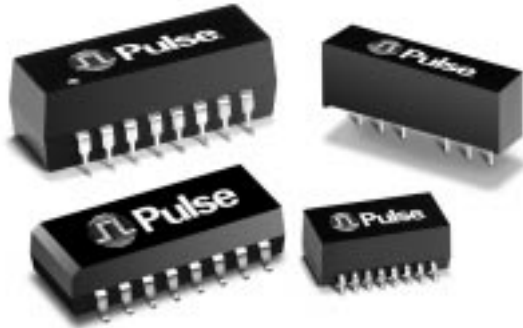






# HIGH SPEED LAN MAGNETICS MODULES

Designed for 10/100Base-TX



-  Meets all IEEE 802.3 and ANSI X3.236 standards including 350  $\mu$ H OCL with 8 mA bias applied from 0°C to 70°C
-  Compatible with AMD, Davicom, ICS, Level One, National, and TDK transceivers
-  IC grade transfer molded package withstands 235°C IR reflow
-  Models offered with patented construction for high reliability (U.S. Pat. No. 5,015,981)\*

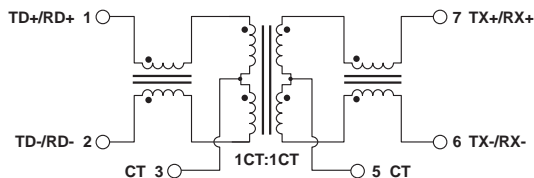
## Electrical Specifications @ 25°C — Operating Temperature 0°C to 70°C

Part Number	Insertion Loss (dB MAX)	Return Loss (dB MIN @ 100 $\Omega$ )				Differential to Common Mode Rejection (dB MIN)			Crosstalk (dB MIN)			Hipot (Vrms MIN)
		0.1-100 MHz	1-30 MHz	40 MHz	50 MHz	60-80 MHz	32 MHz	62 MHz	100 MHz	32 MHz	62 MHz	
PE-68508	-1.0	-20	-15.0	-15.0	-10	-50	-45	-40	—	—	—	1500
PE-68510	-1.0	-16	-13.5	-11.6	-10	-32	-32	-27	—	—	—	1500
PE-68515	-1.0	-16	-13.5	-11.5	-10	-42	-37	-33	-40	-38	-38	1500
PE-68515L*	-1.0	-16	-13.5	-11.5	-10	-42	-37	-33	-40	-38	-38	1500
PE-68517	-1.0	-16	-13.5	-11.5	-10	-45	-40	-35	-40	-38	-35	1500
PE68517L*	-1.0	-16	-13.5	-11.5	-10	-45	-40	-35	-40	-38	-35	1500
H1012*	-1.0	-16	-13.5	-11.5	-10	-42	-37	-33	-40	-38	-34	1500
H1019*	-1.0	-16	-13.5	-11.5	-10	-42	-37	-33	-40	-38	-35	1500
H1042*	-1.0	-16	-13.5	-11.5	-10	-45	-40	-35	-40	-38	-35	1500

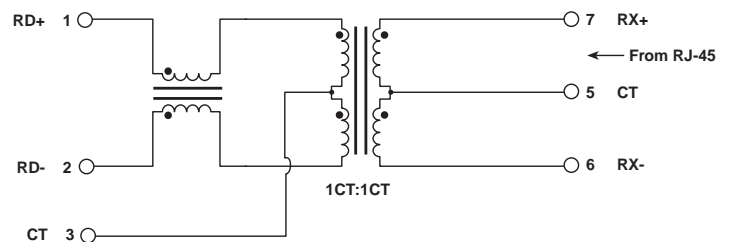
NOTE: The PE-68508 and PE-68510 meet IEEE OCL requirements at 25°C only.

