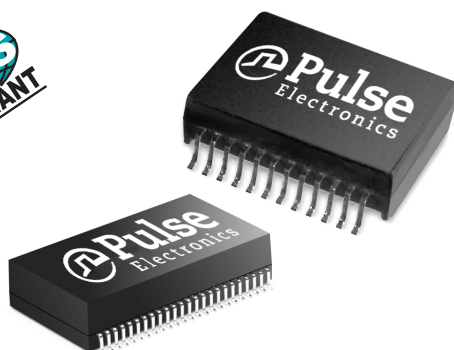


Designed to Support 1:1 Turns Ratio Transceivers



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

RoHS 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	1-30 MHz	40 MHz	50 MHz	60-80 MHz	100 MHz	30 MHz	60 MHz	100 MHz	30 MHz	60 MHz	100 MHz	
H5004NL ^{3d}	1	1	-18	-18	-16	-12	-10	-43	-37	-33	-43	-37	-33	1500
HX5004NL ^{1,3d}	1	1	-18	-18	-16	-12	-10	-43	-37	-33	-43	-37	-33	1500
H5007NL ^{3d}	1	1	-18	-18	-16	-12	-10	-43	-37	-33	-43	-37	-33	1500
H5008NL ^{3a}	1	1	-18	-18	-16	-12	-10	-43	-37	-33	-43	-37	-33	1500
HX5008NL ^{1,3a}	1	1	-18	-18	-16	-12	-10	-43	-37	-33	-43	-37	-33	1500
H5009NL ^{3a}	1	1	-18	-18	-16	-12	-10	-43	-37	-33	-43	-37	-33	1500
H5012NL ^{3a}	2	1.4	-18	-16	-14.4	-12	-10	-45	-40	-35	-43.5	-37.5	-33	1500
H5014NL ^{3a}	2	1.4	-18	-16	-14.4	-12	-10	-45	-40	-35	-43.5	-37.5	-33	1500
HX5014NL ^{1,3a}	2	1.4	-18	-16	-14.4	-12	-10	-45	-40	-35	-43.5	-37.5	-33	1500
H5015NL ^{3a}	1	1	-18	-18	-16	-12	-10	-43	-37	-33	-43	-37	-33	1500
H5020NL ^{3a}	2	1	-18	-16	-14.4	-12	-10	-40	-35	-30	-40	-33	-28	1500
HX5020NL ^{1,3a}	2	1.4	-18	-16	-14.4	-12	-10	-40	-35	-30	-40	-33	-28	1500
H5089NL ^{3a}	2	1.4	-18	-16	-14.4	-12	-10	-45	-40	-35	-43.5	-37.5	-33	1500

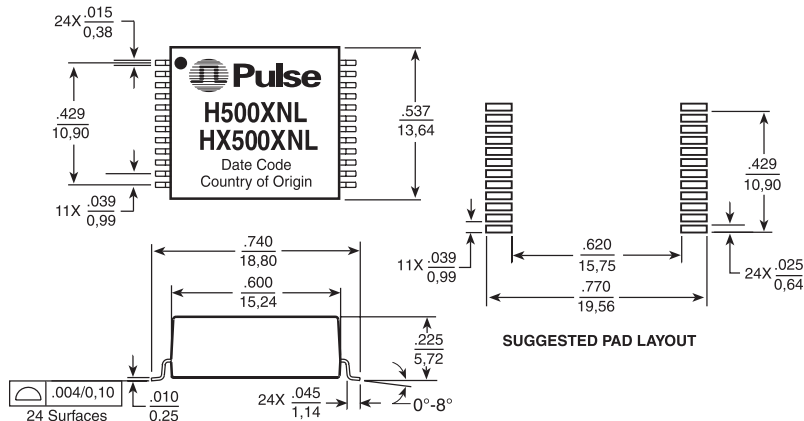
1. HX = extended temperature version -40°C to +85°C
2. For Tape & Reel packaging, add a "T" suffix at the end of the part number, e.g. H5007NLT.
3. MSL = Moisture Sensitivity Level: a = 1, b = 2, c = 3, d = 4

H5004NL, HX5004NL*, H5007NL*

The mechanical drawing illustrates the dimensions for the HX5004NL package across three views:

- Top View:** Shows the overall footprint with a width of .690 (17.53) and a length of .630 (16.00). The pin pitch is .050 (1.27), with 11 pins on each long edge. A date code and manufacturer's mark are indicated.
- Side View:** Shows the package height as .480 (12.20) and a total thickness of .630 (16.00). It also indicates a lead thickness of .020 (0.51).
- Suggested Pad Layout:** Provides detailed dimensions for the mounting pads, including a center-to-center distance of .550 (13.97) between pin groups, individual pad widths of .24X (.030 / 0.76), and a recommended solder mask clearance of .045 (1.14).

