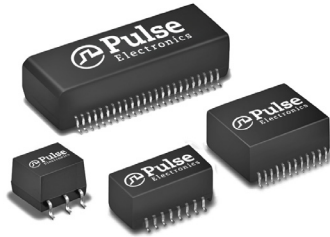


# Power OVER Ethernet (PoE) Magnetics and (PoE+) Magnetics

100Base-TX VoIP Magnetics Modules



- RoHS peak reflow temperature rating 245C
- IEEE 802.3af/ANSI X3.263 compliant performance
- Designed for IP phone or switch applications

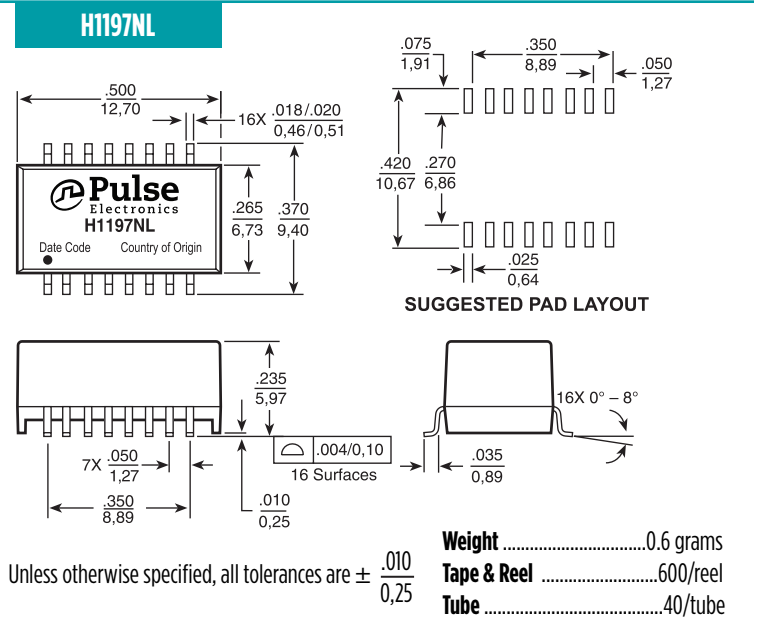
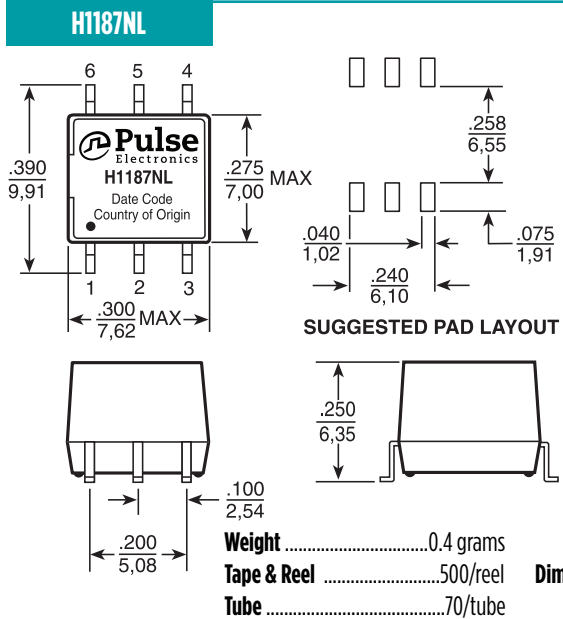
Electrical Specifications @ 25°C - Operating Temperature 0°C to 70°C

