



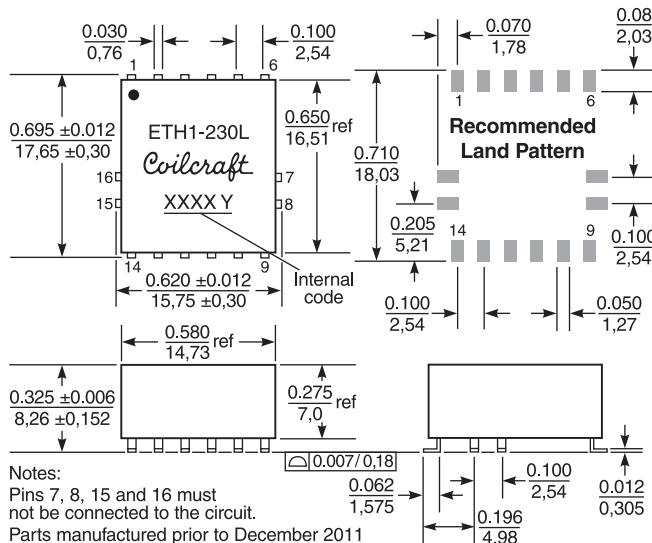
# “PoE Plus” Magnetics

The **ETH1-230L<sub>1</sub>** is developed for high power PoE applications in support of the goals of the IEEE 802.3at-2009 standard. This module is designed for 2-pair cabling plants at 30 Watts and two modules may be used for 4-pair cabling in 60 Watt applications. It exceeds the return loss requirements of Gbit Ethernet.

1. When ordering, please specify **packaging** code:

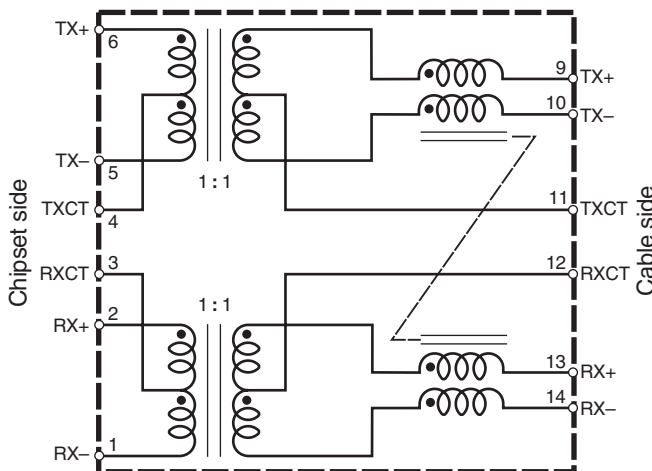
### ETH1-230LD

- Packaging:** **D** = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (400 parts per full reel).  
**B** = Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter D instead.



**Weight:** 3.0 g  
**Tape and reel:** 400/13" reel 32 mm tape

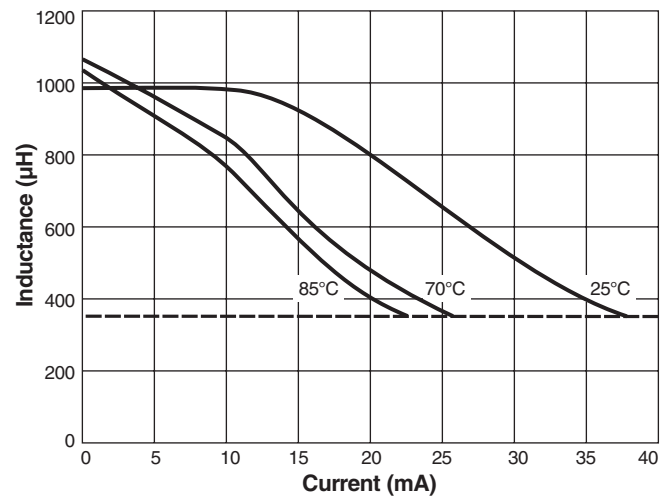
Dimensions are in inches/mm



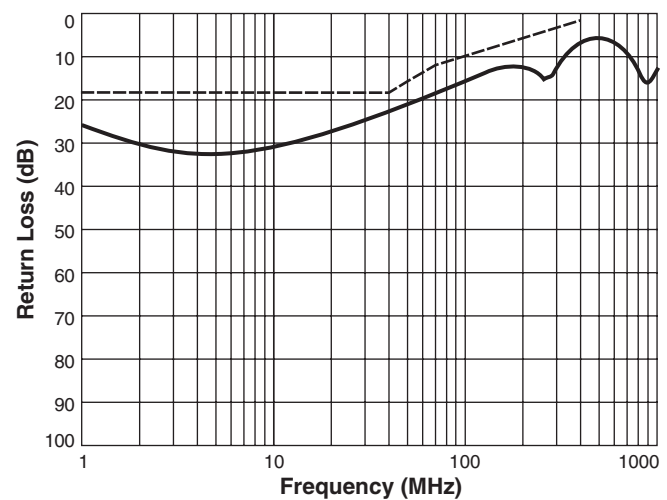
It has a minimum open-circuit inductance of 350  $\mu$ H at an offset current of 35 mA at 25°C ambient temperature, and can handle 22.5 mA minimum dc offset at 85°C. Typical temperature rise from 25°C ambient is 7°C with 800 mA and 10°C with 1000 mA dc current applied to one center tap of each isolation transformer. Winding to winding isolation is 1500 Vrms. Ambient temperature range: -40°C to +85°C with 1 A current.

