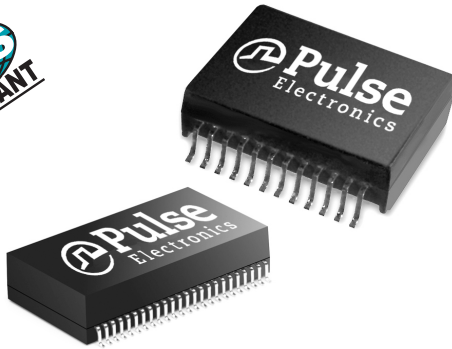
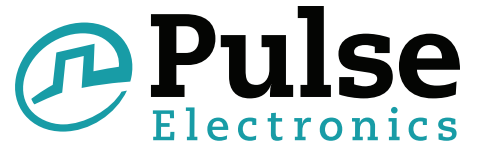


1000BASE-T MAGNETICS MODULE

Designed to Support 1:1 Turns Ratio Transceivers



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

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

| 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 | |
| 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

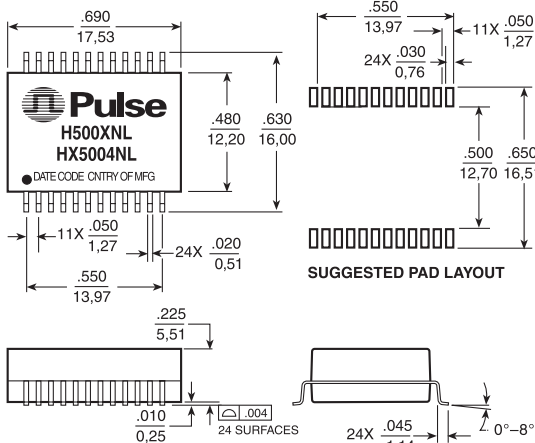
3. MSL = Moisture Sensitivity Level: a = 1, b = 2, c = 3, d = 4

2. For Tape & Reel packaging, add a "T" suffix at the end of the part number, e.g. H5007NLT.

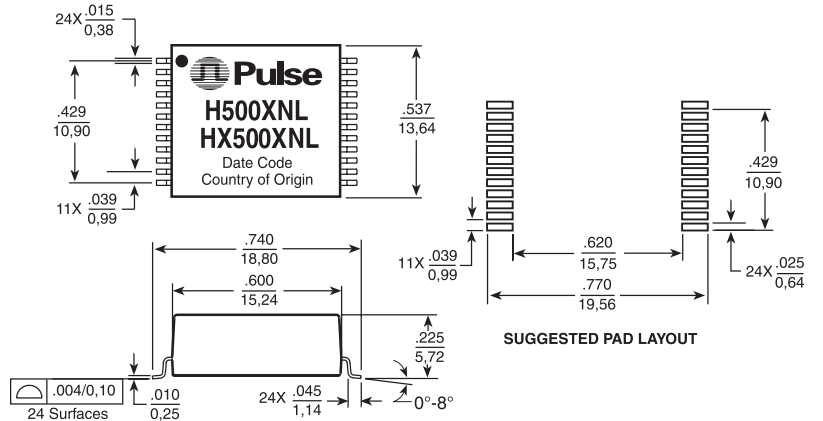
Mechanicals

H5004NL, HX5004NL*, H5007NL*

H5004NL, H5007NL, and HX5004NL are footprint-compatible to 10/100BASE-TX part H1267.



H5008NL, H5009NL, HX5008NL, H5089NL

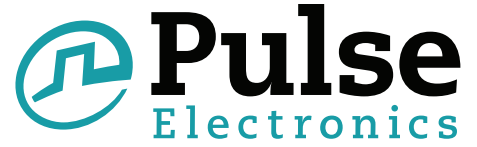


Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified, all tolerances are $\pm .010$ / 0.25