Part Number	No. of Ports	Insertion Loss (dB MAX)	Return Loss (dB MIN @ 100 Ω)				Differential to Common Mode Rejection (dB MIN @ 100 Ω)			CrossTalk (dB TYP)			Hipot (Vrms MIN)	DC Resistance Balance ≤ (%)
			1-100 MHz	1-30 MHz	40 MHz	50 MHz	60-80 MHz	30 MHz	60 MHz	100 MHz	30 MHz	60 MHz		
H1187NL <sup>2a</sup>	1	-1.2	-16	-14	-13	-12	-43	-37	-33	-45	-40	-35	1500	—
H1197NL <sup>2a,4</sup>	1	-1.2	-16	-14	-13	-12	-43	-37	-33	-45	-40	-35	1500	—
H2019NL <sup>2a,4</sup>	1	-1.2	-16	-14	-13	-12	-43	-37	-33	-45	-40	-35	1500	3.5
H2005ANL <sup>2c</sup>	2	-1.2	-16	-14	-13	-12	-50	-43	-35	-43	-37	-33	1500	3.5
H2006ANL <sup>2c</sup>	2	-1.2	-16	-14	-13	-12	-43	-37	-33	-43	-37	-31	1500	3.5
H2008NL <sup>2c</sup>	2	-1.2	-16	-14	-13	-12	-40	-35	-30	-43	-37	-33	1500	3.5
H2009NL <sup>2a,4</sup>	2	-1.1	-16	-14	-13	-12	-43	-37	-33	-43	-37	-33	1500	3.5
H2017NL <sup>2c</sup>	4	-1.2	-16	-14	-13	-12	-43	-37	-33	-45	-40	-35	1800	3.5
HX2019NL <sup>1,2a,4</sup>	1	-1.4	-16	-14	-13	-12	-43	-37	-33	-45	-40	-35	1500	3.5
HX2326NL <sup>1,2a,3</sup>	1	-1.0	-16	-14.4	-13	-12	-43	-37	-33	-45	-40	-35	1500	3.5

1. Extended operating temperature (-40°C to +85°C)
2. MSL (Moisture Sensitivity Level): a = 1, b = 2, c = 3, d = 4, e = 5
3. PoE+ (IEEE 802.3at compliant)
4. Not for sale in U.S.

Notes: When ordering Tape & Reel packaging, add the suffix "T" to the end of the part number. For example: H2008NLT.

## Mechanicals



USA 858 674 8100

Germany 49 7032 7806 0

Singapore 65 6287 8998

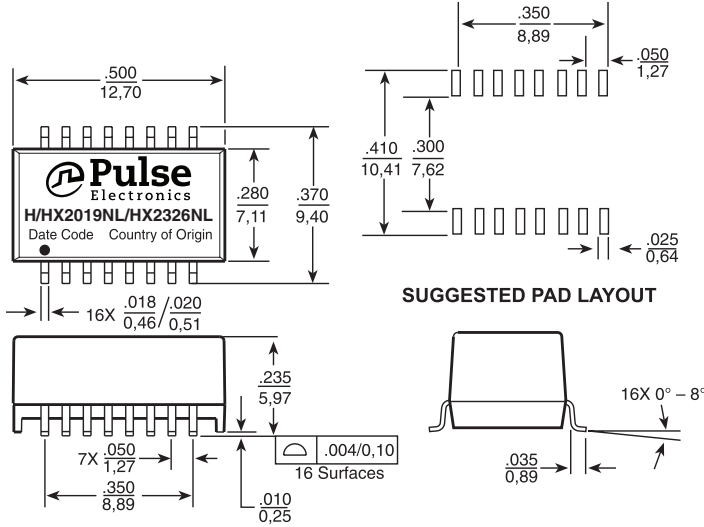
Shanghai 86 21 62787060

China 86 755 33966678

Taiwan 886 3 4356768

Mechanicals (continued)

