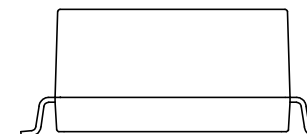
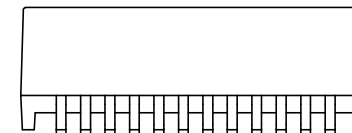
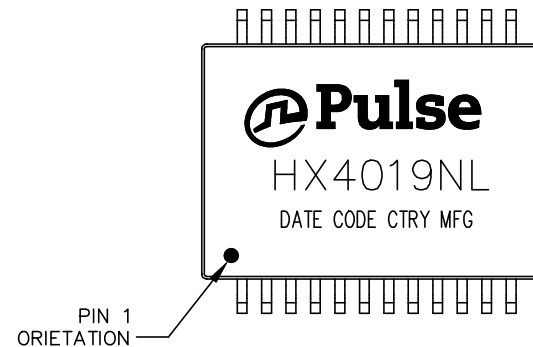




NOTES:

1. ROHS COMPLIANT
2. HEADER: DAP (DIALLYL PHTHALATE) WITH FLAMMABILITY RATING UL 94V-0 OR BETTER.
3. STORAGE TEMPERATURE: -50°C TO +125°C
4. COMPLIANCE TO J-STD:
  - A. J-STD-002: SOLDERABILITY AT 250°C REFLOW PROFILE
  - B. J-STD-020: LEVEL 1, NO MOISTURE SENSITIVE
  - C. J-STD-075: R7, 250°C MAXIMUM THROUGH REFLOW SOLDER
5. TO ORDER TAPE & REEL PACKAGING ADD A "T" SUFFIX TO THE PART NUMBER(i.e HX4019NL BECOMES HX4019NLT).
6. PACKING SPECIFICATION:  
REEL SIZE: 330 mm  
TAPE WIDTH: 32 mm  
TAPE PITCH: 24mm  
COMPONENTS PER REEL: 250 pcs

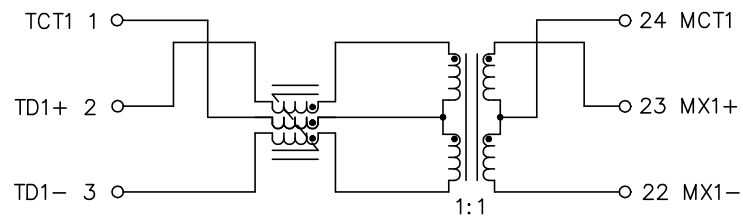


FINAL OUTLINE

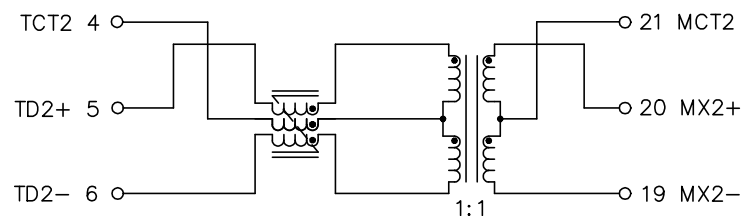
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| PRODUCT DESCRIPTION       | TLA DRAWING | PS DRAWING    | SHEET  | PART NO. | DATASHEET REV. |
|---------------------------|-------------|---------------|--------|----------|----------------|
| MDL,SIN,2.5GPP,1: 1,SM,TU | HX4019NL-10 | PS-2473.001-B | 1 OF 4 | HX4019NL | D              |