Weight 1.6 grams
Tape & Reel 300
Tube 25

1000BASE-T MAGNETICS MODULE

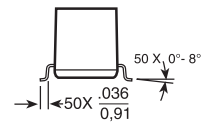
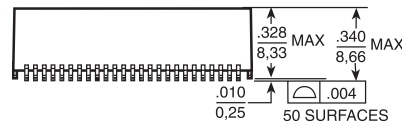
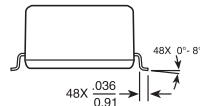
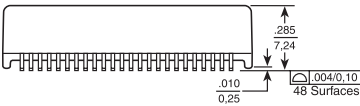
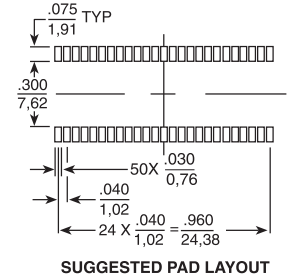
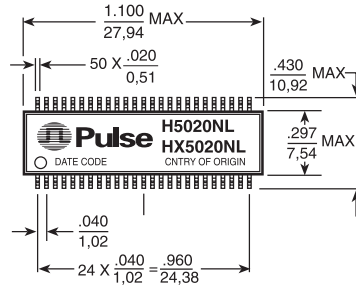
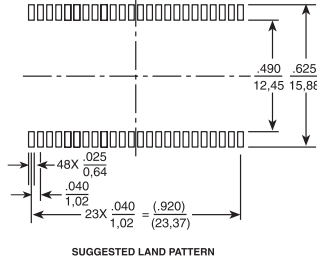
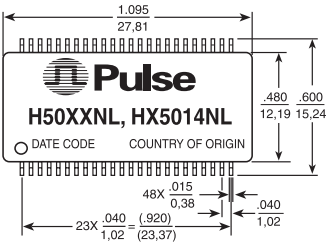
Designed to Support 1:1 Turns Ratio Transceivers



Mechanicals (continued)

H5012NL, H5014NL, HX5014NL, H5089NL

H5020NL, HX5020NL

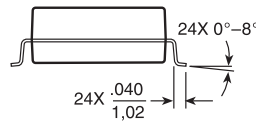
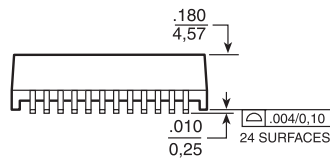
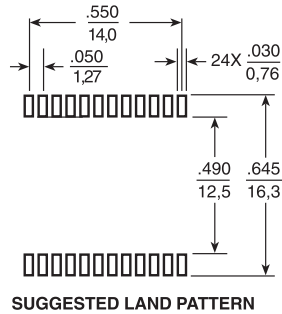
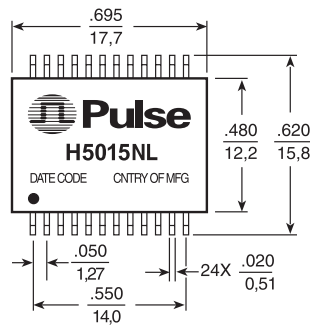