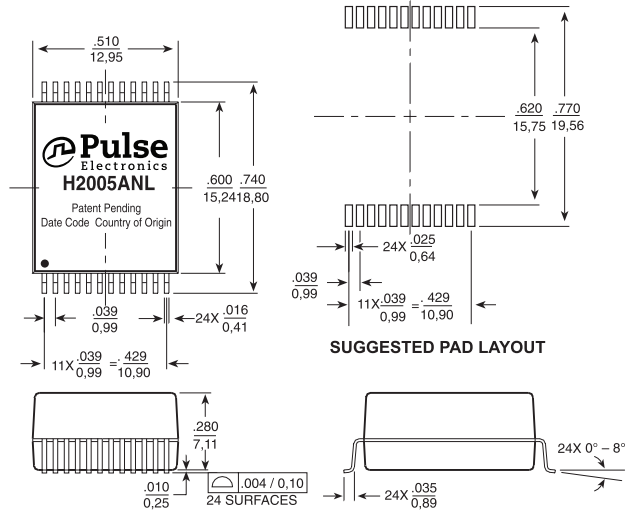
H2019NL, HX2019NL, HX2326NL



Weight .....1.0 grams  
Tape & Reel .....600/reel  
Tube .....40/tube

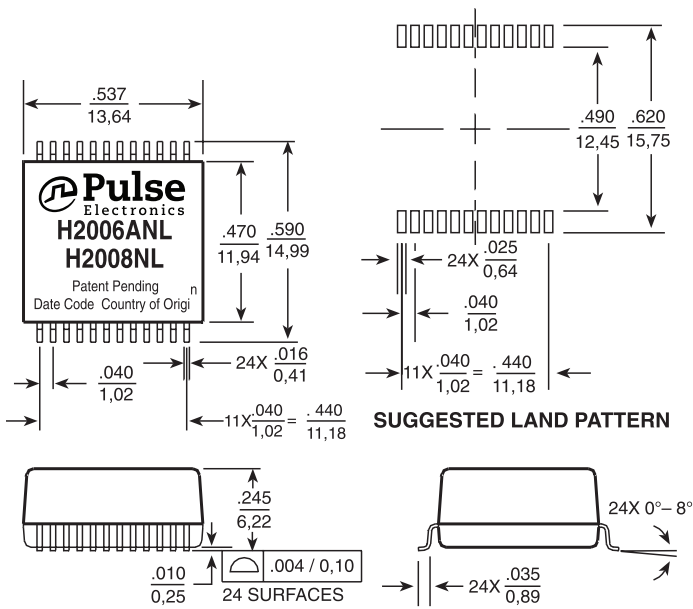
Dimensions:  $\frac{\text{Inches}}{\text{mm}}$  Unless otherwise specified, all tolerances are  $\pm \frac{.010}{0,25}$

