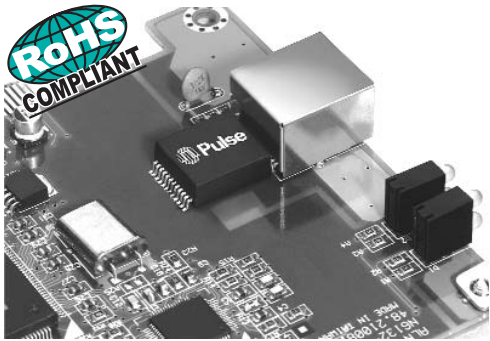


1000BASE-T MAGNETICS MODULES

Designed to Support 1:1
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- RoHS-5 peak reflow temperature rating 235°C
- RoHS-6 peak reflow temperature rating 245°C
- Meets IEEE 802.3 specification

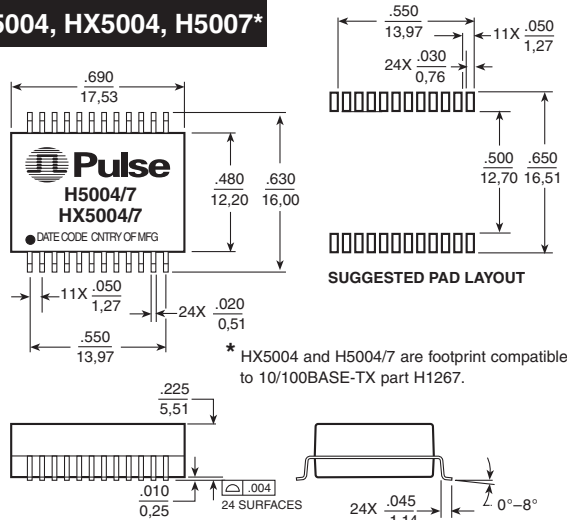
Electrical Specifications @ 25°C — Operating Temperature 0°C to 70°C

| RoHS-5 ⁴ Compliant Part Number | RoHS-6 ⁵ 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 (V _{RMS} MIN) |
|--|--|-----------------------|-------------------------------|-------------------------|---------|-------|-------|----------|--|-------|-------|-----------------------|-------|-------|------------------------------------|
| | | | | 1-100MHz | 1-30MHz | 40MHz | 50MHz | 60-80MHz | 100MHz | 30MHz | 60MHz | 100MHz | 30MHz | 60MHz | |
| H5004 ^{3c} | H5004NL ^{3d} | 1 | 1 | -18 | -18 | -16 | -12 | -10 | -43 | -37 | -33 | -43 | -37 | -33 | 1500 |
| HX5004 ^{1,3c} | HX5004NL ^{1,3d} | 1 | 1 | -18 | -18 | -16 | -12 | -10 | -43 | -37 | -33 | -43 | -37 | -33 | 1500 |
| H5007 ^{3c} | H5007NL ^{3d} | 1 | 1 | -18 | -18 | -16 | -12 | -10 | -43 | -37 | -33 | -43 | -37 | -33 | 1500 |
| H5008 ^{3a} | H5008NL ^{3a} | 1 | 1 | -18 | -18 | -16 | -12 | -10 | -43 | -37 | -33 | -43 | -37 | -33 | 1500 |
| HX5008 ^{1,3a} | HX5008NL ^{1,3a} | 1 | 1 | -18 | -18 | -16 | -12 | -10 | -43 | -37 | -33 | -43 | -37 | -33 | 1500 |
| H5009 ^{3a} | H5009NL ^{3a} | 1 | 1 | -18 | -18 | -16 | -12 | -10 | -43 | -37 | -33 | -43 | -37 | -33 | 1500 |
| H5012 ^{3a} | H5012NL ^{3a} | 2 | 1.4 | -16 | -14.4 | -13.1 | -12 | -10 | -45 | -40 | -35 | -43.5 | -37.5 | -33 | 1500 |
| H5014 ^{3a} | H5014NL ^{3a} | 2 | 1.4 | -16 | -14.4 | -13.1 | -12 | -10 | -45 | -40 | -35 | -43.5 | -37.5 | -33 | 1500 |
| HX5014 ^{1,3a} | HX5014NL ^{1,3a} | 2 | 1.4 | -16 | -14.4 | -13.1 | -12 | -10 | -45 | -40 | -35 | -43.5 | -37.5 | -33 | 1500 |
| H5015 ^{3a} | H5015NL ^{3a} | 1 | 1 | -18 | -18 | -16 | -12 | -10 | -43 | -37 | -33 | -43 | -37 | -33 | 1500 |
| H5020 ^{3a} | H5020NL ^{3a} | 2 | 1 | -18 | -14.4 | -13.1 | -12 | -10 | -40 | -35 | -30 | -40 | -33 | -28 | 1500 |
| HX5020 ^{1,3a} | HX5020NL ^{1,3a} | 2 | 1 | -18 | -14.4 | -13.1 | -12 | -10 | -40 | -35 | -30 | -40 | -33 | -28 | 1500 |
| H5089 ^{3a} | H5089NL ^{3a} | 2 | 1.4 | -16 | -14.4 | -13.1 | -12 | -10 | -45 | -40 | -35 | -43.5 | -37.5 | -33 | 1500 |

