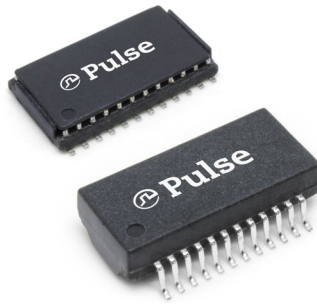


# Single Port 1Gigabit PoE SMD Magnetic Modules

HB5005HLT, HB5006HLT, HXB5008HLT, HB5004HLT, HB5009HLT,  
HXB5007HLT, HB5010HLT, HB5011HLT, HXB5011HLT and HXB6020HLT



- Fully RoHS and Halogen Free
- Single port, Low profile compact footprint
- Supports 30 & 60 Watt, 4pair Power over Ethernet
- Meet or exceed IEEE802.3ab/af/at for 1000Base-T
- Compatible with all 1:1 turns ration PHYs
- Commercial and Industrial Temperature
- Reliable SMD packages support 245°C pk Reflow
- All components Supplied in Tape and Reel

Electrical Specification @ 25°C (OCL@ 8mA DC)

| Part Number | Media side Inductance<br>(@100KHz/0.1Ve)<br>uH min | Insertion Loss<br>(dB max) | Return Loss<br>(dB min) |         |                      | PoE<br>(Current Per Pair mA) | Operating Temperature<br>(°C) | Isolation<br>(Pri:Sec) | Note                 |
|-------------|----------------------------------------------------|----------------------------|-------------------------|---------|----------------------|------------------------------|-------------------------------|------------------------|----------------------|
|             |                                                    |                            | 1-100 MHz               | 1-40MHz | 40< f ≤ 100 MHz      |                              |                               |                        |                      |
| HB5005HLT   | 350                                                | -1.0                       | -16                     | -16     | -(10-20 log10(f/80)) | 350                          | 0 to 70°                      | 1500Vrms               | 30W PoE 4 Pair       |
| HB5006HLT   | 350                                                | -1.0                       | -16                     | -16     | -(10-20 log10(f/80)) | 350                          | 0 to 70°                      | 1500Vrms               | 30W PoE 4 Pair       |
| HXB5008HLT  | 350                                                | -1.0                       | -16                     | -16     | -(10-20 log10(f/80)) | 350                          | -40° to 85°                   | 1500Vrms               | 30W PoE 4 Pair       |
| HB5004HLT   | 350                                                | -1.0                       | -16                     | -16     | -(10-20 log10(f/80)) | 350                          | 0 to 70°                      | 1500Vrms               | 30W PoE 4 Pair       |
| HB5009HLT   | 350                                                | -1.0                       | -16                     | -16     | -(10-20 log10(f/80)) | 350                          | 0 to 70°                      | 1500Vrms               | 30W PoE 4 Pair       |
| HXB5007HLT  | 350                                                | -1.0                       | -16                     | -16     | -(10-20 log10(f/80)) | 350                          | -40° to 85°                   | 1500Vrms               | 30W PoE 4 Pair       |
| HB5010HLT   | 350                                                | -1.0                       | -16                     | -16     | -(10-20 log10(f/80)) | 350                          | 0 to 70°                      | 1500Vrms               | 30W PoE, Surge 2.5KV |
| HXB6020HLT  | 350                                                | -1.0                       | -16                     | -16     | -(10-20 log10(f/80)) | 720                          | -40° to 85°                   | 1500Vrms               | 60W PoE 4 Pair       |

Note: \* Specifications listed above refer to the base component part number that is printed on the product - ie HXB5007HLT will be HXB5007HL