H2005ANL



Weight .....2.7 grams  
Tape & Reel .....250/reel  
Tube .....25/tube

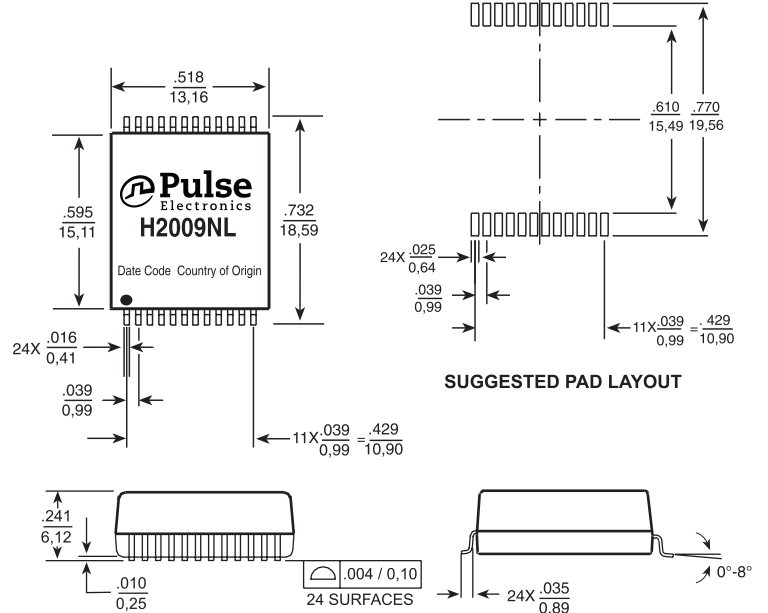
H2006ANL, H2008NL



Weight .....2.4 grams  
Tape & Reel .....350/reel  
Tube .....35/tube

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

H2009NL



Weight .....1.6 grams  
Tape & Reel .....300/reel  
Tube .....35/tube

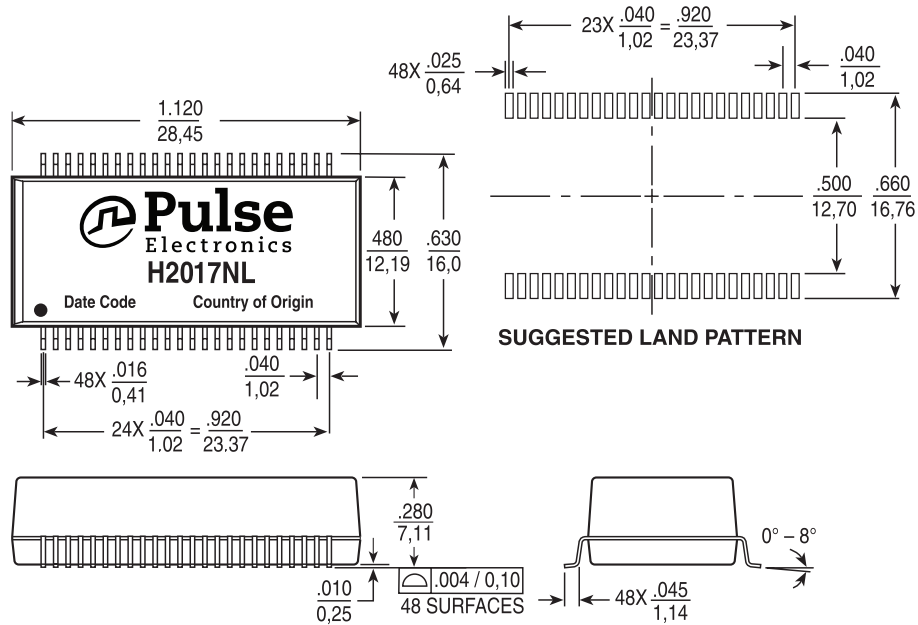
# Power OVER Ethernet (PoE) Magnetics and (PoE+) Magnetics

100Base-TX VoIP Magnetics Modules



## Mechanicals (continued)

**H2017NL**

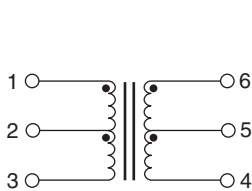


Weight .....5.0 grams  
Tape & Reel .....250/reel  
Tube .....15/tube

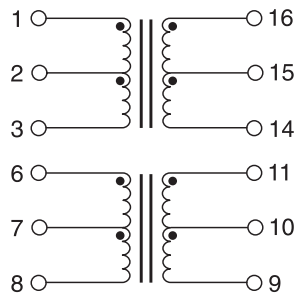
Dimensions:  $\frac{\text{Inches}}{\text{mm}}$  Unless otherwise specified, all tolerances are  $\pm \frac{.010}{0,25}$

