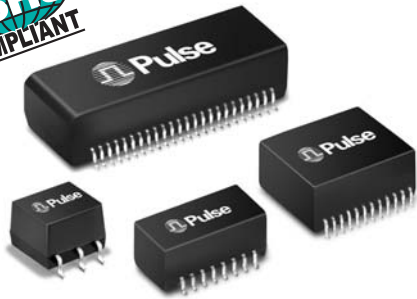


# POWER OVER ETHERNET (PoE) MAGNETICS

## 10/100BASE-TX VoIP Magnetics Modules



- RoHS-5 peak reflow temperature rating 235°C
- RoHS-6 peak reflow temperature rating 245°C
- 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

RoHS-6 <sup>4</sup> Compliant Part Number	RoHS-5 <sup>3</sup> Compliant Part Number	Ports	Insertion Loss (dB MAX)	Return Loss (dB MIN @ 100 Ω)				Differential to Common Mode Rejection (dB MIN)			Crosstalk (dB MIN)			Hipot (VRMS MIN)	DC Resistance Balance ≤ (%)
				1-100MHz	1-30MHz	40MHz	50MHz	60-80MHz	30MHz	60MHz	100MHz	30MHz	60MHz		
H1180NL <sup>2c</sup>	—	1	-1.2	-16	-14	-13	-12	-43	-37	-33	-45	-40	-35	1500	—
H1187NL <sup>2a</sup>	H1187	1	-1.2	-16	-14	-13	-12	-43	-37	-33	-45	-40	-35	1500	—
H1197NL <sup>2c</sup>	H1197	1	-1.2	-16	-14	-13	-12	-43	-37	-33	-45	-40	-35	1500	—
H2019NL <sup>2c</sup>	H2019	1	-1.2	-16	-14	-13	-12	-43	-37	-33	-45	-40	-35	1500	3.5
H2005ANL <sup>2c</sup>	H2005A	2	-1.2	-16	-14	-13	-12	-50	-43	-35	-43	-37	-33	1500	3.5
H2006ANL <sup>2d</sup>	H2006A	2	-1.2	-16	-14	-13	-12	-43	-37	-33	-43	-37	-31	1500	3.5
H2008NL <sup>2d</sup>	H2008	2	-1.2	-16	-14	-13	-12	-40	-35	-30	-43	-37	-33	1500	3.5
H2009NL <sup>2a</sup>	—	2	-1.1	-16	-14	-13	-12	-43	-37	-33	-43	-37	-33	1500	3.5
H2014NL <sup>2d</sup>	H2014	4	-1.2	-16	-14	-13	-12	-43	-37	-33	-45	-40	-35	1500	3.5
H2017NL <sup>2c</sup>	H2017	4	-1.2	-16	-14	-13	-12	-43	-37	-33	-45	-40	-35	1800	3.5
HX2019NL <sup>1, 2a</sup>	HX2019	1	-1.4	-16	-14	-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. **RoHS-5:** Product does not contain 5 out of the 6 banned substances specified in the RoHS directive (product contains lead in applications considered solder).
4. **RoHS-6:** Product does not contain 5 out of the 6 banned substances specified in the RoHS directive. Some internal connections may contain lead in high-temperature solder (solder alloys containing more than 85% lead).