## Schematics

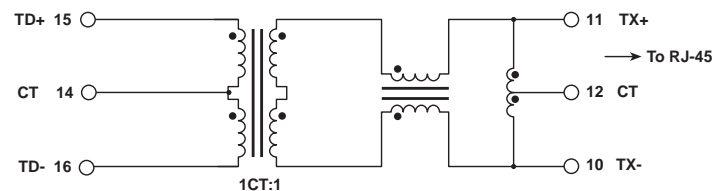
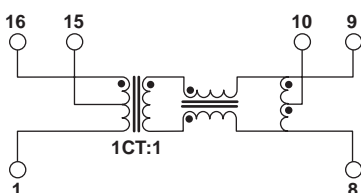
### PE-68508



### PE-68515, PE-68515L, H1012



### PE-68510



# HIGH SPEED LAN MAGNETICS MODULES

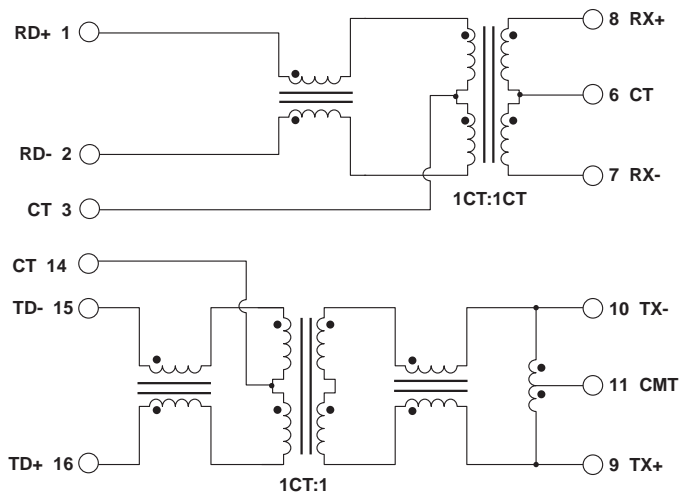
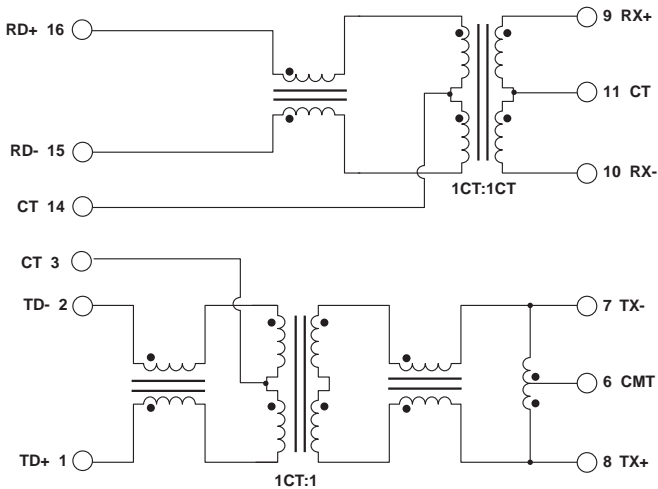
Designed for 10/100Base-TX



## Schematics (continued)

PE-68517, PE-68517L, H1019

H1042

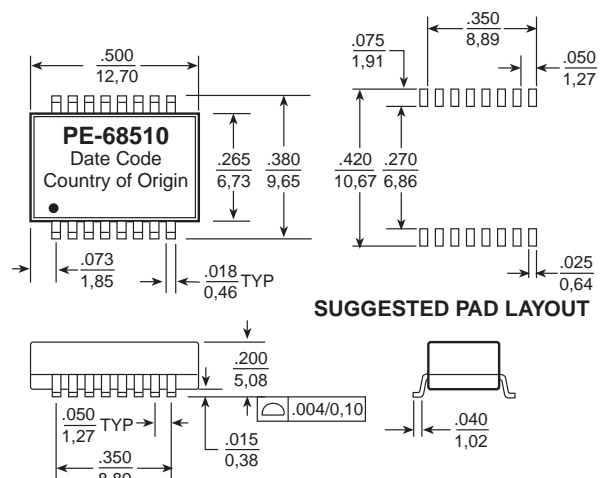
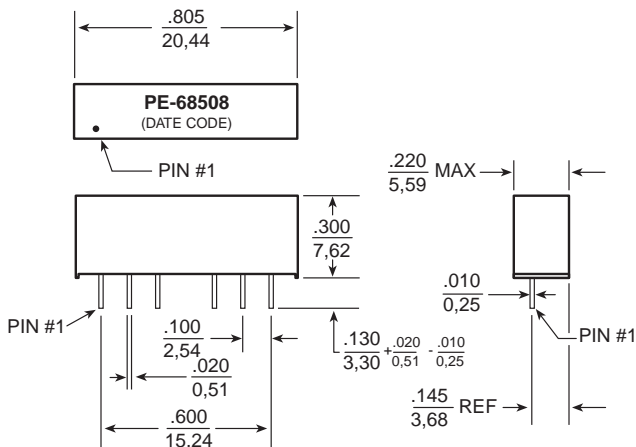