## Schematics

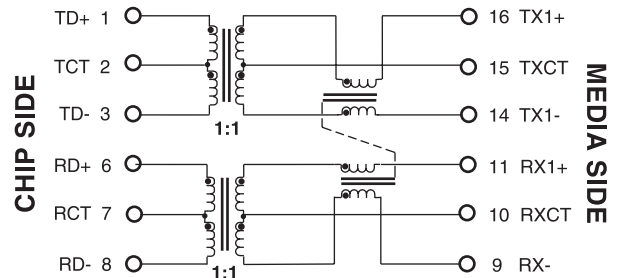
**H1187NL**



**H1197NL**

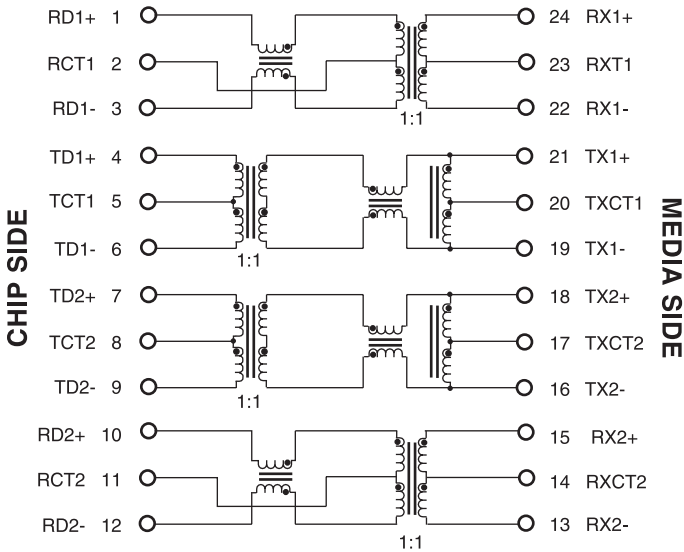


**H2019NL, HX2019NL**

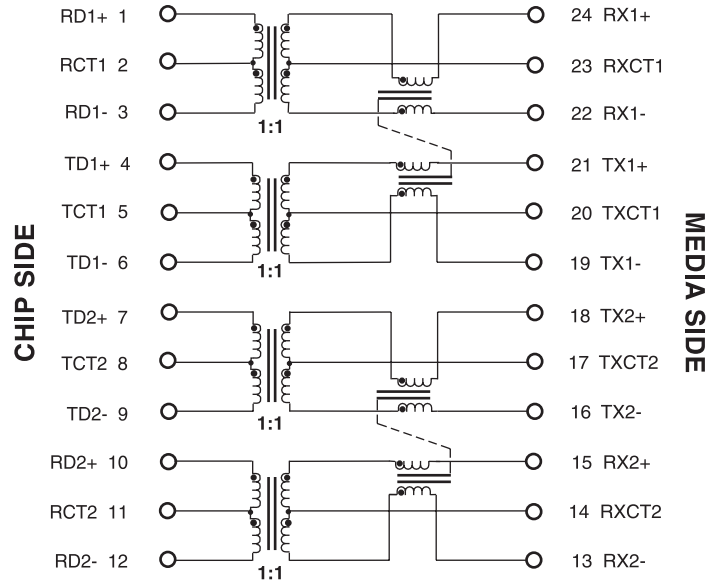


Schematics (continued)

