



# 1000BASE-T MAGNETICSMODULES

## 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

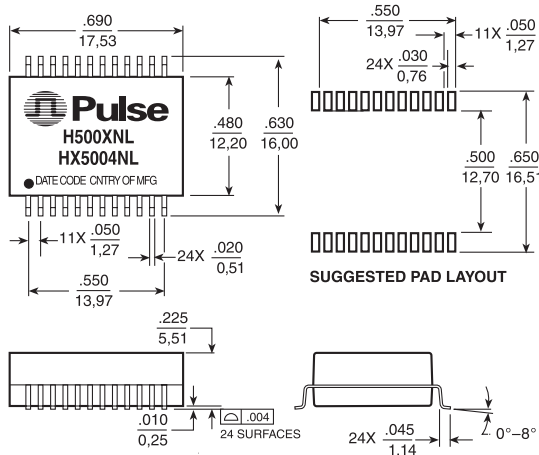
RoHS Compliant Part Number	Number of Ports	Insertion Loss (dB MAX)	Return Loss (dB MIN)					Differential to Common Mode Rejection (dB MIN)			Crosstalk (dB MIN)			Hipot (Vrms)
			1-100 MHz	1-30 MHz	40 MHz	50 MHz	60-80 MHz	100 MHz	30 MHz	60 MHz	100 MHz	30 MHz	60 MHz	
H5004NL 3d	1	1	-18	-18	-16	-12	-10	-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	-16	-14.4	-13.1	-12	-10	-45	-40	-35	-43.5	-37.5	-33	1500
H5014NL 3a	2	1.4	-16	-14.4	-13.1	-12	-10	-45	-40	-35	-43.5	-37.5	-33	1500
HX5014NL 1,3a	2	1.4	-16	-14.4	-13.1	-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	-14.4	-13.1	-12	-10	-40	-35	-30	-40	-33	-28	1500
HX5020NL 1,3a	2	1	-18	-14.4	-13.1	-12	-10	-40	-35	-30	-40	-33	-28	1500
H5089NL 3a	2	1.4	-16	-14.4	-13.1	-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

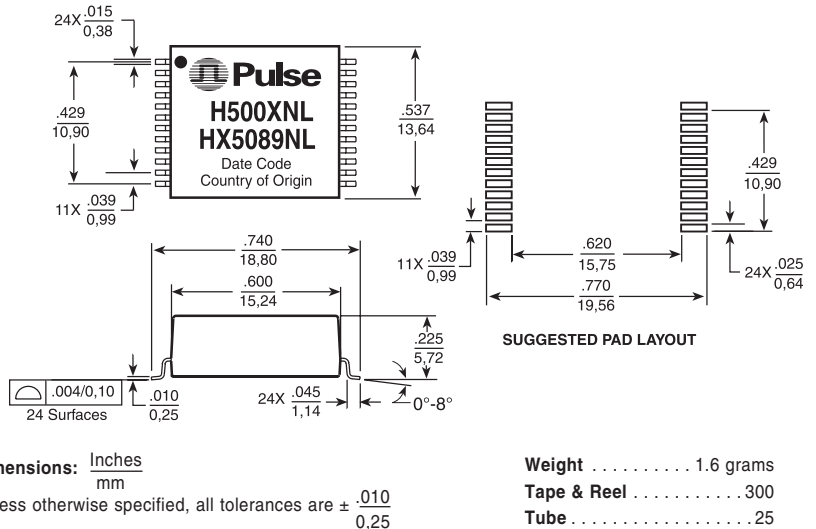
## Mechanicals

### H5004NL, HX5004NL\*, H5007NL\*

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



### H5008NL, H5009NL, HX5008NL



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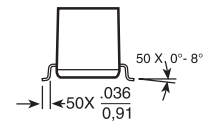
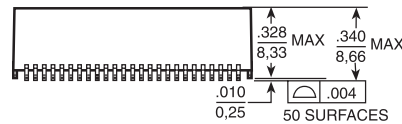
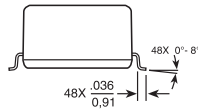
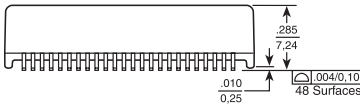
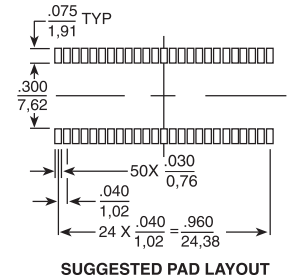
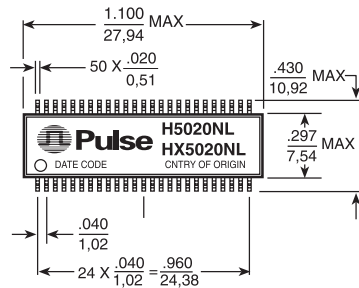
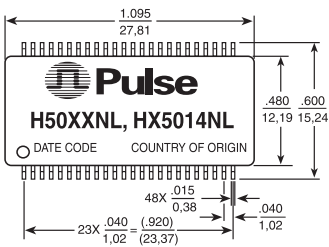
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### Mechanicals (continued)