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

## Mechanicals

### H1180

**Weight** . . . . . 0.6 grams  
**Tape & Reel** . . . . . 500/reel  
**Tube** . . . . . .65/tube

### H1187

**Weight** . . . . . 0.6 grams  
**Tape & Reel** . . . . . 500/reel  
**Tube** . . . . . .70/tube

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

# POWER OVER ETHERNET (PoE) MAGNETICS

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### Mechanicals

#### H1197

**Weight** ..... 2.8 grams  
**Tape & Reel** ..... 600/reel  
**Tube** ..... 45/tube

#### H2019, HX2019

**Weight** ..... 1.0 grams  
**Tape & Reel** ..... 600/reel  
**Tube** ..... 45/tube

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

#### H2005A

**Weight** ..... 2.7 grams  
**Tape & Reel** ..... 300/reel  
**Tube** ..... 25/tube

#### H2006A, H2008

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

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

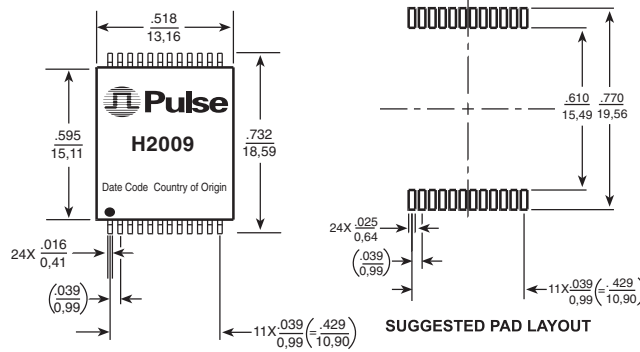
# POWER OVER ETHERNET (PoE) MAGNETICS

## 10/100BASE-TX VoIP Magnetics Modules

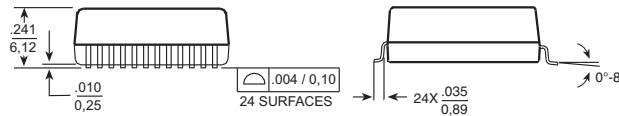


### Mechanicals (continued)

#### H2009

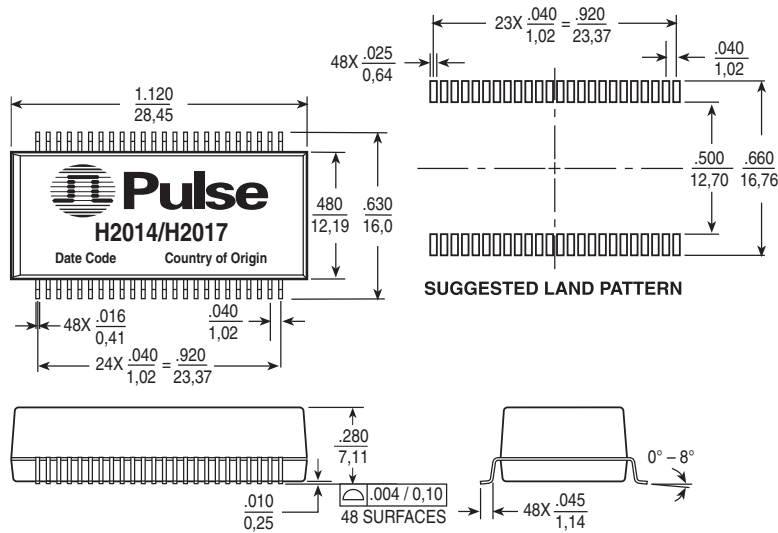


**Dimensions:**  $\frac{\text{Inches}}{\text{mm}}$   
 Unless otherwise specified,  
 all tolerances are  $\pm \frac{.010}{0,25}$



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

#### H2014, H2017

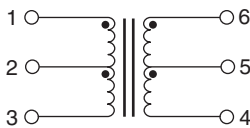


**Dimensions:**  $\frac{\text{Inches}}{\text{mm}}$   
 Unless otherwise specified,  
 all tolerances are  $\pm \frac{.010}{0,25}$

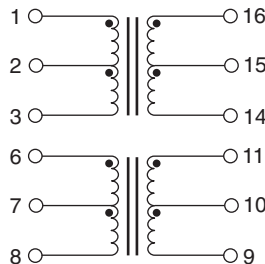
**Weight** ..... 5.0 grams  
**Tape & Reel** ..... 250 /reel  
**Tube** ..... 15/tube