Weight 4.0 grams
Tape & Reel 250/reel
Tube 15/tube

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

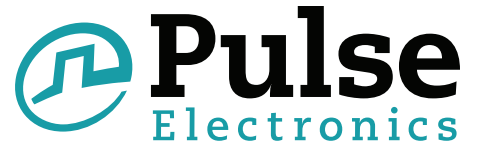


Weight 1.5 grams
Tape & Reel 400/reel

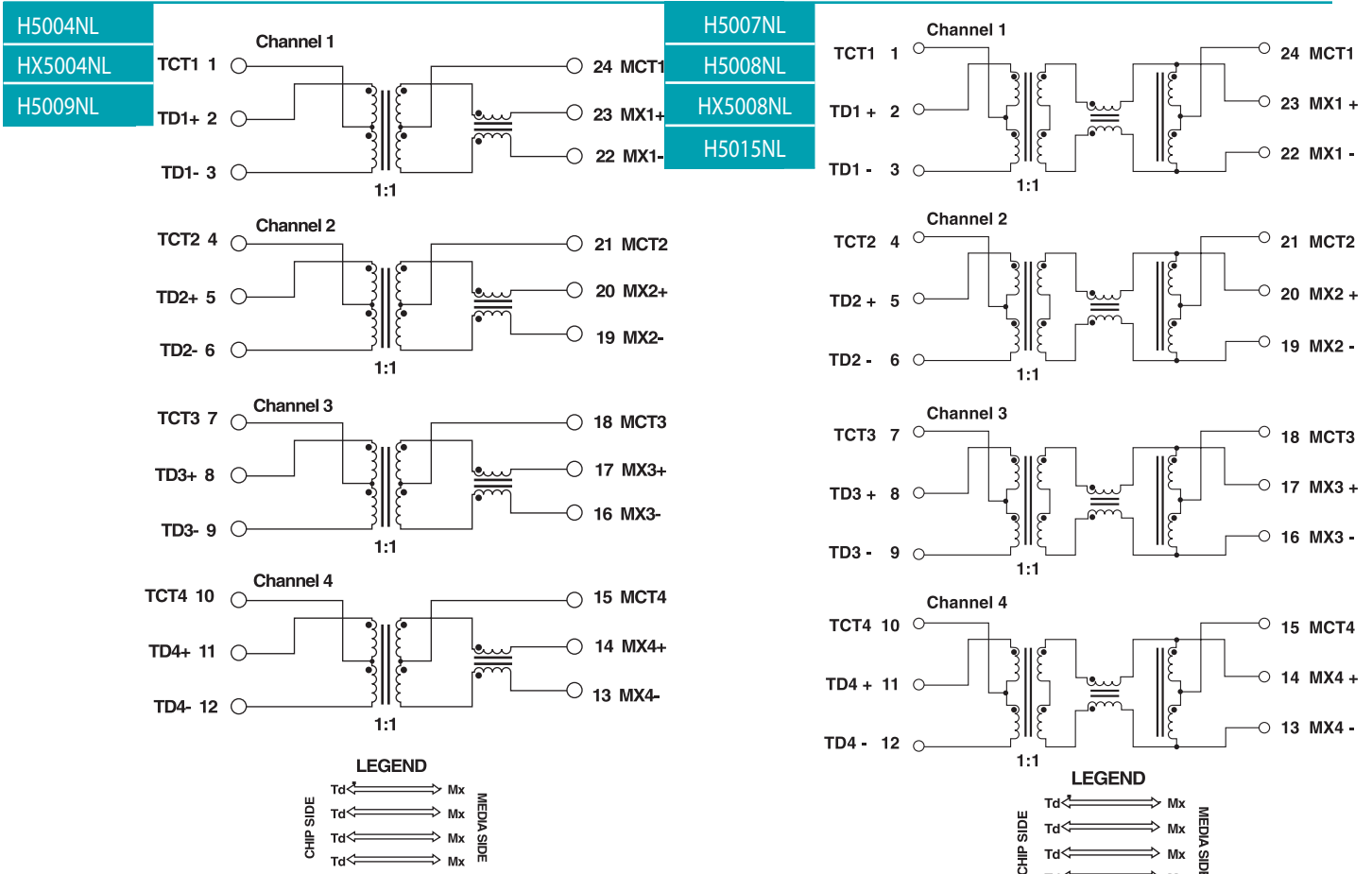
Dimensions: Inches _____
mm _____
Unless otherwise specified, all tolerances are $\pm .005$ _____
 $0,13$ _____

1000BASE-T MAGNETICS MODULE

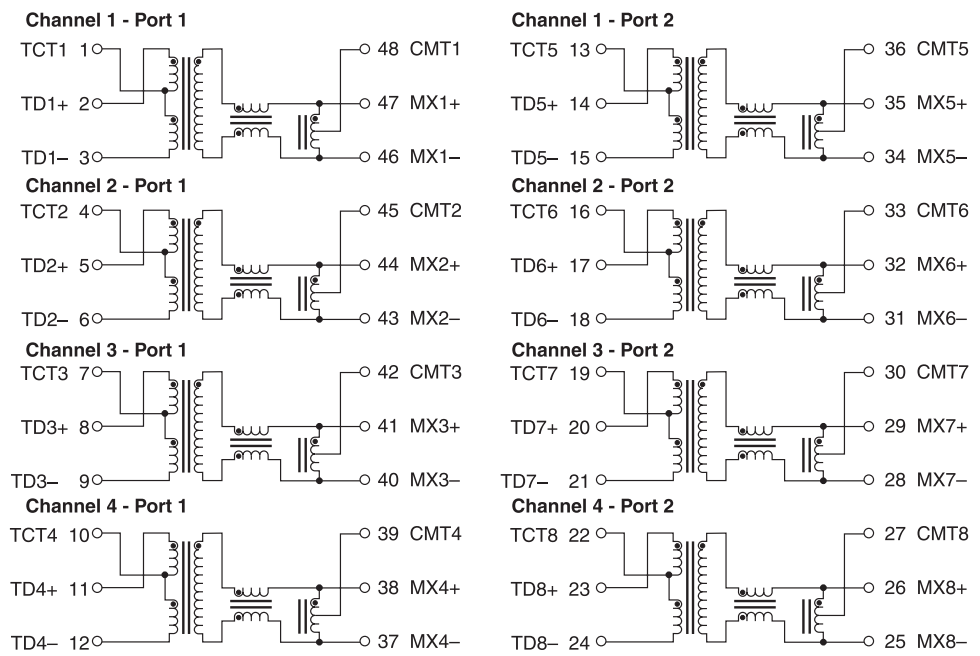
Designed to Support 1:1 Turns Ratio Transceivers



