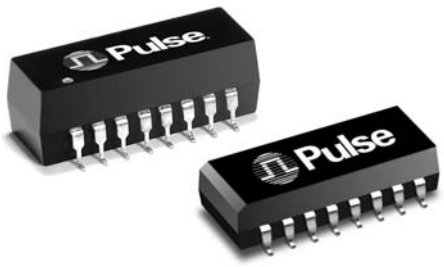
10/100 BASE-T SINGLE PORT TRANSFORMER MODULES
With 1:1 Transmit Turns Ratios

Pulse
A TECHNITROL COMPANY



- Compatible with Broadcom, ICS, Intel, Kendin, Lucent, National Semiconductor and TDK Transceivers
- Meets all IEEE 802.3 and ANSI X3.263 standards including 350 µH OCL with 8 mA bias
- IC grade transfer-molded package withstands 235°C IR reflow
- Patented Interlock Base construction for high reliability

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

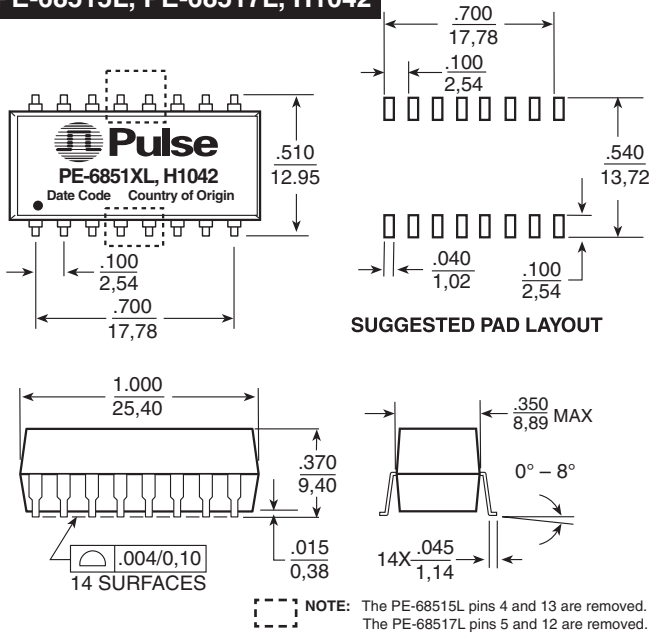
Part Number	Insertion Loss (dB MAX)	Return Loss (dB MIN @ 100 Ω)				Differential to Common Mode Rejection (dB MIN)			Crosstalk (dB TYP)			Hipot (Vrms MIN)
	0.1-100 MHz	1-30 MHz	40 MHz	50 MHz	60-80 MHz	30 MHz	60 MHz	100 MHz	30 MHz	60 MHz	100 MHz	
H1012	-1.0	-20	-20	-18	-14	-42	-36	-33	-50	-40	-40	1500
H1019	-1.0	-20	-18	-18	-14	-45	-40	-35	-45	-40	-35	1500
H1086 [1]	-1.0	-22	-20	-18	-12	-45	-40	-35	-50	-40	-40	1500
H1042	-1.0	-16	-13.5	-11.5	-10	-45	-40	-35	-40	-38	-35	1500
H1089	-1.0	-22	-20	-18	-12	-42	-38	-32	-50	-40	-40	1500
H1117	-1.0	-22	-20	-18	-12	-45	-40	-35	-50	-40	-40	1500
H1138	-0.8	-18	-16	-14	-12	42	-37	-33	-50	-40	-40	1500
HX1148 [2]	-1.5	-18	-13.5	-11.5	-10	-42	-37	-33	-50	-40	-40	1500
HX1178 [3]	-1.5	-18	-13.5	-11.5	-10	-42	-37	-33	-50	-40	-40	1500
PE-68515L	-1.0	-18	-18	-16	-12	-50	-45	-40	-55	-50	-50	1500
PE-68517L	-1.0	-18	-16	-15	-12	-45	-40	-35	-50	-40	-40	1500

1. Rise time optimized for National's DP83843.
2. Operating temperature: -40°+ 85°C.
3. Meets UL 1950 and UL 1459 3rd edition requirements.

