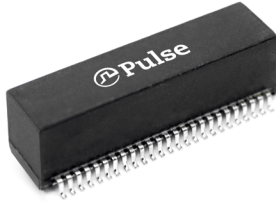


# Dual 1Gigabit Slimline Magnetic Modules

HX5020HL, HX6135HL, and HX6136HL



- Fully RoHS and Halogen Free
- Designed to exceed IEEE802.3au over Industrial temperature range -40 to +85°C
- Up to 35W PoE over 100m of UTP using 4pair connection
- Compatible with all Major PHYs
- 30% PCB saving compared to standard dual port devices

Electrical Specifications @ 25°C - Operating Temperature -40°C to 85°C

| Part Number | Inductance  | Turns Ratio | Isolation (Pri:Sec) | Power over Ethernet (PoE) |                              |
|-------------|-------------|-------------|---------------------|---------------------------|------------------------------|
|             |             |             |                     | DC Current (@ 70°C)       | Power Supported (4 pair UTP) |
| HX5020HL    | 350uH @ 8mA | 1.00 +/- 2% | 1500Vrms / 60sec    | 350mA                     | 35W (PSE)                    |
| HX6135HL    | 350uH @ 8mA | 1.00 +/- 2% | 1500Vrms / 60sec    | 350mA                     | 35W (PSE)                    |
| HX6136HL    | 350uH @ 8mA | 1.00 +/- 2% | 1500Vrms / 60sec    | 350mA                     | 35W (PSE)                    |

| Part Number | Insertion Loss |          |        | Return Loss |          |        | CMRR  |           |        |
|-------------|----------------|----------|--------|-------------|----------|--------|-------|-----------|--------|
|             | 100kHz         | 1-100MHz | 125MHz | 1-40MHz     | 60-80MHz | 100MHz | 2MHz  | 30-100MHz | 200MHz |
| HX5020HL    | -1.2dB         | -1.5dB   | -2.0dB | -16dB       | -10dB    | -8dB   | -50dB | -20dB     | -15dB  |
| HX6135HL    | -1.2dB         | -0.5dB   | -1.0dB | -18dB       | -13dB    | -11dB  | -50dB | -35dB     | -30dB  |
| HX6136HL    | -1.2dB         | -0.5dB   | -1.0dB | -18dB       | -13dB    | -11dB  | -50dB | -20dB     | -15dB  |

## Notes:

- Storage Temperature: -50°C to 125°C  
Compliance to J-STD:
  - J-STD-002: Solderability at 245°C Reflow Profile
  - J-STD-020: Moisture Sensitive Level 1
  - J-STD-075: R7, 245°C Maximum Through Reflow Solder
- The HL suffix part is supplied in tubes with 15pcs/tube. To order tape and reel packaging add a 'T' suffix to the part number (ie: HX6135HL becomes HX6135HLT). Where quantity per 13" reel will be 250pcs - see page 3 for more details.
- Header: DAP (Diallyl Phthalate) with flammability Rating UL 94V-0 or better
- Lead Frame: Cooper Alloy  
Under plated: Half Hard Ductile Nickel 50-100" (1.3-2.5um)  
Over plated : 100% Tin electro-deposited per ASTM B545 300 - 50u"(8-13um)  
Finish : Matte finish 100% Tin solder

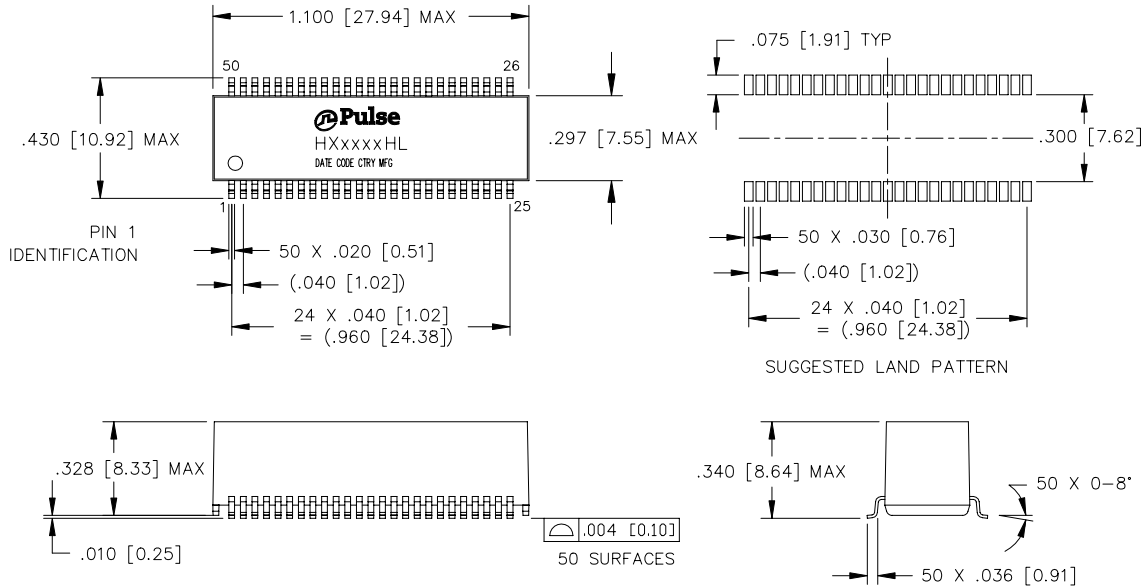
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## Mechanical

