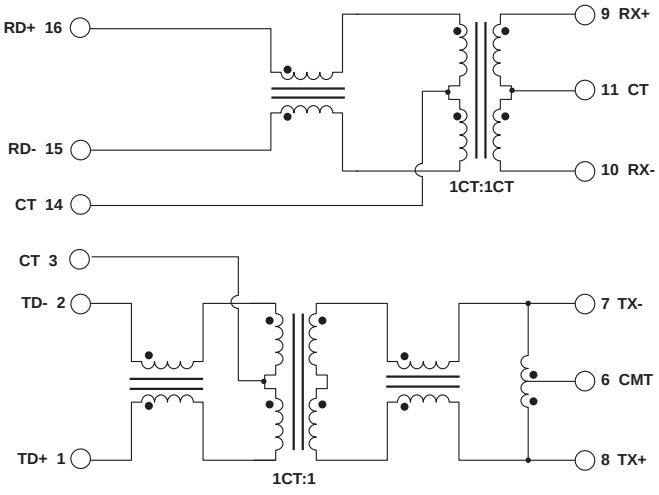
HIGH SPEED LAN MAGNETICS MODULES
Designed for 10/100Base-TX

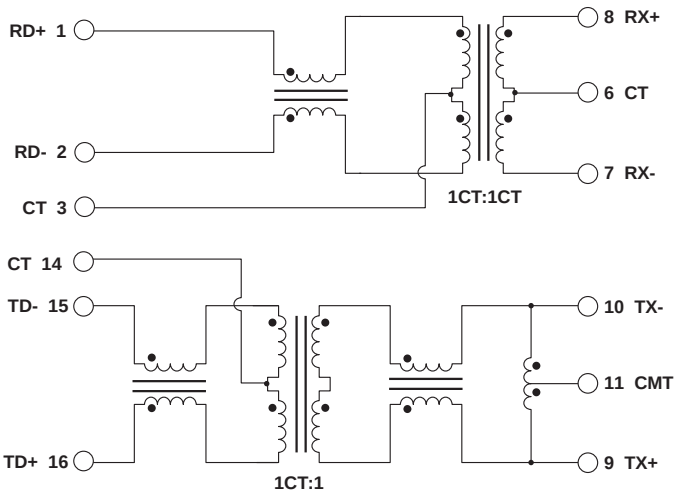
Pulse
A TECHNITROL COMPANY

Schematics (continued)

PE-68517, PE-68517L, H1019



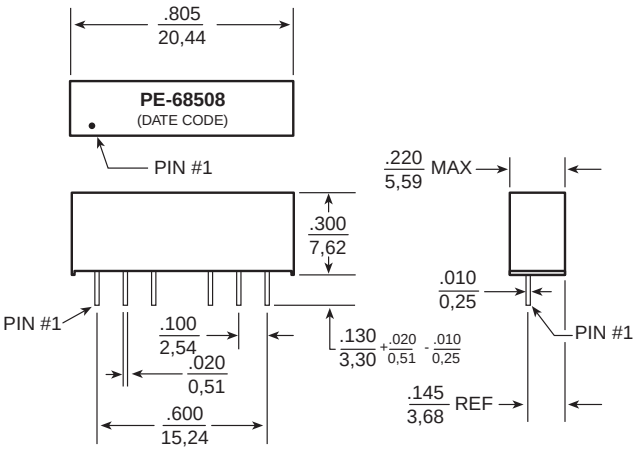
H1042



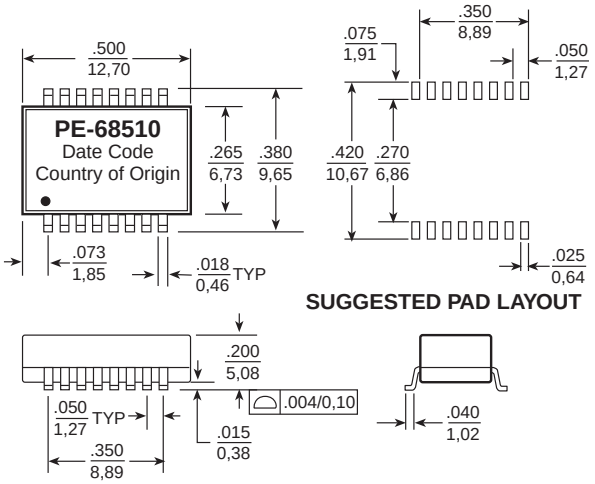
NOTE: Pins 5 and 12 are "No Connect." Connect pins 3 and 14 to analog GND for added shielding.