U.S. Patent No. 5,015,981

Mechanicals

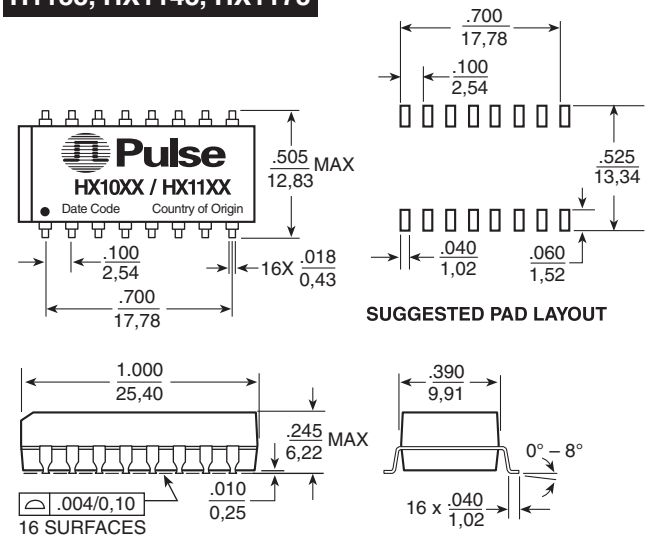
PE-68515L, PE-68517L, H1042



NOTE: The PE-68515L pins 4 and 13 are removed.
The PE-68517L pins 5 and 12 are removed.

Weight . . . . . 3.5 grams
Tube 20/tube
Tape & Reel 160/reel

H1012, H1019, H1086, H1089, H1117, H1138, HX1148, HX1178



Weight . . . . . .3.0 grams
Tube 20/tube
Tape & Reel 300/reel

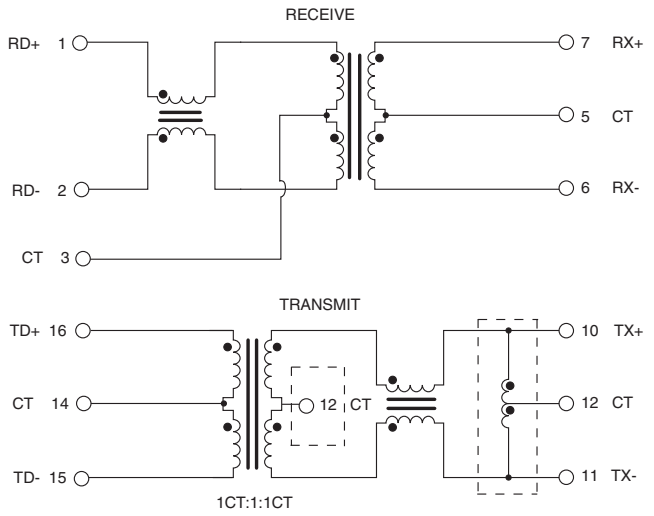
Dimensions: Inches / mm Unless otherwise specified, all tolerances are ± .010 / 0,25

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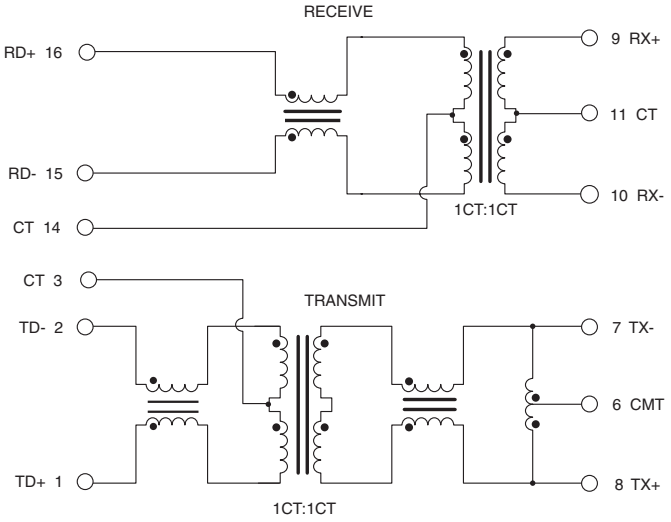
Schematics

PE-68515L, H1012, H1086, H1089, HX1148, H1138

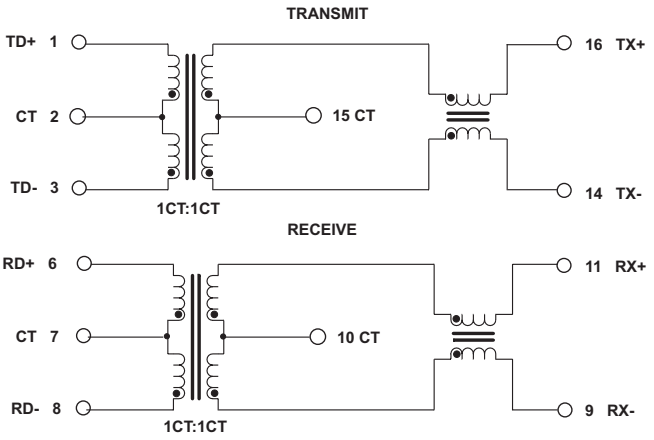


Center-tapped inductor not included in H1089. So, pin 12 connects to the transformer center tap.