Request free evaluation samples by contacting Coilcraft or visiting [www.coilcraft.com](http://www.coilcraft.com).

## L vs Offset Current



## Return Loss



802.3af specification:  
 18 dB min from 1 MHz to 40 MHz  
 16 dB min at 50 MHz  
 12 dB min at 80 MHz  
 10 dB min at 100 MHz



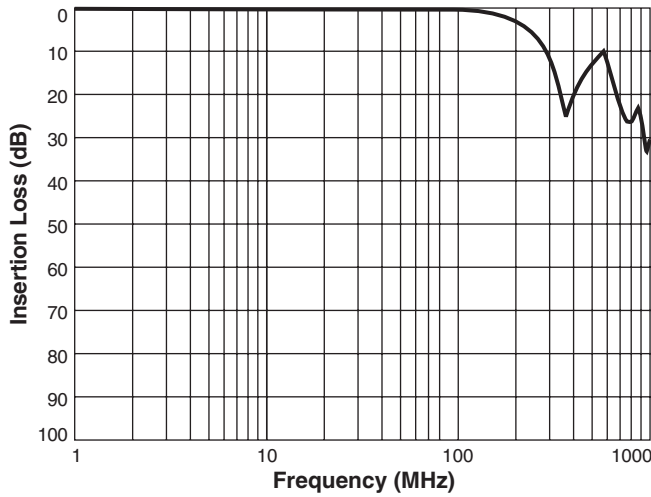
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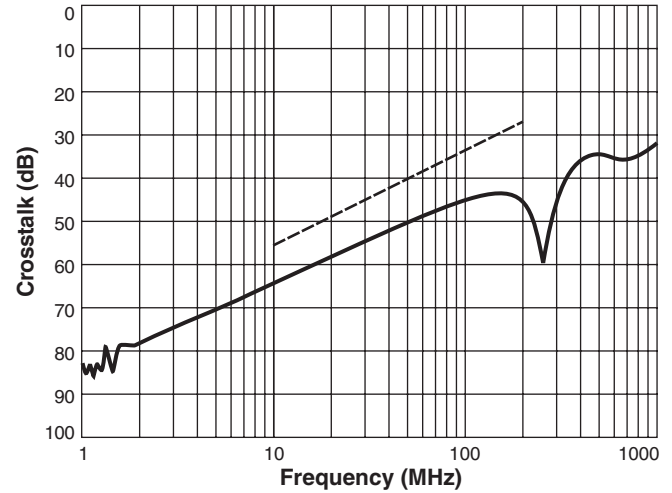
# “PoE Plus” Magnetics

## Insertion Loss



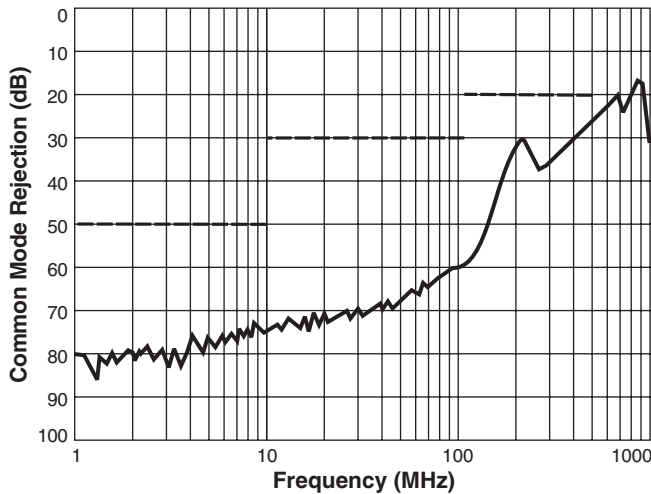
802.3af specification:  
 1.0 min dB from 0.1 MHz to 100 MHz  
 1.2 min dB at 125 MHz

## Crosstalk



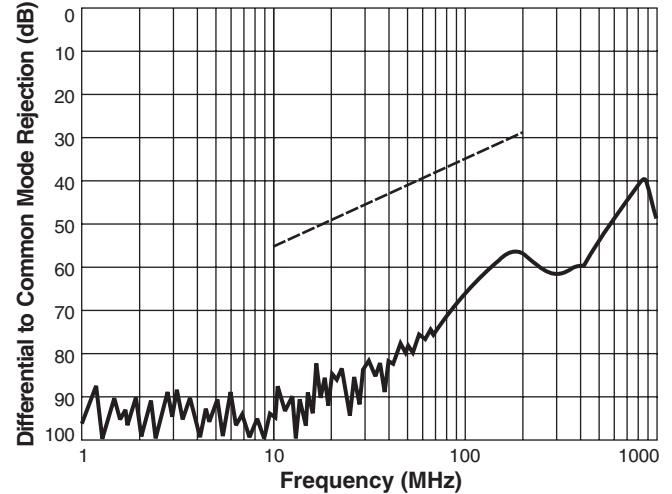
802.3af specification:  
 45 dB min at 30 MHz  
 40 dB min at 60 MHz  
 33 dB min at 100 MHz

## Common Mode Rejection



802.3af specification:  
 50 dB min from 1 MHz to 10 MHz  
 30 dB min from 10 MHz to 125 MHz  
 20 dB min from 125 MHz to 500 MHz

## Differential to Common Mode Rejection



802.3af specification:  
 45 dB min at 30 MHz  
 40 dB min at 60 MHz  
 35 dB min at 100 MHz



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