NOTE: Pins 5 and 12 are "No Connect." Connect pins 3 and 14 to analog GND for added shielding.

## Mechanicals

PE-68508

PE-68510



Weight . . . . .1.4 grams  
Tube . . . . .25/tube

Dimensions:  $\frac{\text{Inches}}{\text{mm}}$  Unless otherwise specified, all tolerances are  $\pm \frac{.010}{0.25}$

Weight . . . . .0.84 grams  
Tube . . . . .25/tube  
Tape & Reel . . .900/reel

# HIGH SPEED LAN MAGNETICS MODULES

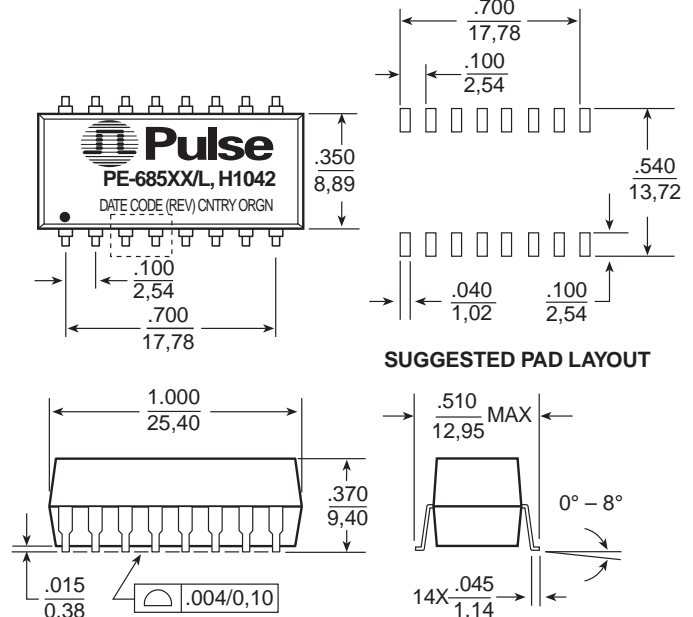
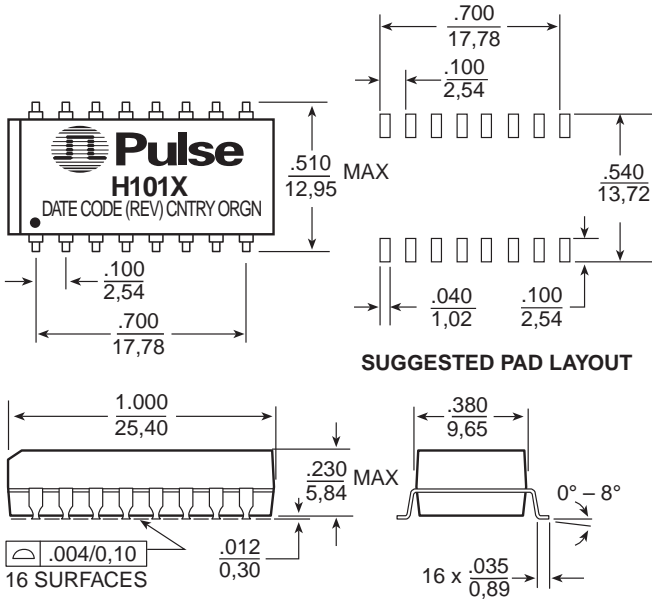
Designed for 10/100Base-TX