H5008NL, H5009NL, HX5008NL, H5089NL

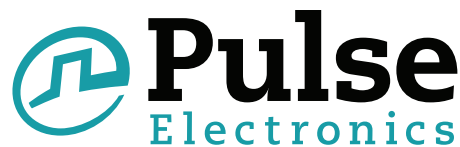


Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified, all tolerances are $\pm \begin{matrix} .010 \\ 0.25 \end{matrix}$

Weight..... 1.6 grams
Tape & Reel 300
Tube..... 25

1000BASE-T MAGNETICS MODULE

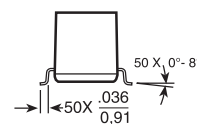
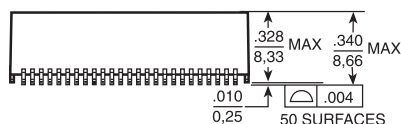
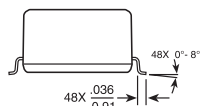
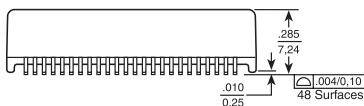
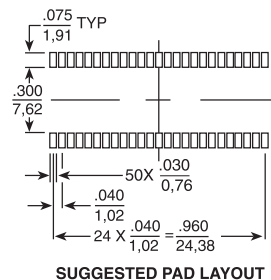
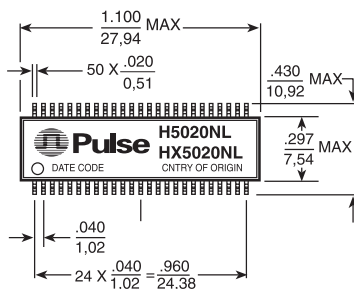
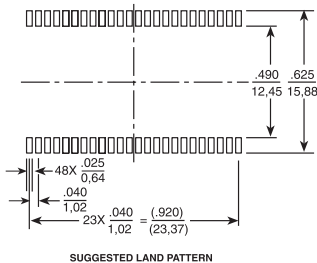
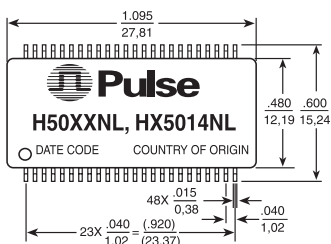
Designed to Support 1:1 Turns Ratio Transceivers



Mechanicals (continued)

H5012NL, H5014NL, HX5014NL, H5089NL

H5020NL, HX5020NL

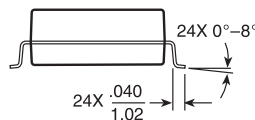
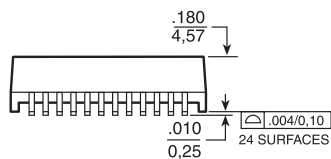
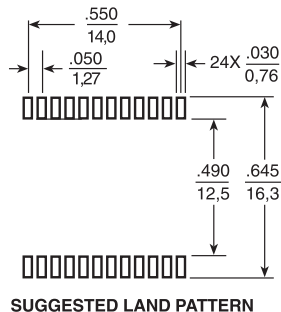
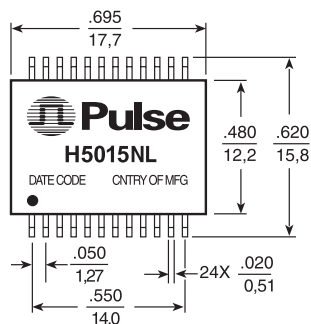


Weight 4.0 grams
Tape & Reel 250/reel
Tube 15/tube

Dimensions: Inches _____
mm _____
Unless otherwise specified, all tolerances are $\pm .005$ _____
0,13