Electrical Specification @ 25°C (OCL@ 8mA DC)

| Part Number | Media side Inductance<br>(@100KHz/0.1Ve)<br>uH min | Insertion Loss<br>(dB max) | Return Loss<br>(dB min) |         |                      | PoE<br>(Current Per Pair mA) | Operating Temperature<br>(°C) | Isolation<br>(Pri:Sec) | Note   |
|-------------|----------------------------------------------------|----------------------------|-------------------------|---------|----------------------|------------------------------|-------------------------------|------------------------|--------|
|             |                                                    |                            | 1-100 MHz               | 1-40MHz | 40< f ≤ 100 MHz      |                              |                               |                        |        |
| HB5011HLT   | 350                                                | -1.0                       | -16                     | -16     | -(10-20 log10(f/80)) | -                            | 0 to 70°                      | 1500Vrms               | PCMCIA |
| HXB5011HLT  | 350                                                | -1.0                       | -16                     | -16     | -(10-20 log10(f/80)) | -                            | -40 to 85°                    | 1500Vrms               | PCMCIA |

Note: \* Specifications listed above refer to the base component part number that is printed on the product - ie HXB5011HLT will be HXB5011HL

## Process and Materials

### Notes:

- Storage Temperature:  
HBxxxxHL = -20 to +125°C  
HXBxxxxHL = -50 to +125°C
- Compliance to JEDEC-J-STD 020:  
i. Moisture Sensitive Level 1  
ii. Maximum peak Reflow Solder temperature 245°C
- All parts come in 13" (330mm) Diameter Tape and reel - see page 3 for details
- Header: Black Thermoset Plastic - Material flammability rating UL 94V-0
- Lead Frame: Cooper Alloy
- Underplate / Overplate: Tin electro-deposited over Nickel
- Finish: Matte finish Tin solder

# Single Port 1Gigabit PoE SMD Magnetic Modules

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HXB5007HLT, HB5010HLT, HB5011HLT, HXB5011HLT and HXB6020HLT

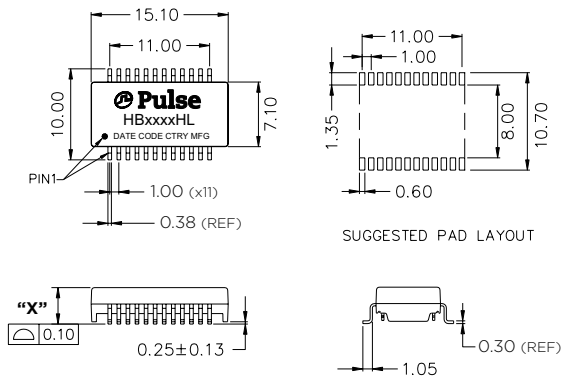


# Pulse

a YAGEO company

## Mechanicals

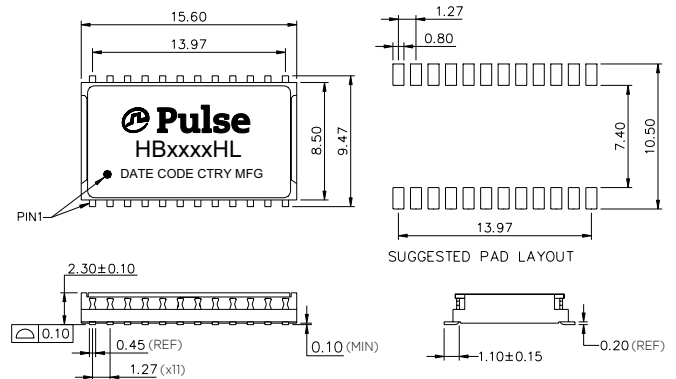
### HB5004/5/6/9/10HLT, HXB5007/8HLT, HXB6020HLT



#### Dimensions "X"

All parts the height is 4.00mm except for  
HXB6020HLT when it is 5.80mm

### HB5011HLT, HXB5011HLT

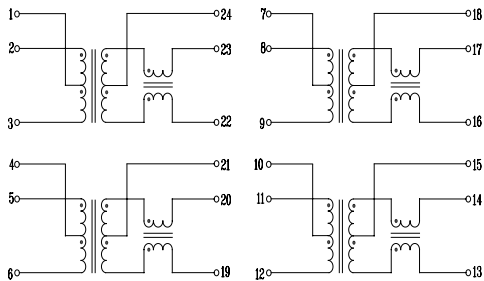


#### Dimensions: mm

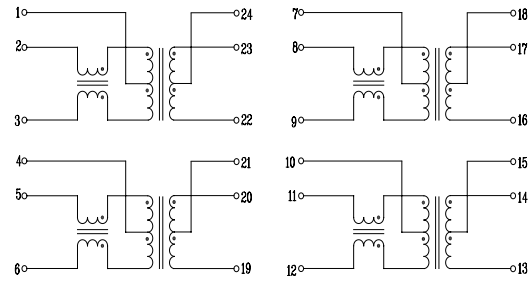
Unless otherwise specified,  
all tolerances are ± 0,25