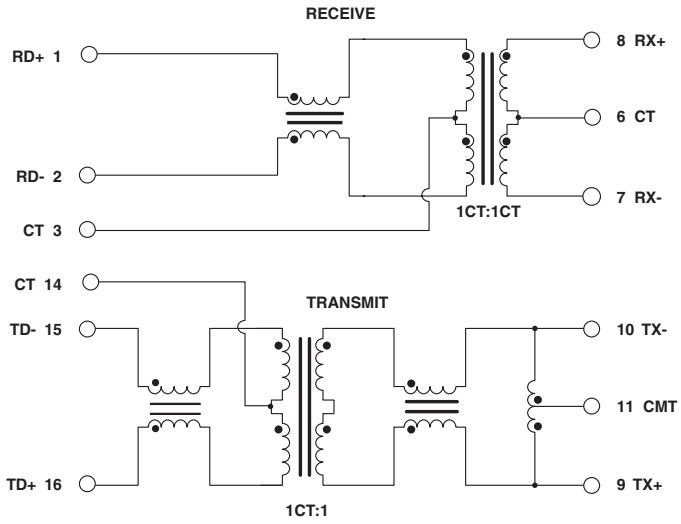
PE-68517L, H1019



H1117, HX1178



H1042

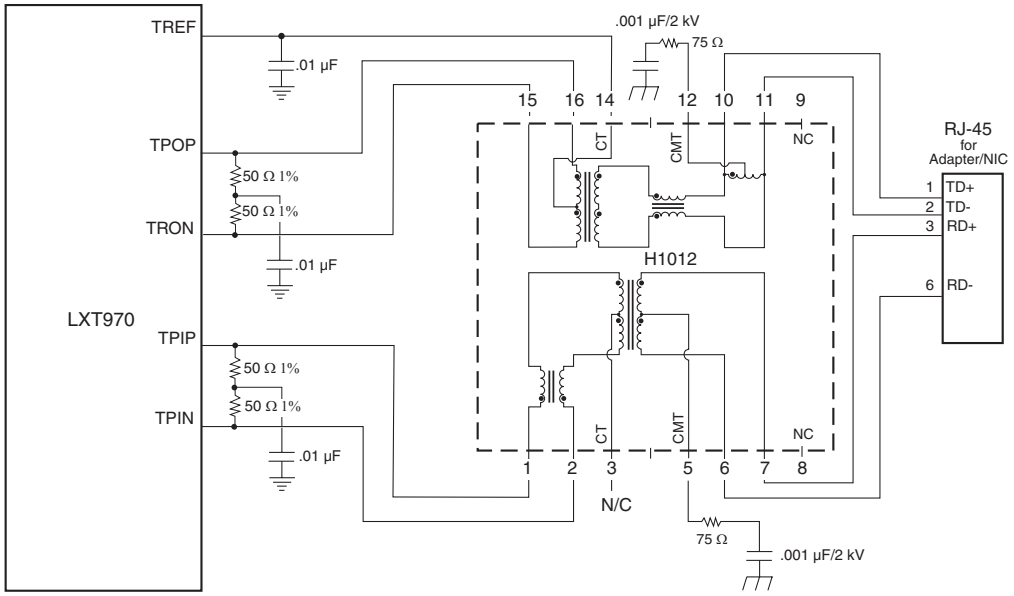


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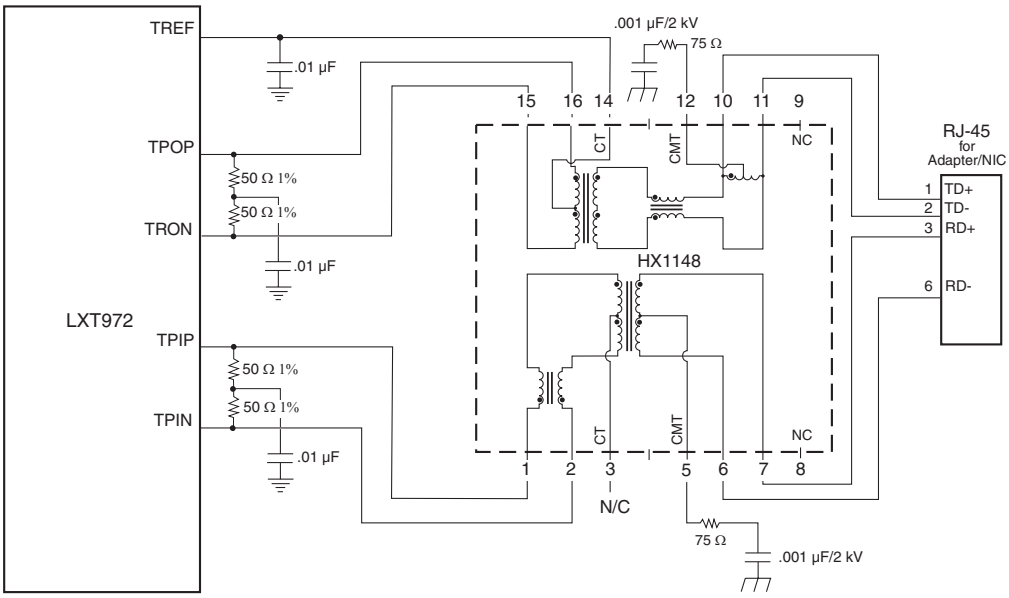
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Typical Application Circuits

H1012, H1138



HX1148



10/100 BASE-T SINGLE PORT TRANSFORMER MODULES
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Application Notes

This line of 10/100Base-TX magnetics modules has 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.

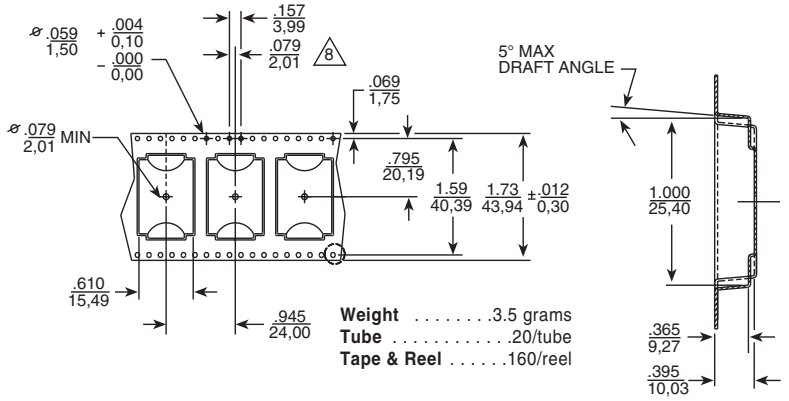
Pulse has worked closely with the leading IC manufacturers in providing these 10/100 solutions, thereby assuringcompatibility with each transceiver. Additionally, each solution meets the stringent open circuit inductance requirements imposed by IEEE. When an 8 mA DC current is applied across the transformer