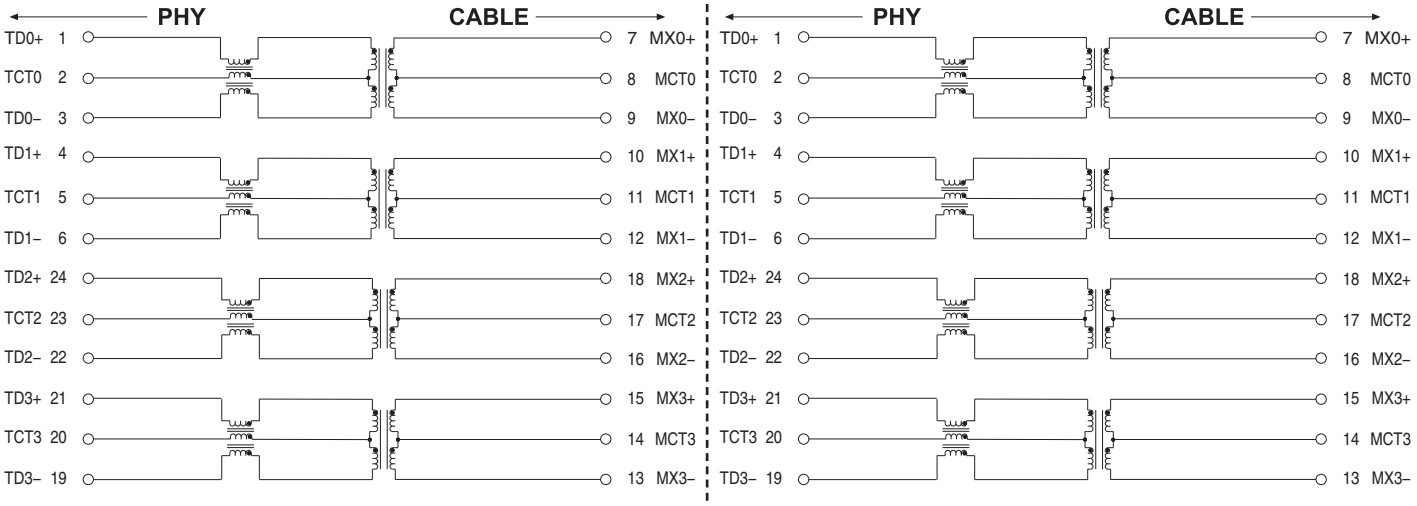
H5401NL, HX5401NL



Schematics for quad ports

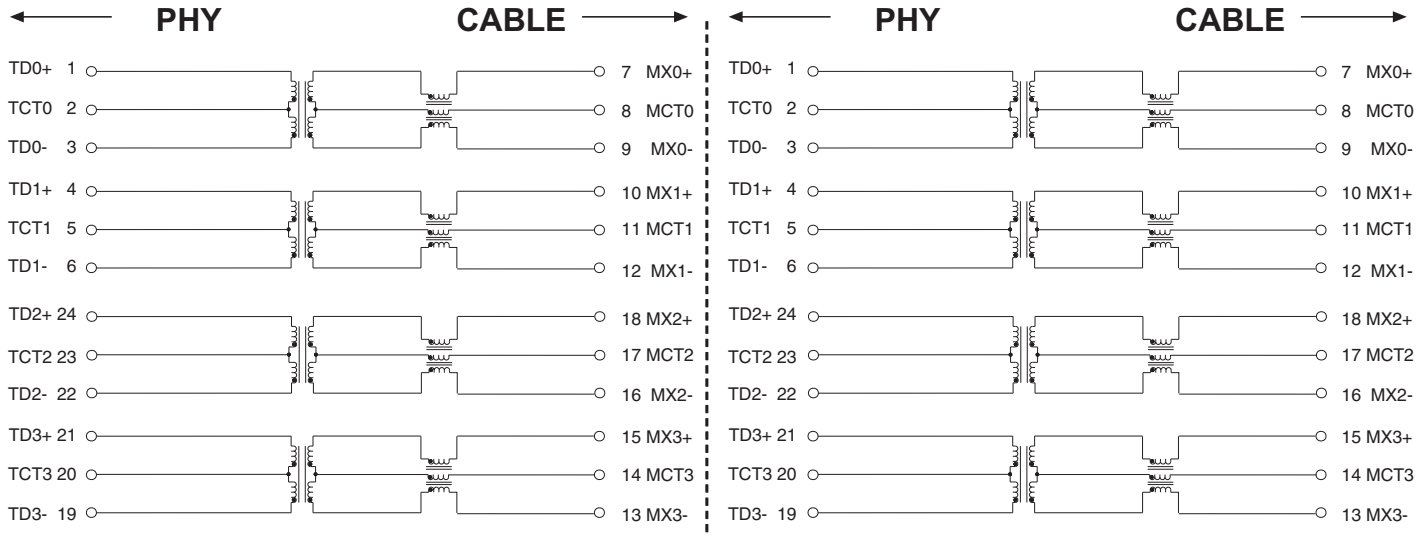
Schematics *(continued)*

H5200NL, HX5200NL



Schematics for dual ports

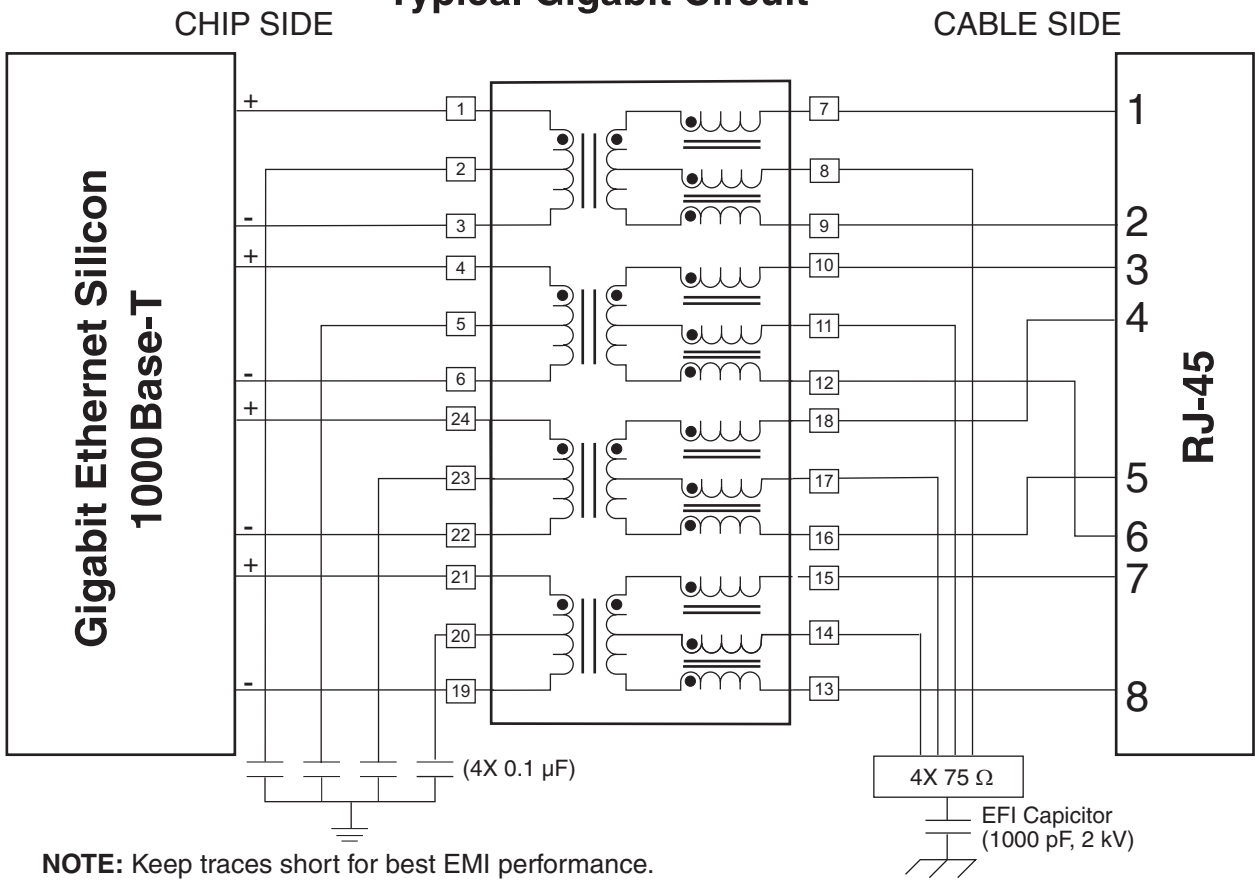
H5201NL, HX5201NL



Schematics for dual ports

Application Circuit

Typical Gigabit Circuit



NOTE: Keep traces short for best EMI performance.

For More Information:

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

www.pulseeng.com
Tel: 858 674 8100
Fax: 858 674 8262

Pulse Europe
Einsteinstrasse 1
D-71083 Herrenberg
Germany

Tel: 49 7032 7806 0
Fax: 49 7032 7806 135

Pulse China Headquarters
B402, Shenzhen Academy of Aerospace Technology Bldg.
10th Kejinan Rd.
High-Tech Zone
Nanshan District
Shenzen, R. O. China 518057
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
135 Joo Seng Rd.
#03-02
PM Industrial Bldg.
Singapore 368363

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 4643715
Fax: 886 3 4641911

Performance warranty of products offered on this data sheet is limited to the parameters specified. Data is subject to change without notice. Other brand and product names mentioned herein may be trademarks or registered trademarks of their respective owners.

© Copyright, 2010. Pulse Engineering, Inc. All rights reserved.

Общество с ограниченной ответственностью «МосЧип» ИНН 7719860671 / КПП 771901001
Адрес: 105318, г.Москва, ул.Щербаковская д.3, офис 1107

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

http://moschip.ru/get-element

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:
moschip.ru
moschip.ru_4
moschip.ru_6
moschip.ru_9