## Schematics

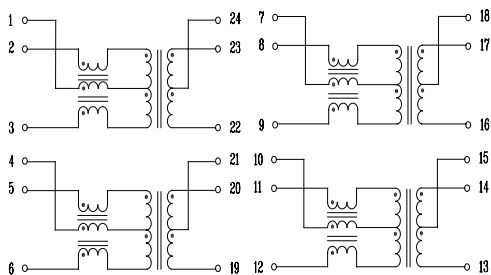
### HB5005HLT, HXB5007HLT, HB5010HLT



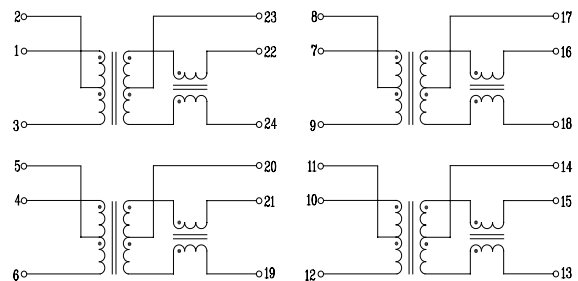
### HB5006HLT, HXB5008HLT, HXB6020HLT



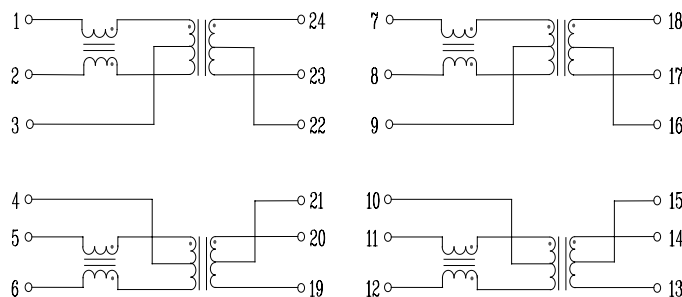
### HB5009HLT



### HB5004HLT



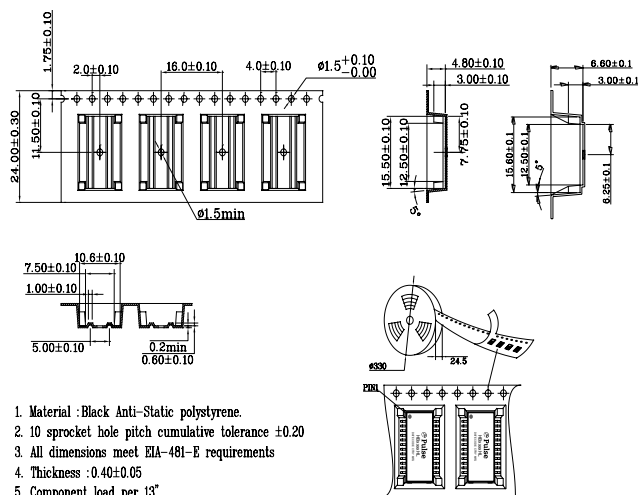
### HXB/HB5011HLT



*HB5005HLT, HB5006HLT, HXB5008HLT, HB5004HLT, HB5009HLT, HXB5007HLT, HB5010HLT, HB5011HLT, HXB5011HLT and HXB6020HLT*

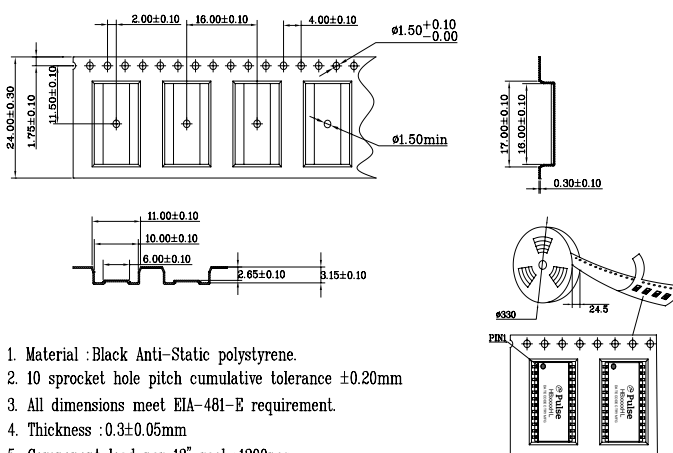
## Tape & Reel

**HB5004/5/6/9/10HLT, HXB5007/8HLT, HXB6020HLT**



1. Material : Black Anti-Static polystyrene.
2. 10 sprocket hole pitch cumulative tolerance  $\pm 0.20$
3. All dimensions meet EIA-481-E requirements
4. Thickness :  $0.40 \pm 0.05$
5. Component load per 13"

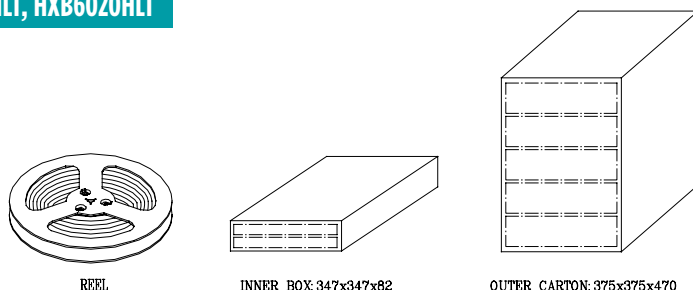
## HB5011HLT, HXB5011HLT



1. Material :Black Anti-Static polystyrene.
2. 10 sprocket hole pitch cumulative tolerance  $\pm 0.20\text{mm}$