Schematics

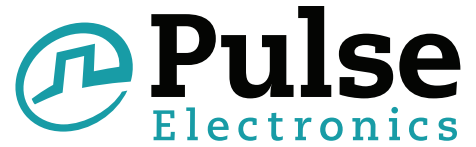


H5012NL, H5089NL



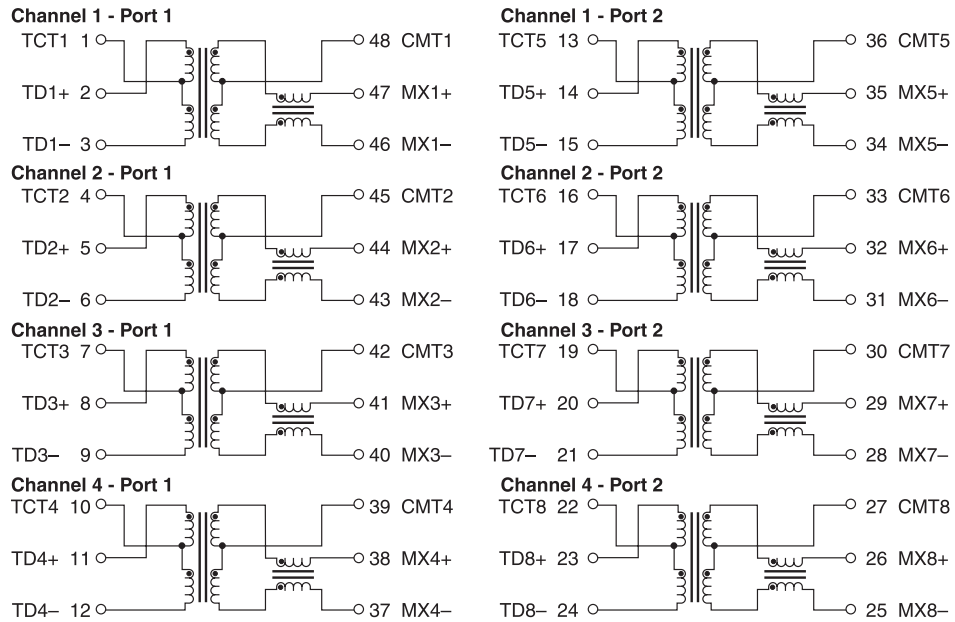
1000BASE-T MAGNETICS MODULE

Designed to Support 1:1 Turns Ratio Transceivers

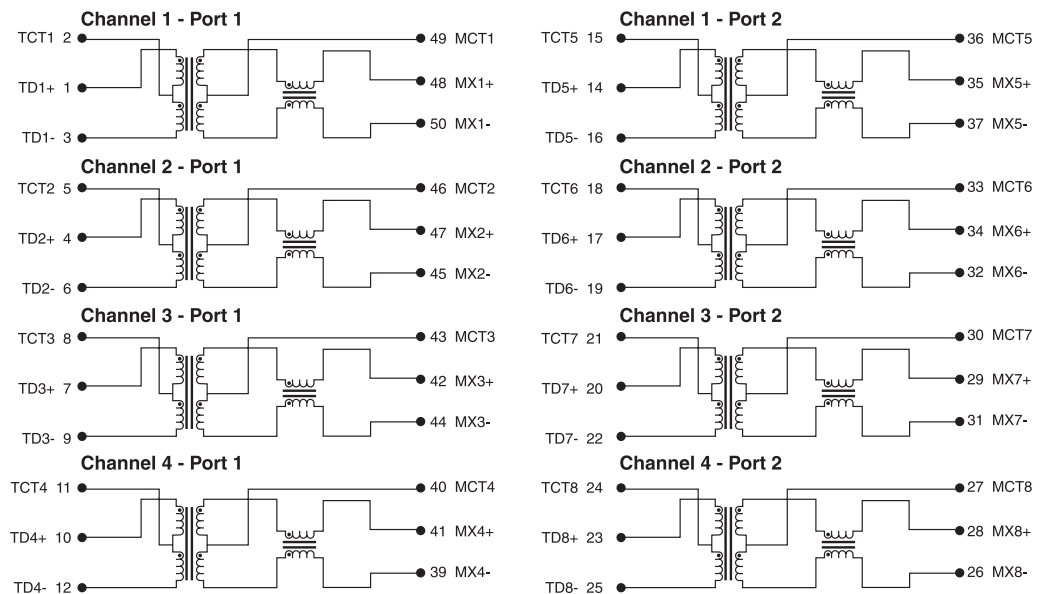


Schematics (continued)

H5014NL, HX5014NL



H5020NL, HX5020NL



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