windings, the transformer will provide at least 350 µH. The transformers used in each module also provide 1500 Vrms minimum isolation, wide band width with minimal attenuation and fast rise times to minimize system level jitter. The H1086 provides a slower rise time for use with National's DP83843. The H1117 pin out is optimized for Kendin's KS8731 and KS8732. The HX1148 and HX1178 provide an extended temperature operating range (-40° to +85°C).

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 IC 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.

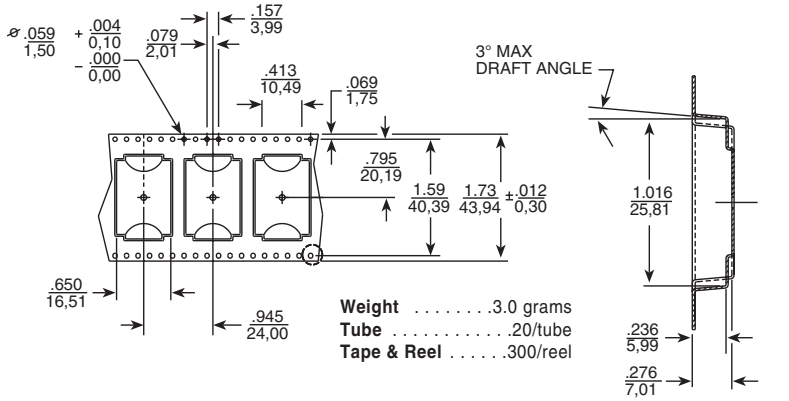
Tape & Reel Specifications

PE-68515L, PE-68517L, H1042



Weight . . . . . .3.5 grams
Tube 20/tube
Tape & Reel 160/reel

H1012, H1019, H1086, H1089, H1117, H1138, HX1148, HX1178



Weight . . . . . .3.0 grams
Tube 20/tube
Tape & Reel 300/reel

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