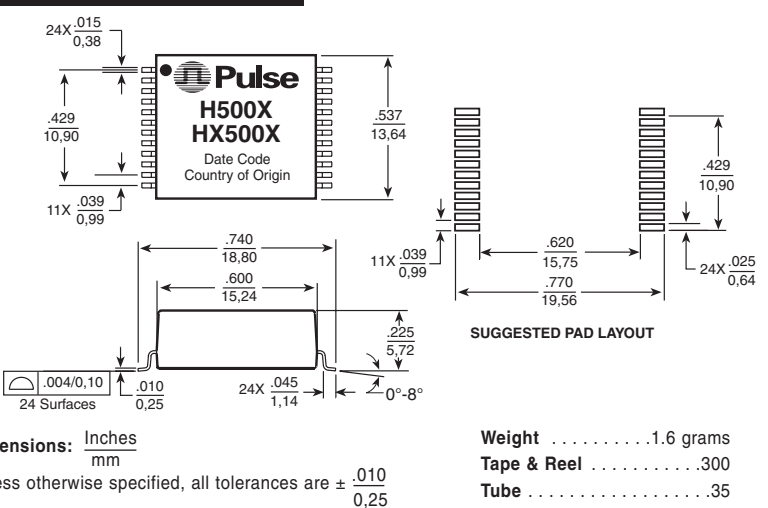
- HX:** Extended temperature version -40°C to +85°C
- For Tape & Reel packaging, add a "T" suffix at the end of the part number, e.g. H5007T.
- MSL=Moisture Sensitivity Level: a=1 b=2 c=3 d=4
- RoHS-5:** Product does not contain 5 out of the 6 banned substances specified in the RoHS directive (product contains lead in applications considered solder).
- 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)

Mechanicals

H5004, HX5004, H5007*



H5008, HX5008, H5009



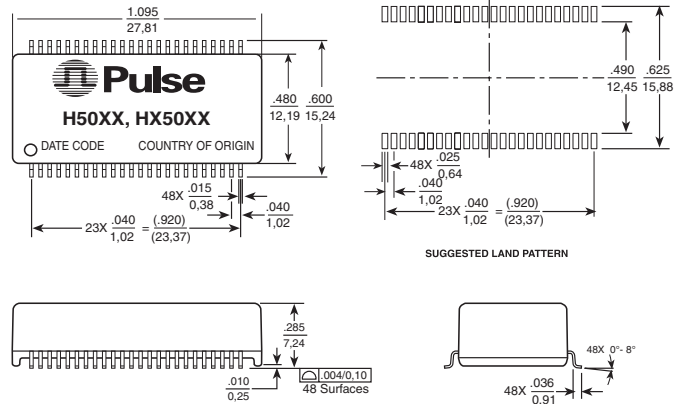
1000BASE-T MAGNETICS MODULES

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Mechanicals (continued)