## Mechanicals (continued)

**H1012, H1019**

**PE-68515, PE-68515L, PE-68517, PE-68517L, H1042**



**NOTE:** The PE-68515/L pin 3 is removed.  
The PE-68517/L pin 4 is removed.

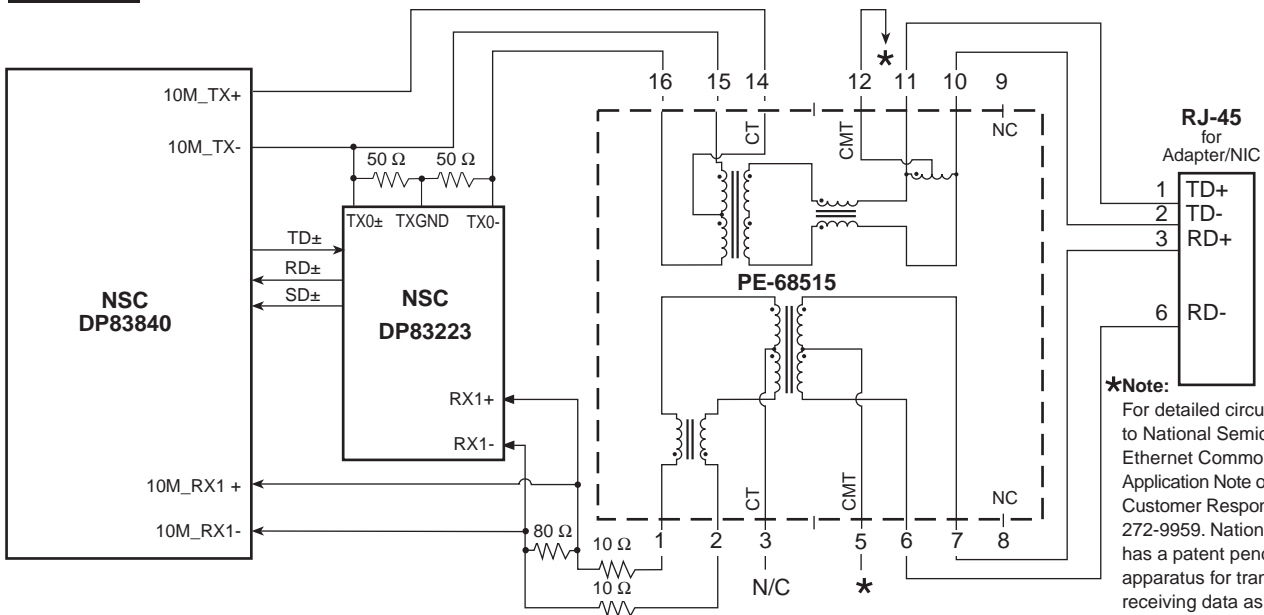
Weight ..... 2.5 grams  
Tube ..... .23/tube  
Tape & Reel ..... .350/reel

**Dimensions:**  $\frac{\text{Inches}}{\text{mm}}$  Unless otherwise specified, all tolerances are  $\pm \frac{.010}{0.25}$