3. All dimensions meet EIA-481-E requirement.
4. Thickness :  $0.3 \pm 0.05\text{mm}$
5. Component load per 13" reel :1200pcs .

## Carton Package

**HB5004/5/6/9/10HLT, HXB5007/8HLT, HXB6020HLT**



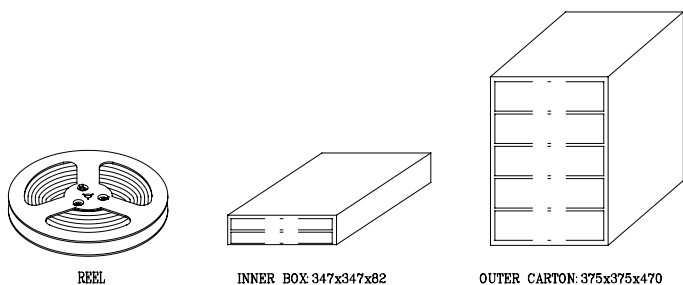
## HB/HXB50xxHLT

1. FULL REEL = 780PCS
2. INNER BOX = 2 REELS = 1560PCS
3. OUTER CARTON = 5 INNER BOXES = 7800PCS

HXB6020HLT

1. FULL REEL = 600PCS
2. INNER BOX = 2 REELS = 1200PCS
3. OUTER CARTON = 5 INNER BOXES = 6000PCS

## HB5011HLT, HXB5011HLT



1. 1 REEL=1200PCS  
2. 1 INNER BOX=2 REELS=2400PCS  
3. 1 OUTER CARTON=5 INNER BOXES=12000PCS

### For More Information:

Americas - prodinfo network [americas@vageo.com](mailto:americas@vageo.com) | Europe - prodinfo network [emea@vageo.com](mailto:emea@vageo.com) | Asia - prodinfo network [asia@vageo.com](mailto:asia@vageo.com)

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