#### H5012NL, H5014NL, HX5014NL, H5089NL

#### H5020NL, HX5020NL

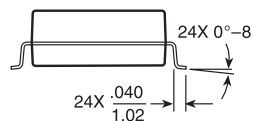
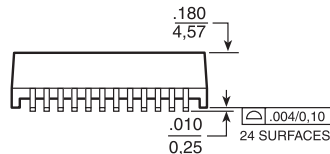
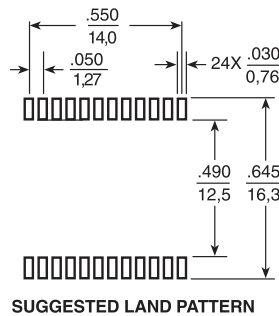
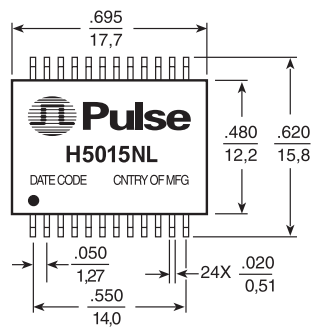


Weight . . . . . 4.0 grams  
Tape & Reel . . . . . 250/reel  
Tube . . . . . 15/tube

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

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

#### H5015NL



Weight . . . . . 1.5 grams  
Tape & Reel . . . . . 400/reel

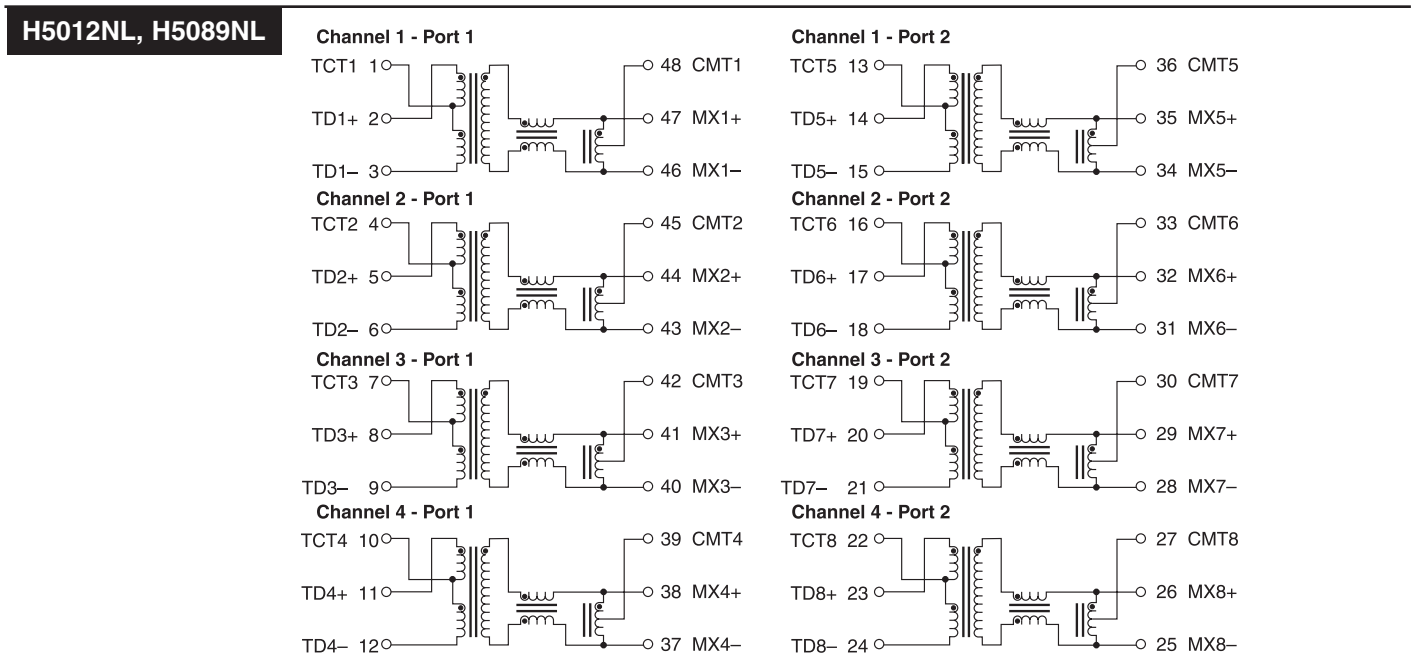
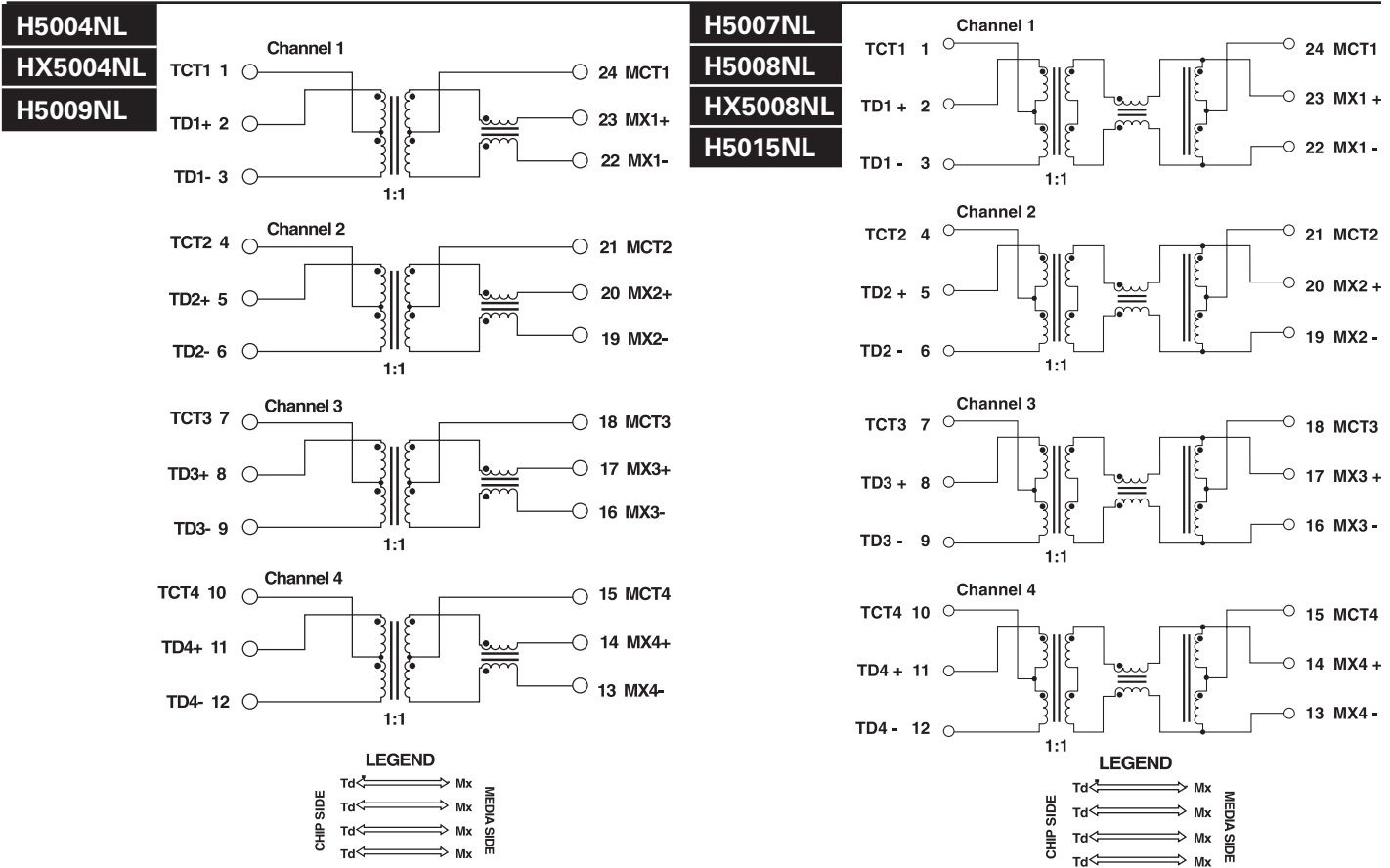
Dimensions:  $\frac{\text{Inches}}{\text{mm}}$   
Unless otherwise specified, all tolerances are  $\pm \frac{.005}{0.13}$