Mechanicals

PE-68508



PE-68510



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

Dimensions: Inches / mm Unless otherwise specified, all tolerances are ± .010 / 0,25

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

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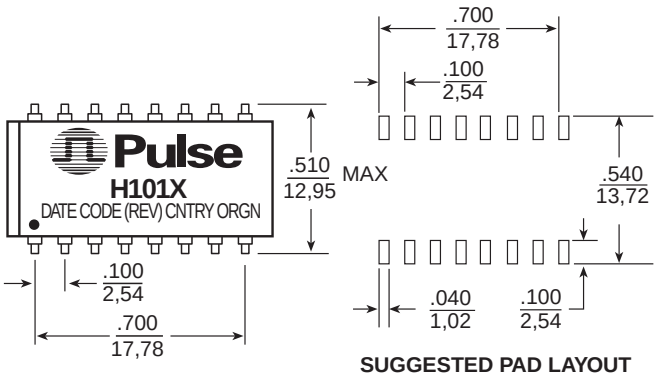
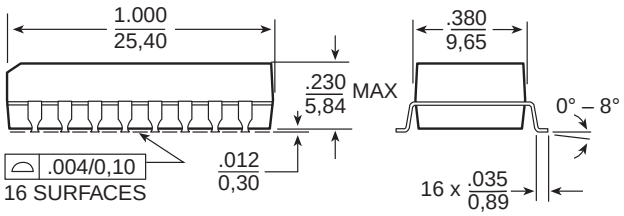
Mechanicals (continued)

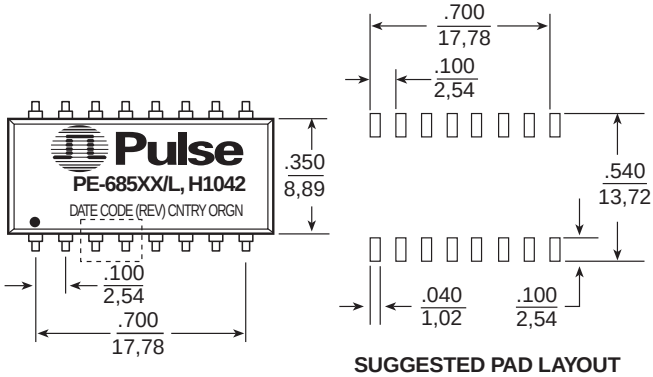
H1012, H1019



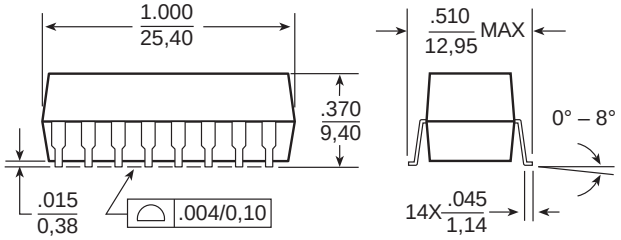
SUGGESTED PAD LAYOUT



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



SUGGESTED PAD LAYOUT



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

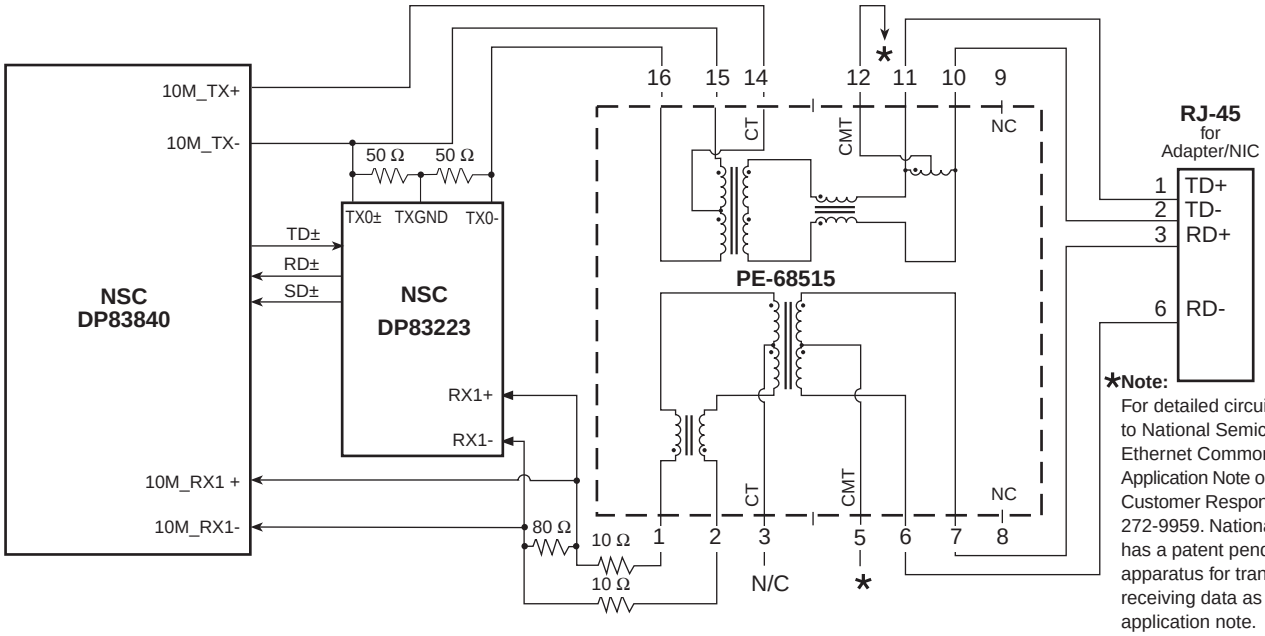
Weight . . . . . .2.5 grams
Tube 23/tube
Tape & Reel 350/reel