Weight 1.6 grams
Tape & Reel 250/reel
Tube 15/tube

H5015NL

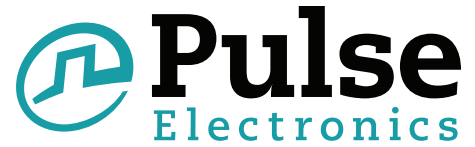


Weight 1.5 grams
Tape & Reel 400/reel

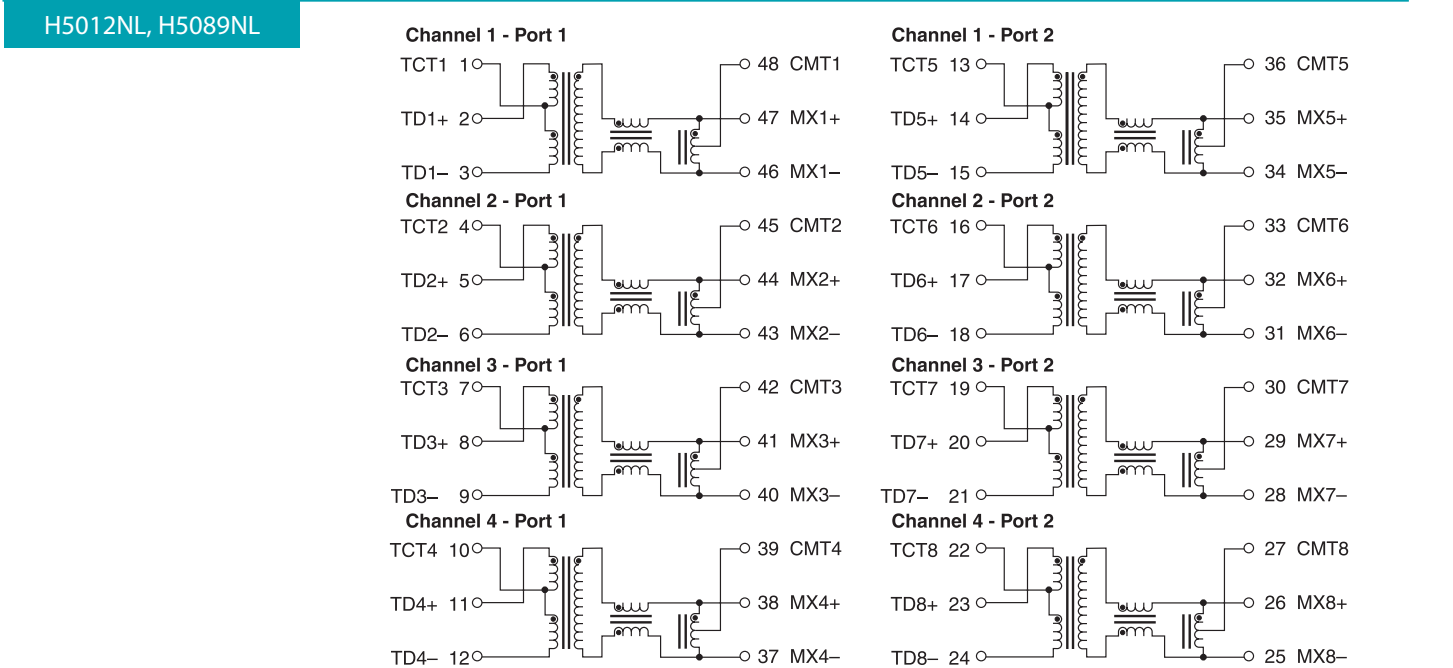