H5012, H5014, HX5014, H5089

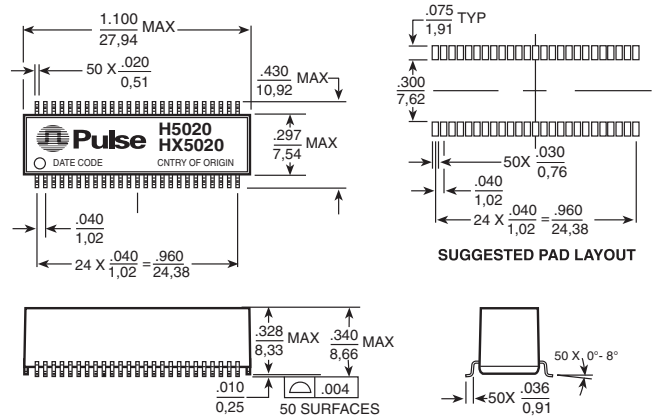


Weight 4.0 grams
Tape & Reel250/reel
Tube15/tube

Dimensions: $\frac{\text{Inches}}{\text{mm}}$

Unless otherwise specified, all tolerances are $\pm \frac{.010}{0,25}$

H5020, HX5020

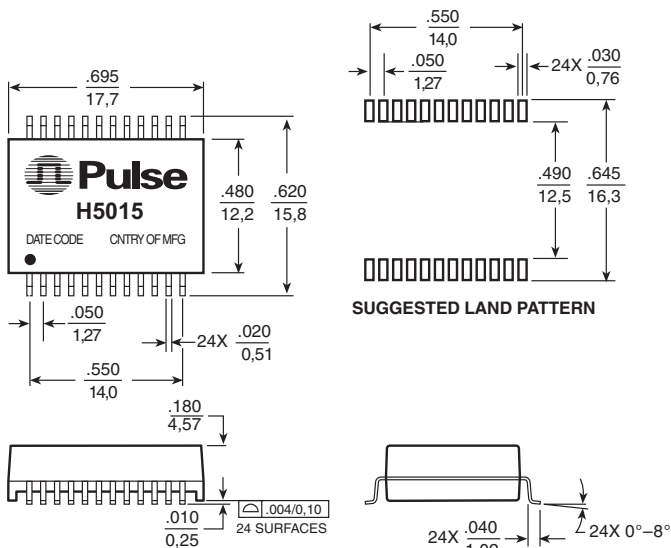


Weight 1.6 grams
Tape & Reel250/reel
Tube15/tube

Mechanicals (continued)

Schematics

H5015

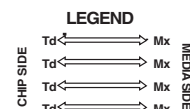
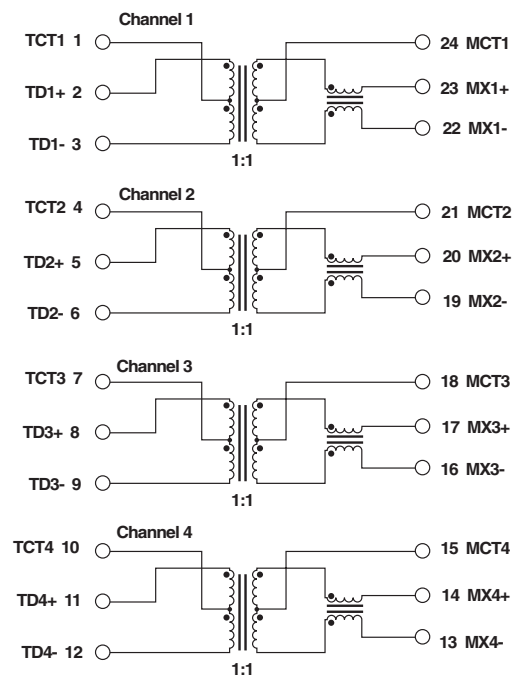


Weight 1.5 grams
Tape & Reel400/reel

Dimensions: $\frac{\text{Inches}}{\text{mm}}$

Unless otherwise specified, all tolerances are $\pm \frac{.005}{0,13}$

H5004, HX5004, H5009



1000BASE-T MAGNETICS MODULES

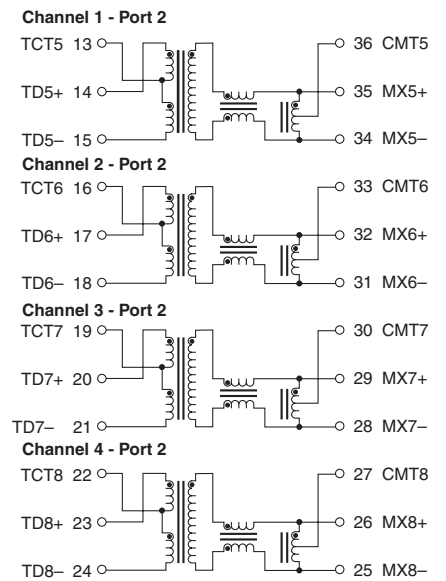
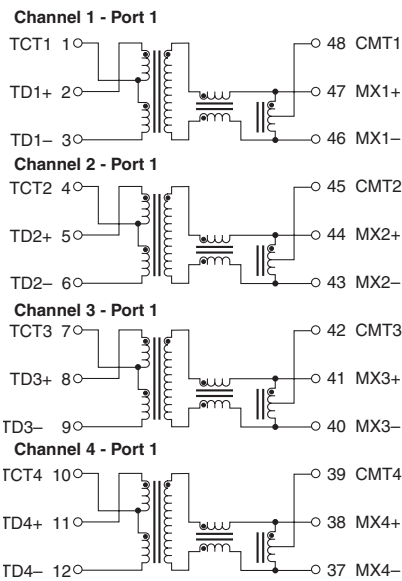
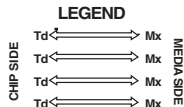
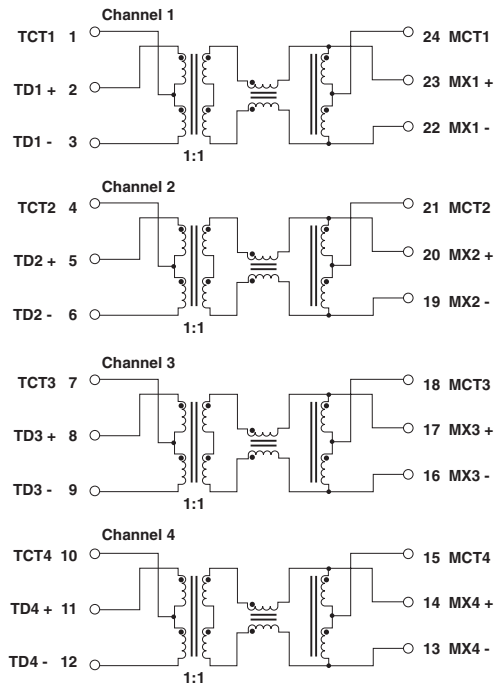
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Turns Ratio Transceivers