Dimensions: Inches / mm Unless otherwise specified, all tolerances are ± .010 / 0,25

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

Typical Application Circuits and Schematics

PE-68515



***Note:** For detailed circuit schematic, refer to National Semiconductor 10/100 Ethernet Common Magnetics Application Note or contact National's Customer Response Center at (800) 272-9959. National Semiconductor has a patent pending on the apparatus for transmitting and/or receiving data as shown in their application note.

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HIGH SPEED LAN MAGNETICS MODULES
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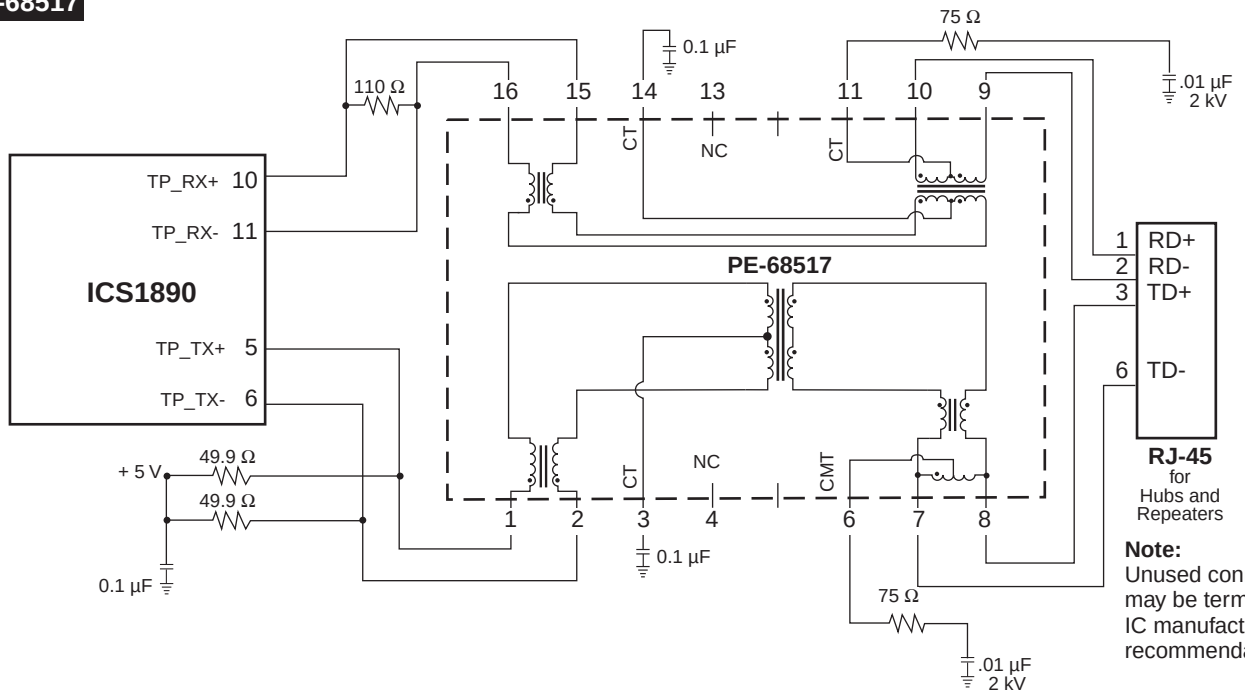
Typical Application Circuits and Schematics (continued)

PE-68517



Note:
Unused connector pins may be terminated per IC manufacturer's recommendation.

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 (0C° 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 H1012**T** for Tape & Reel orders.

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