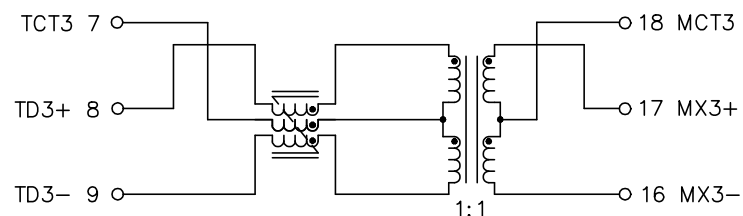
CHANNEL A



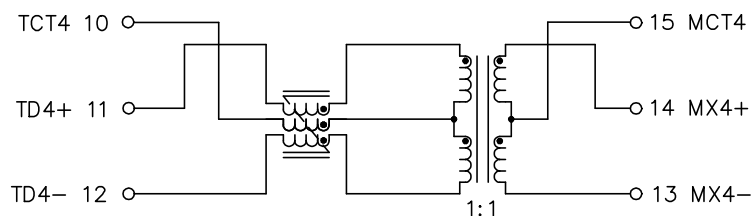
CHANNEL B



CHANNEL C



CHANNEL D



SCHEMATIC

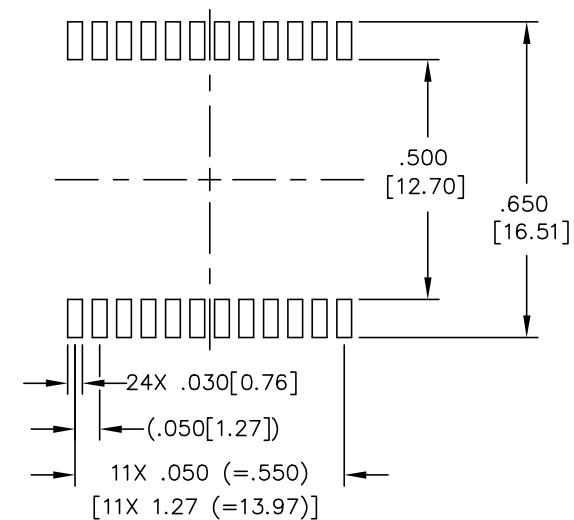
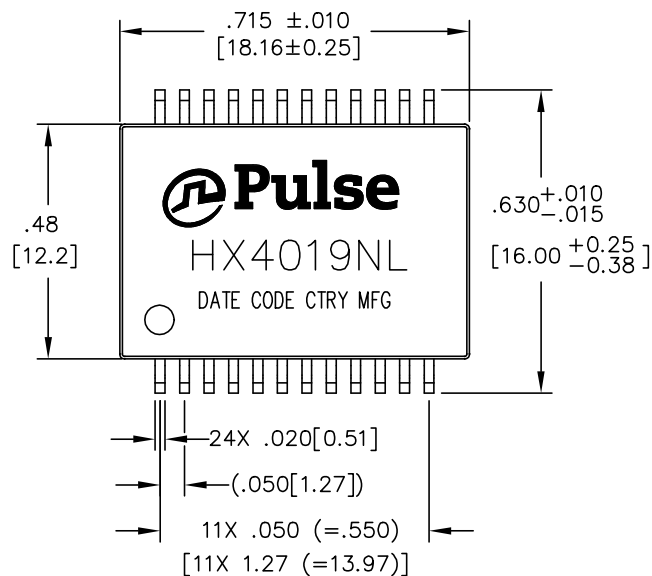
ELECTRICAL CHARACTERISTICS AT +25°C UNLESS OTHER SPECIFIED