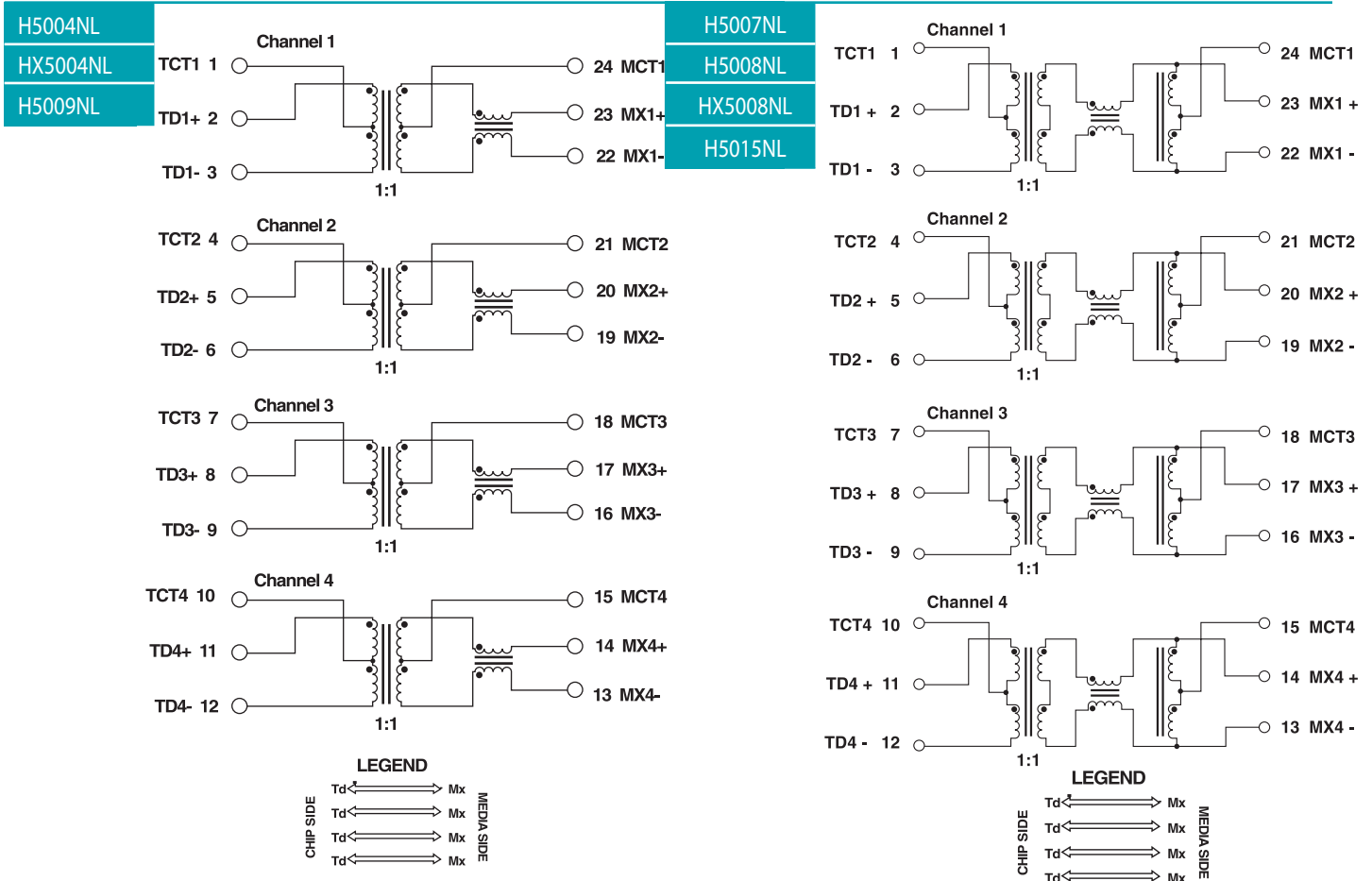
Dimensions: Inches _____
mm _____
Unless otherwise specified, all tolerances are $\pm .005$ _____
0,13