HXxxxxHL

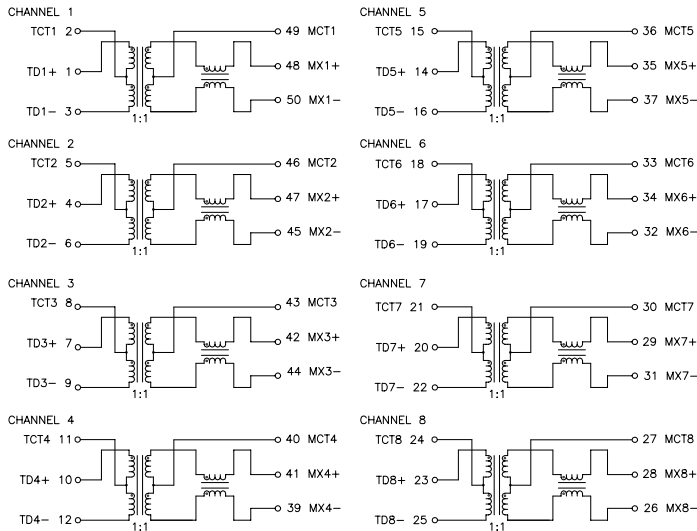


**Dimensions:**  $\frac{\text{Inches}}{\text{mm}}$

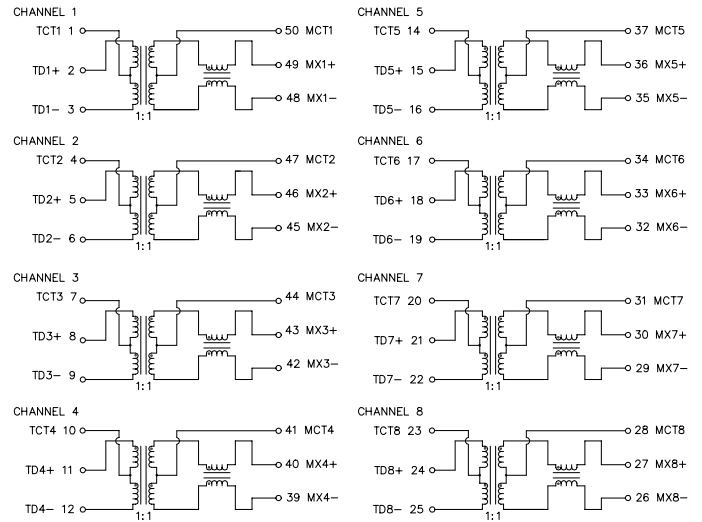
Unless otherwise specified,  
all tolerances are  $\pm \frac{0.10}{0.25}$