MEETS IEEE 802.3 SPECIFICATION

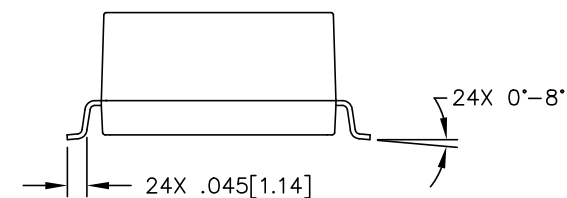
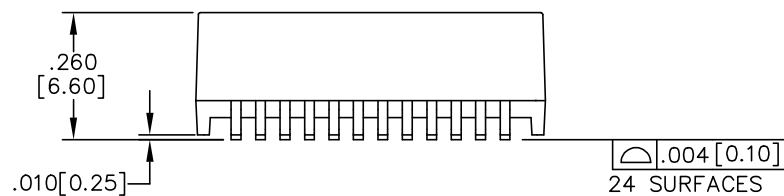
| PARAMETER                                            | SPECIFICATIONS                                 |                                        |
|------------------------------------------------------|------------------------------------------------|----------------------------------------|
| OPERATING TEMPERATURE                                | -40°C TO +85°C                                 |                                        |
| TURNS RATIO                                          | 1.00 ± 2%                                      |                                        |
| POLARITY                                             | PER SCHEMATIC                                  |                                        |
| INSERTION LOSS (SDD21&SDD12)                         | 1-50 MHz                                       | 50-125 MHz                             |
|                                                      | -0.5 dB MAX                                    | -1.0 dB MAX                            |
| PHY-SIDE RETURN LOSS (SDD11 - Zref = 100 OHMS ± 1%)  | 1 MHz-40 MHz                                   | 40 MHz-200 MHz                         |
|                                                      | -20 dB MIN                                     | -20+15*LOG <sub>10</sub> (f/40) dB MIN |
| LINE-SIDE RETURN LOSS (SDD22 - Zref = 100 OHMS ± 1%) | 1 MHz-40 MHz                                   | 40 MHz-200 MHz                         |
|                                                      | -20 dB MIN                                     | -20+15*LOG <sub>10</sub> (f/40) dB MIN |
| INDUCTANCE (OCL)                                     | 150 uH MIN @ 100 kHz, 100 mV WITH 9 mA DC BIAS |                                        |
| CROSSTALK, ADJACENT CHANNELS (SDD21 - ADJ.)          | 1-125 MHz                                      |                                        |
|                                                      | -30 dB MIN                                     |                                        |
| COMMON MODE REJECTION RATIO (SCC21)                  | 30 MHz-200 MHz                                 |                                        |
|                                                      | -30 dB MIN                                     |                                        |
| COMM. TO DIFF. REJECTION RATIO (SDC12)               | 10 MHz-125 MHz                                 |                                        |
|                                                      | -45+f/35 dB MIN                                |                                        |
| DC CURRENT/VOLTAGE RATING                            | 600 mA MAX @ 57 V (CONTINUOUS)                 |                                        |
| POE POWER (REF)                                      | 60W MAX OVER 4 PAIRS @ 50 V                    |                                        |
| IMPULSE                                              | 4000 V MIN.                                    |                                        |
| INPUT - OUTPUT ISOLATION                             | 3000 VRMS MIN @ 60 SECONDS                     |                                        |

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|                          |             |               |        |          |                |
|--------------------------|-------------|---------------|--------|----------|----------------|
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| MDL,SIN,2.5GPP,1:1,SM,TU | HX4019NL-10 | PS-2473.001-B | 2 OF 4 | HX4019NL | D              |