1000BASE-T MAGNETICS MODULE

Designed to Support 1:1 Turns Ratio Transceivers

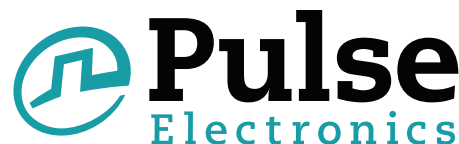


Schematics



1000BASE-T MAGNETICS MODULE

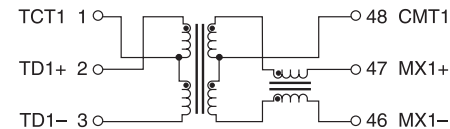
Designed to Support 1:1 Turns Ratio Transceivers



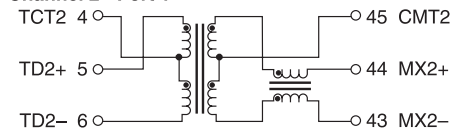
Schematics (continued)

H5014NL, HX5014NL

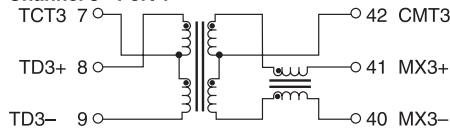
Channel 1 - Port 1



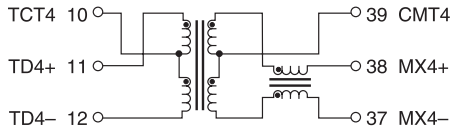
Channel 2 - Port 1



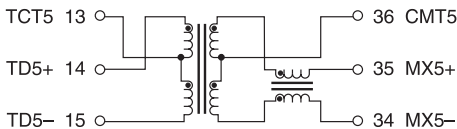
Channel 3 - Port 1



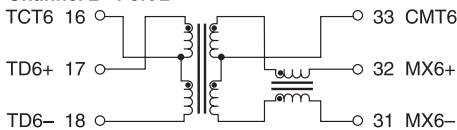
Channel 4 - Port 1



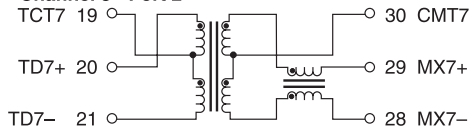
Channel 1 - Port 2



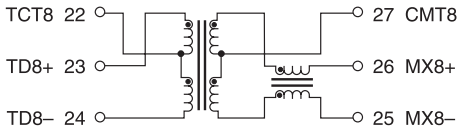
Channel 2 - Port 2



Channel 3 - Port 2

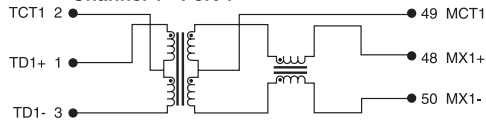


Channel 4 - Port 2

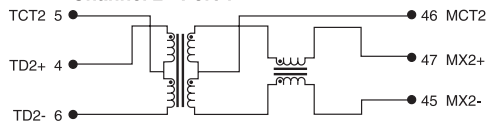


H5020NL, HX5020NL

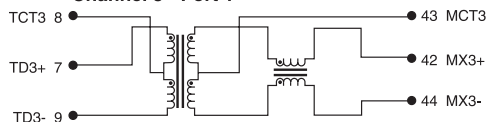
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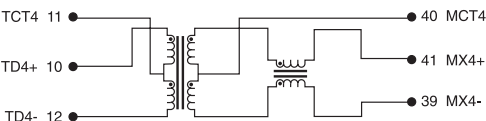
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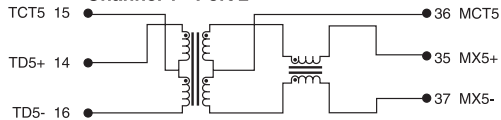
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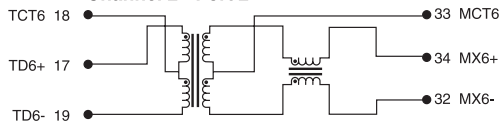
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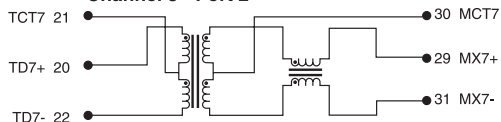
Channel 1 - Port 2



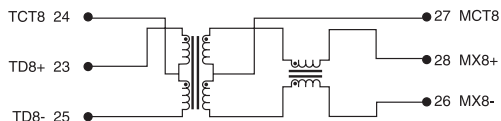
Channel 2 - Port 2



Channel 3 - Port 2



Channel 4 - Port 2



For More Information:

**Pulse North America
Headquarters**
12220 World Trade Dr.
San Diego, CA 92128
U.S.A.

**Pulse Europe
Headquarter**
Zeppelinstrasse 15
71083 Herrenberg
Germany

Pulse China Headquarters
B402, Shenzhen Academy of
Aerospace Technology Bldg.
10th Kejinan Rd.
High-Tech Zone
Nanshan District
Shenzhen, PR China 518057
Tel: 86 755 33966678
Fax: 86 755 33966700

Pulse North China
Room 2704/2705
Super Ocean Finance Ctr.
No. 2067 Yan An Rd. West
Shanghai 200336
China
Tel: 8621 6278 7060
Fax: 8621 6278 6973

Pulse South Asia
135 Joo Seng Rd.
#03-02
PM Industrial Bldg.
Singapore 368363
Tel: 65 6287 8998
Fax: 65 6287 8998

Pulse North Asia
3F, No. 198
Zhongyuan Rd.
Zhongli City
Taoyuan County 320
Taiwan R. O. C.
Tel: 886 3 4356768
Fax: FRE 886 3 4356820
Pulse: 886 3 4356823

Tel: 858 674 8100
Fax: 858 674 8262

Tel: 49 7032 7806 0
Fax: 49 7032 7806 12

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