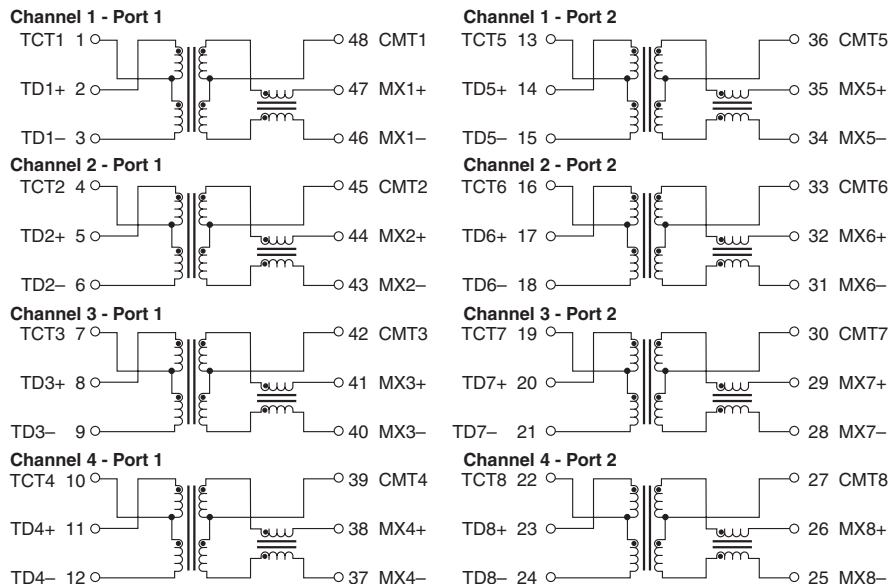
Schematics (continued)

H5007*, H5008, HX5008, H5015

H5012, H5089



H5014, HX5014



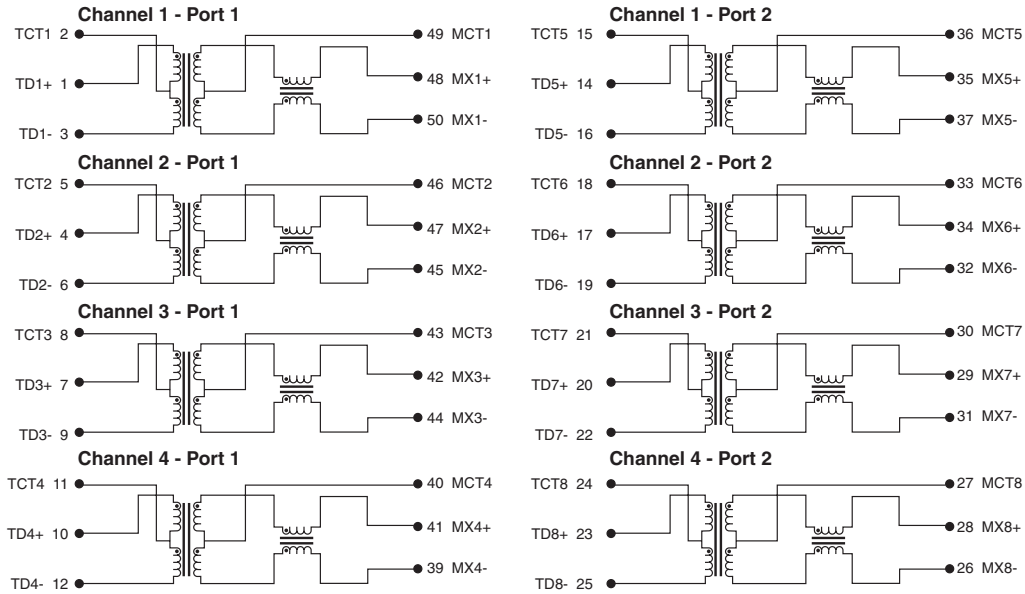
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Schematics (continued)

H5020, HX5020



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