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### Schematics



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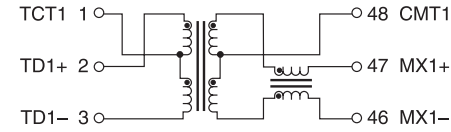
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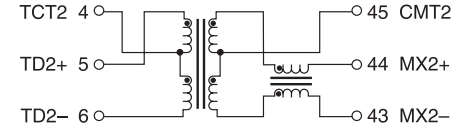
## Schematics (continued)

### H5014NL, HX5014NL

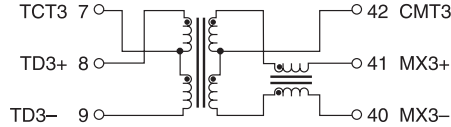
#### Channel 1 - Port 1



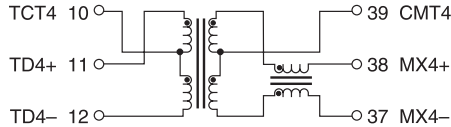
#### Channel 2 - Port 1



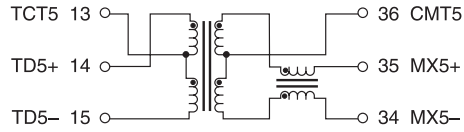
#### Channel 3 - Port 1



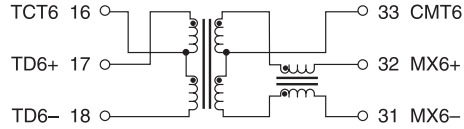
#### Channel 4 - Port 1



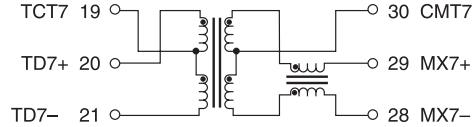
#### Channel 1 - Port 2



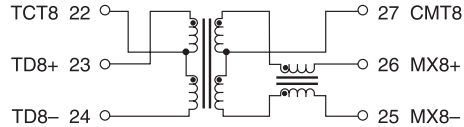
#### Channel 2 - Port 2



#### Channel 3 - Port 2

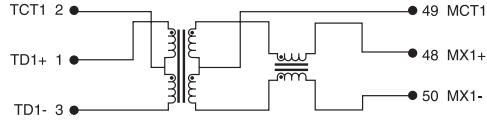


#### Channel 4 - Port 2

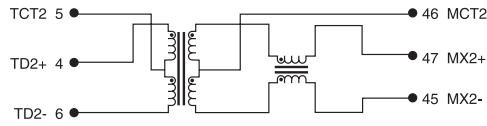


### H5020NL, HX5020NL

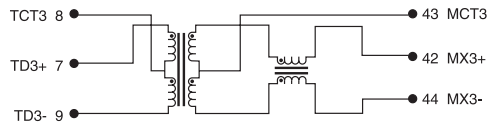
#### Channel 1 - Port 1



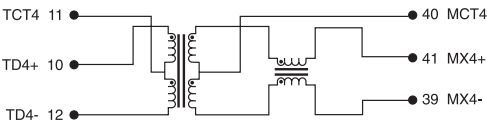
#### Channel 2 - Port 1



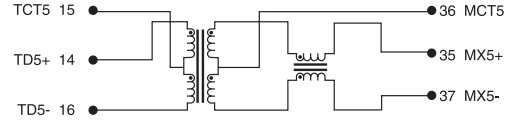
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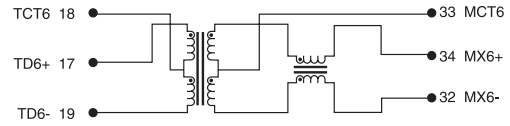
#### Channel 4 - Port 1



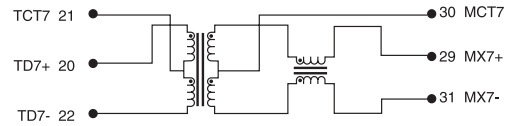
#### Channel 1 - Port 2



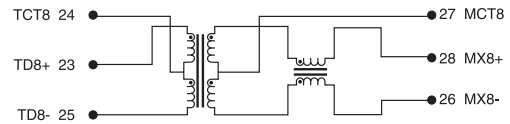
#### Channel 2 - Port 2



#### Channel 3 - Port 2



#### Channel 4 - Port 2



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