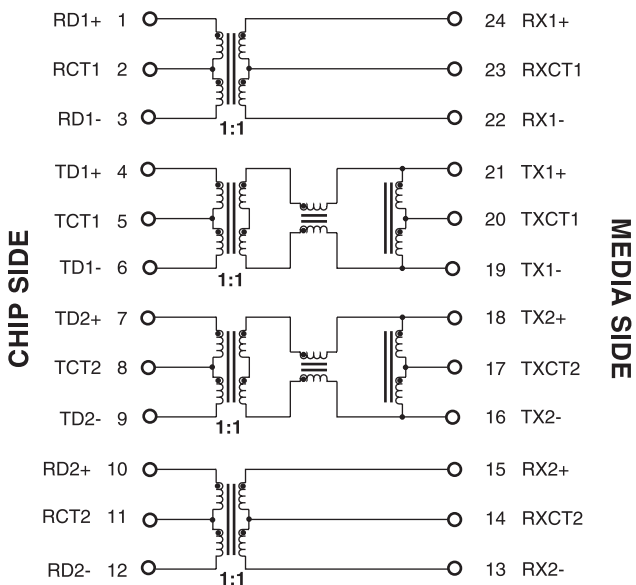
**H2005ANL**



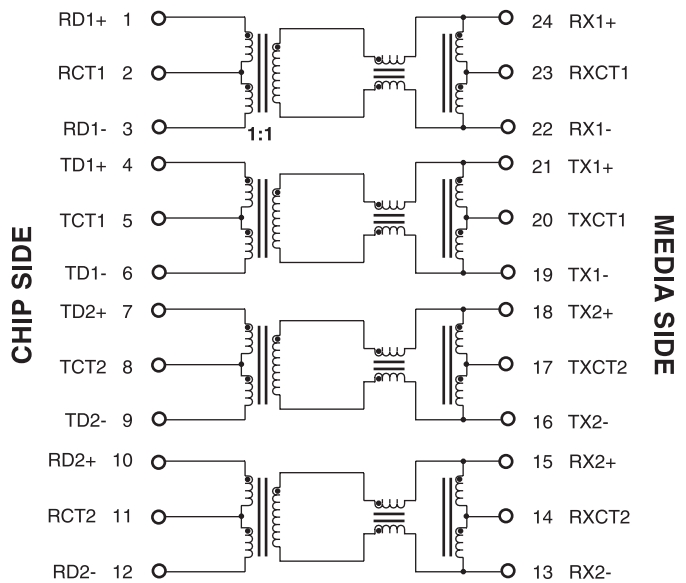
**H2006ANL**



**H2008NL**



**H2009NL**

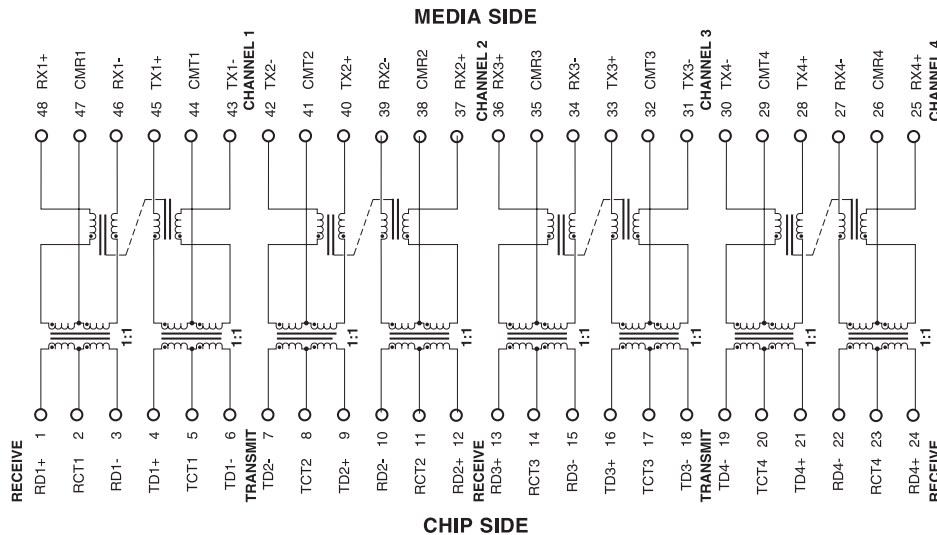


# Power OVER Ethernet (PoE) Magnetics and (PoE+) Magnetics

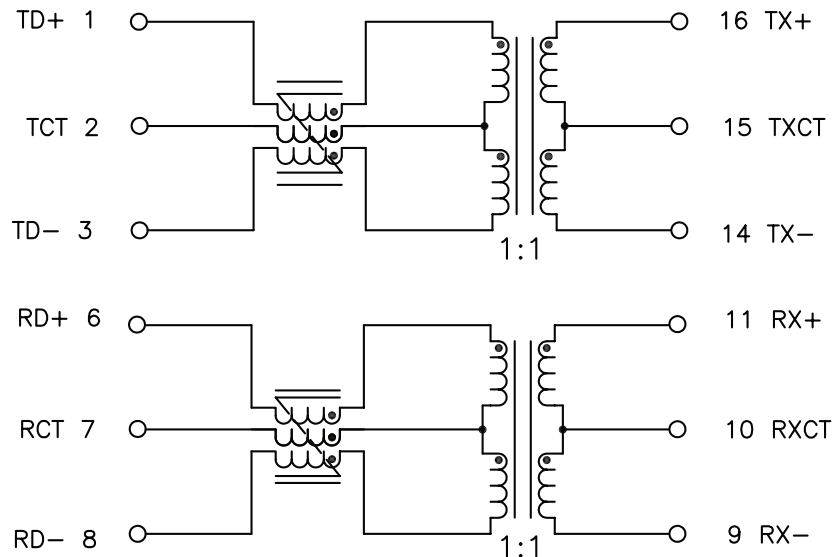
100Base-TX VoIP Magnetics Modules

## Schematics (continued)

H2017NL



HX2326NL



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