## Schematics

HX5020HL



HX6136HL

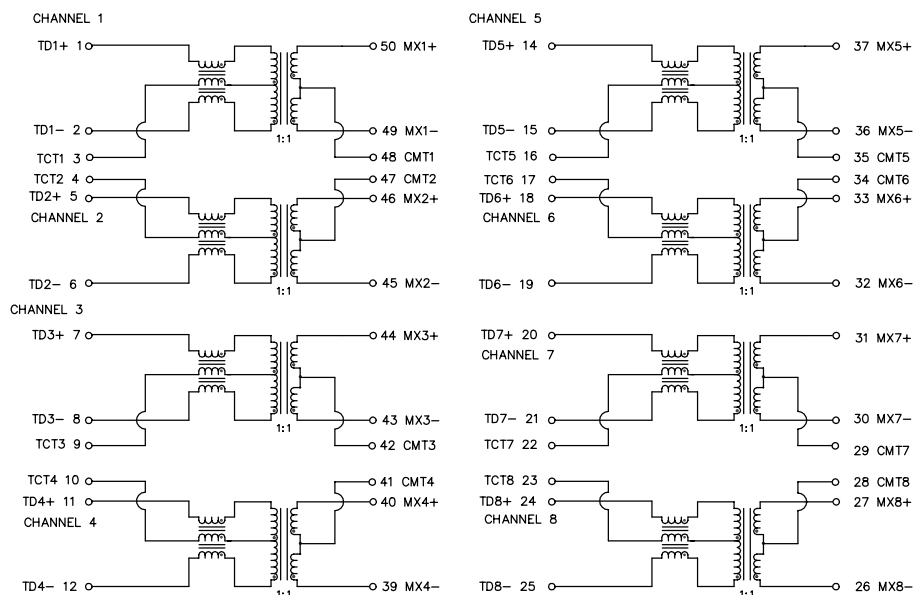


# Dual 1Gigabit Slimline Magnetic Modules

HX5020HL, HX6135HL, and HX6136HL

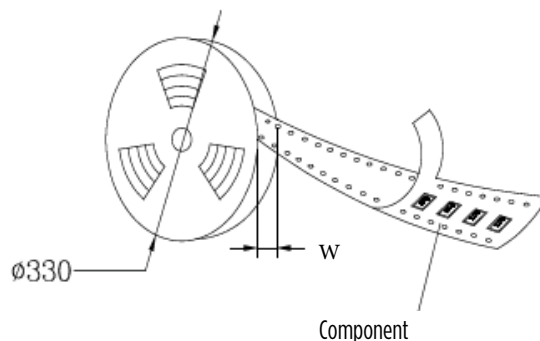
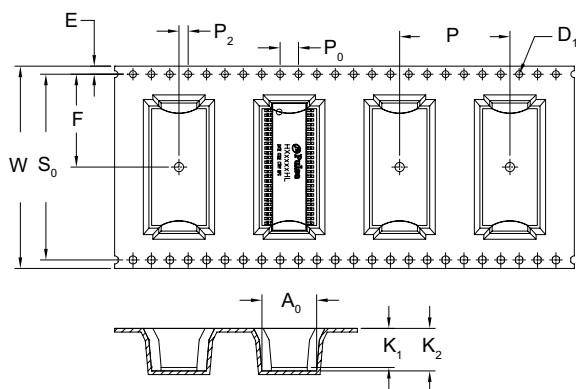
## Schematic

### HX6135HL



## Tape & Reel

### HX5020HL, HX6135HL and HX6136HL



|                |            |                |                     |                |            |                |            |
|----------------|------------|----------------|---------------------|----------------|------------|----------------|------------|
| W              | 44.00±0.30 | P              | 24.00±0.10          | A <sub>0</sub> | 11.50±0.10 | B <sub>0</sub> | 27.85±0.10 |
| S <sub>0</sub> | 40.40±0.10 | P <sub>0</sub> | 4.00±0.10           | A <sub>1</sub> | -----      | B <sub>1</sub> | -----      |
| E              | 1.75±0.10  | P <sub>2</sub> | 2.00±0.15           | A <sub>2</sub> | -----      | B <sub>2</sub> | -----      |
| F              | 20.20±0.15 | D <sub>0</sub> | -----               | K <sub>0</sub> | 9.25±0.10  | K <sub>1</sub> | 8.50±0.10  |
| T              | 0.50±0.05  | D <sub>1</sub> | 1.50 ±0.10<br>-0.00 |                |            |                | UNIT: mm   |

ALL Dimensions meet EIA-481-D requirements.

1. **Material:** Black Conductive Polystyrene
2. **Components per Reel:** 250 pcs
3. **Quantity per box:** 5x reels = 1250 pcs

## For More Information:

Americas - [prodinfonetworkamericas@yageo.com](mailto:prodinfonetworkamericas@yageo.com) | Europe - [prodinfonetworkemea@yageo.com](mailto:prodinfonetworkemea@yageo.com) | Asia - [prodinfonetworkapac@yageo.com](mailto:prodinfonetworkapac@yageo.com)

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