Weight ..... 3.8 grams  
Tube ..... .20/tube  
Tape & Reel ..... .160/reel

## Typical Application Circuits and Schematics

**PE-68515**



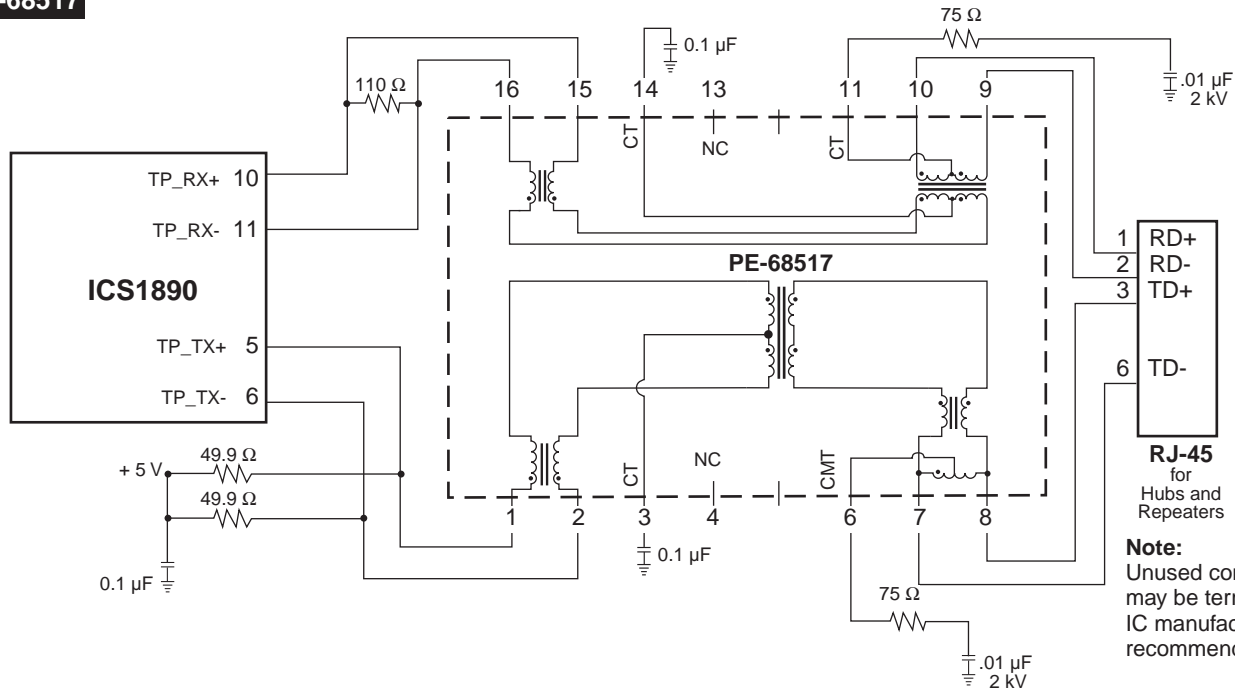
# HIGH SPEED LAN MAGNETICS MODULES

## Designed for 10/100Base-TX



### Typical Application Circuits and Schematics (continued)

#### PE-68517



### Application Notes

This line of 10/100Base-TX magnetics modules have been specifically designed for the implementation of a 10Base-T and 100Base-TX transmission over data grade unshielded twisted pair cable (UTP-5). The modules provide excellent EMI filtering and are suitable for adapter card and multiport applications. The accessibility of the primary center-tap of the transmit isolation transformer allows for impedance matching of both the 10Base-T and 100Base-TX signals. This allows the system designer to provide a single magnetics module and RJ-45 connector solution for both data rates.

Pulse has worked closely with the leading IC manufacturers in providing these 10/100 solutions. This assures compatibility with each transceiver. Additionally, each of the single channel (TX & RX included) solutions meet the stringent open circuit inductance requirements imposed by the IEEE. When an 8 mA DC current is applied across the transformer windings, the transformer will provide at least 350 μH over

the full operating temperature range (0°C to 70°C). The transformers used in each module also provide 1500 Vrms minimum isolation, wide bandwidth with minimal attenuation and fast rise times to minimize system level jitter.

Surface mount devices manufactured by Pulse are designed to meet all published specifications after exposure to surface mount soldering temperatures. The SMT modules in this data sheet are transfer molded in I.C. style packaging, making them robust enough to withstand convection and infrared reflow solder temperatures of up to 235°C. Additionally, compliant leads provide excellent solder-joint reliability with a coplanarity of ±.002" (0,05 mm).

**NOTE:** Modules are packaged in tubes, unless Tape & Reel is specified. Please add the suffix "T", such as H1012T for Tape & Reel orders.

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