### Schematics

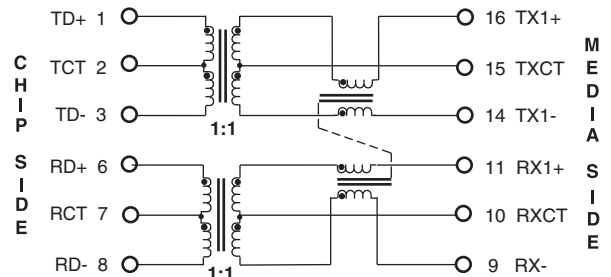
#### H1180, H1187



#### H1197



#### H2019, HX2019

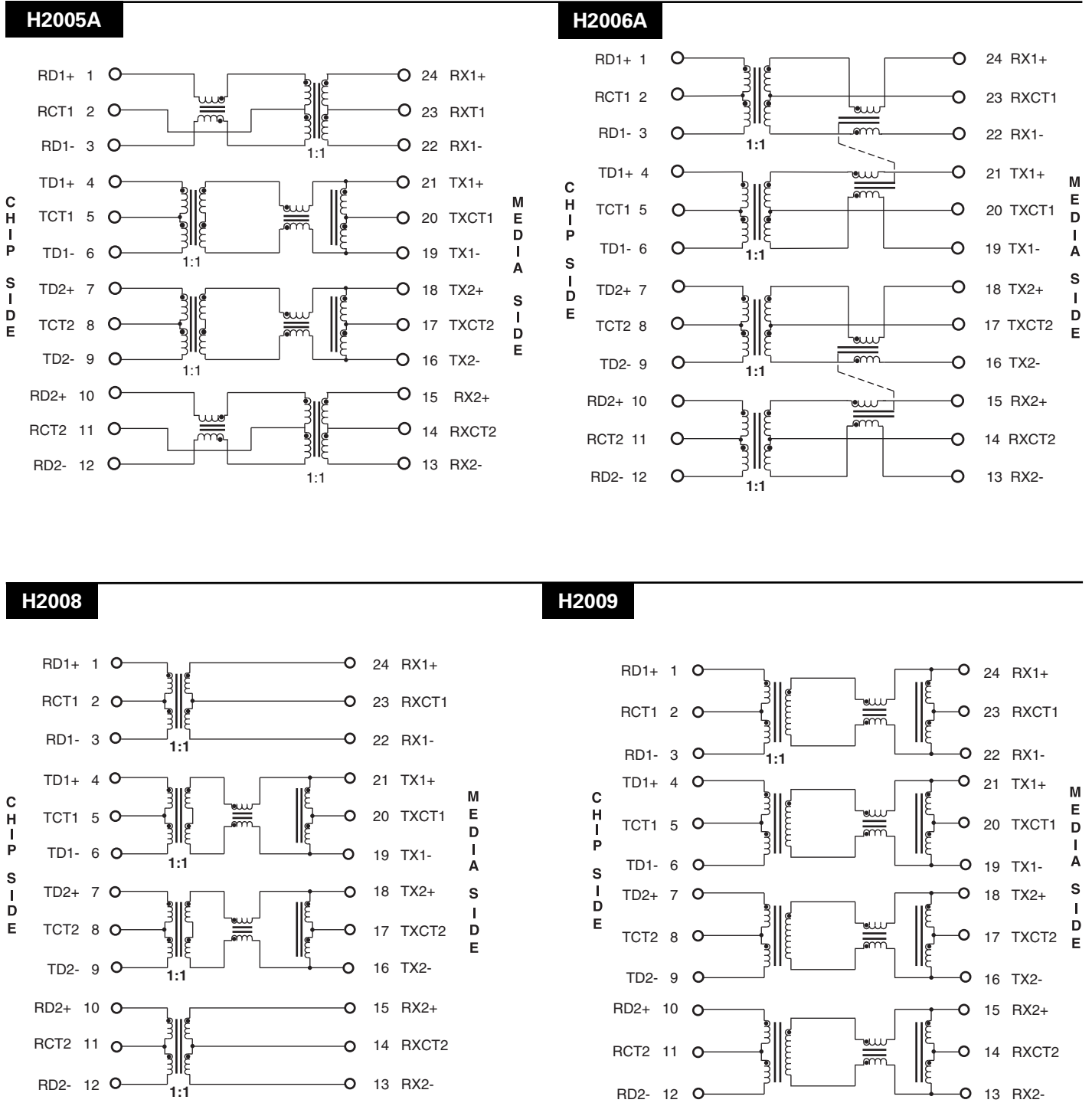


# POWER OVER ETHERNET (PoE) MAGNETICS

## 10/100BASE-TX VoIP Magnetics Modules



### Schematics (continued)



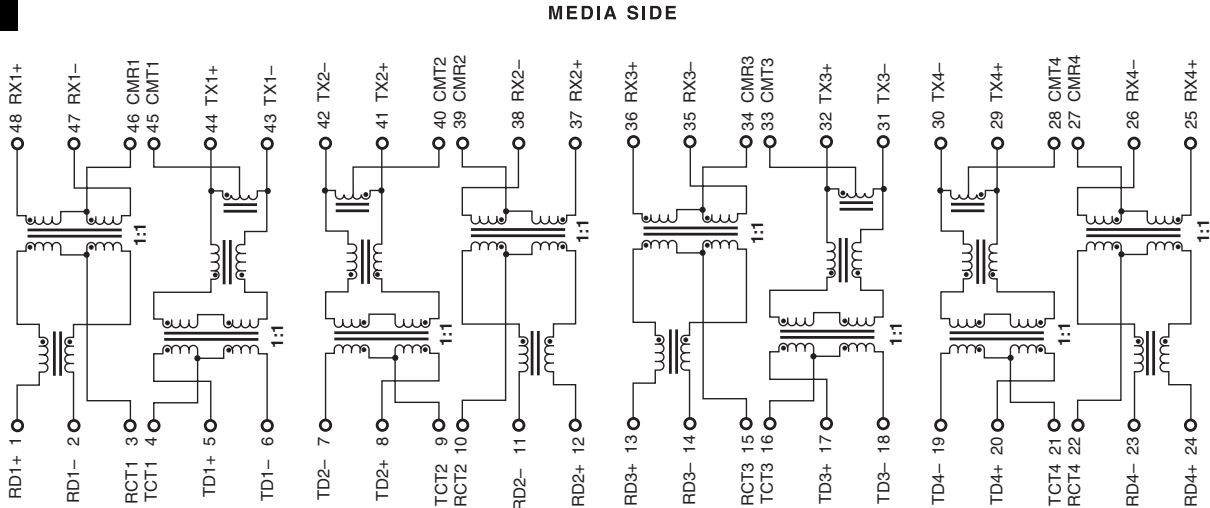