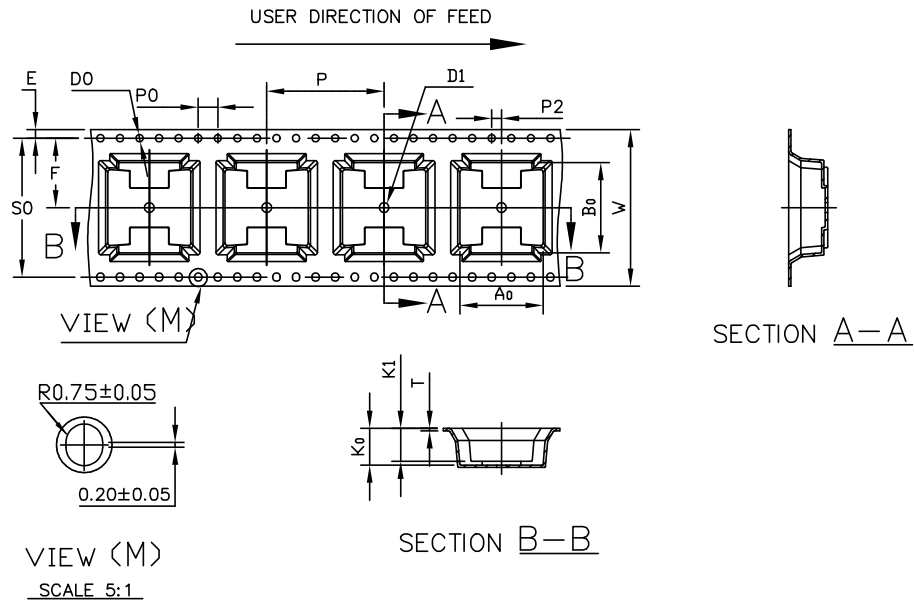
SUGGESTED LAND PATTERN



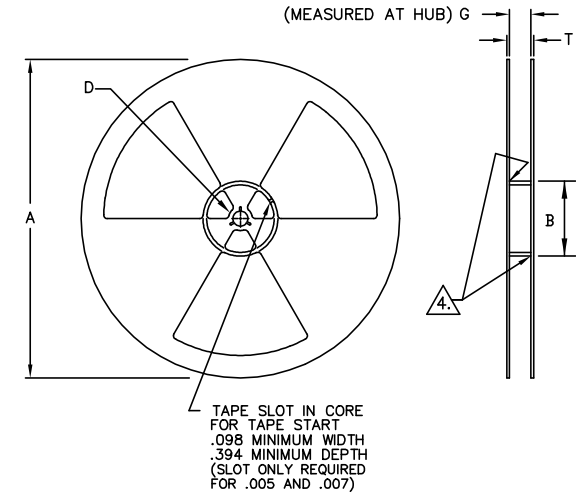
DIMENSIONS ARE IN INCHES [MILLIMETERS] WITH THE FOLLOWING TOLERANCES: [MILLIMETERS] ARE FOR REFERENCE ONLY.  
 .XX=  $\pm .01$  [ $\pm 0.25$ ]  
 .XXX=  $\pm .005$  [ $\pm 0.13$ ]

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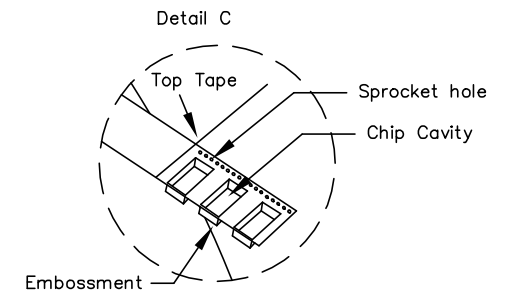
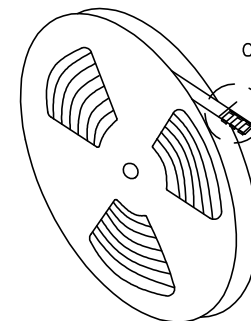
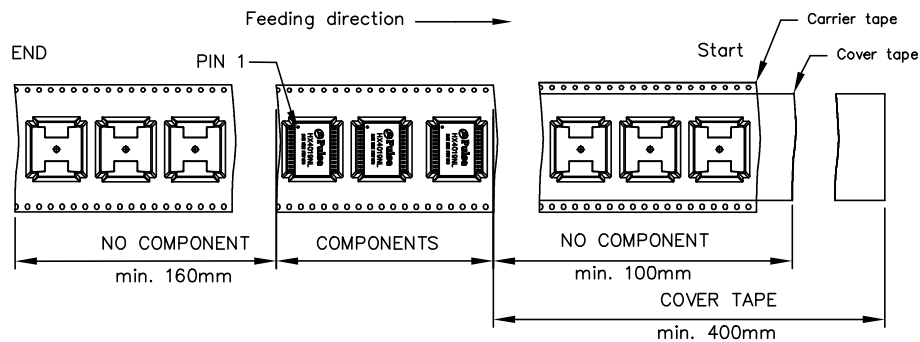
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|---------------------------|-------------|---------------|--------|----------|----------------|
| MDL,SIN,2.5GPP,1: 1,SM,TU | HX4019NL-10 | PS-2473.001-B | 3 OF 4 | HX4019NL | D              |



| ITEM | W              | Ao             | Bo             | Ko            | K1            | P              | F             | E             | SO            | Do                     | D1     | Po            | P2            | T             |
|------|----------------|----------------|----------------|---------------|---------------|----------------|---------------|---------------|---------------|------------------------|--------|---------------|---------------|---------------|
| DIM  | 32.00<br>±0.30 | 17.00<br>±0.10 | 18.50<br>±0.10 | 7.50<br>±0.10 | 6.75<br>±0.10 | 24.00<br>±0.10 | 14.2<br>±0.15 | 1.75<br>±0.10 | 28.4<br>±0.10 | 1.50<br>+0.10<br>-0.00 | 2.0min | 4.00<br>±0.10 | 2.00<br>±0.10 | 0.50<br>±0.05 |



|               | A      | B      | D     | T    | G    | G    |
|---------------|--------|--------|-------|------|------|------|
| Tolerance     |        | min.   | min.  | max. | min. | max. |
| Tape width mm | 330.00 | 100.00 | 20.20 | 38.4 | 32.4 | 34.4 |



DIMENSIONS ARE IN MILLIMETERS WITH THE FOLLOWING  
TOLERANCES:  
X.XX= ±0.10

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| MDL,SIN,2.5GPP,1: 1,SM,TU | HX4019NL-10 | PS-2473.001-B | 4 OF 4 | HX4019NL | D              |

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