# POWER OVER ETHERNET (PoE) MAGNETICS

## 10/100BASE-TX VoIP Magnetics Modules



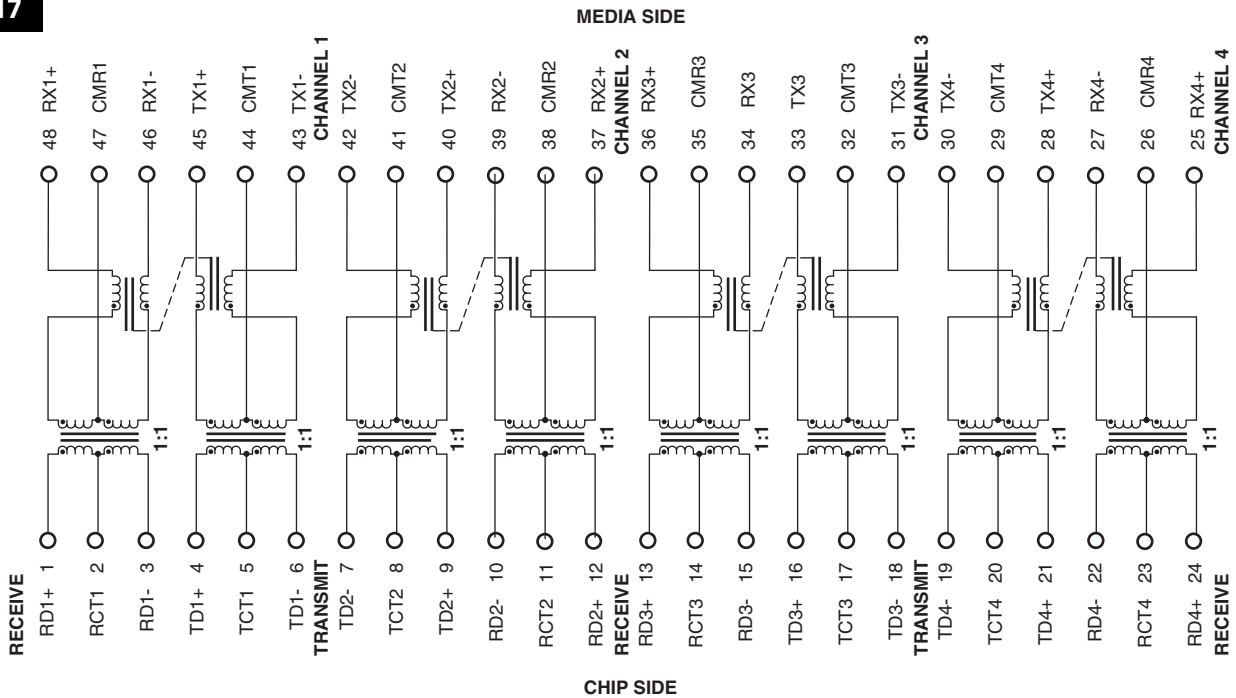
### Schematics (continued)

**H2014**



**CHIP SIDE**

**H2017**



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