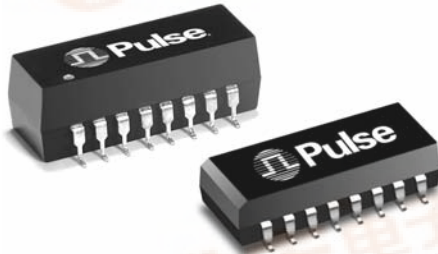


10/100 BASE-T SINGLE PORT TRANSFORMER MODULES

With 1:1 Transmit Turns Ratios



- Compatible with Broadcom, ICS, Intel, Kendin, Lucent, National Semiconductor and TDK Transceivers
- Meets all IEEE 802.3 and ANSI X3.263 standards including 350 μ H 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

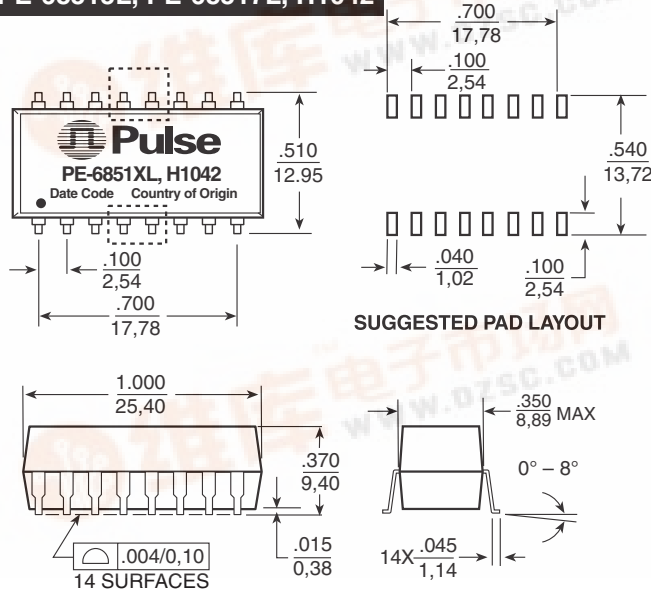
Part Number	Insertion Loss (dB MAX)	Return Loss (dB MIN @ 100 Ω)					Differential to Common Mode Rejection (dB MIN)			Crosstalk (dB TYP)			Hipot (Vrms MIN)
	0.1-100 MHz	1-30 MHz	40 MHz	50 MHz	60-80 MHz	30 MHz	60 MHz	100 MHz	30 MHz	60 MHz	100 MHz		
H1012	-1.0	-20	-20	-18	-14	-42	-36	-33	-50	-40	-40	1500	
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	

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

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

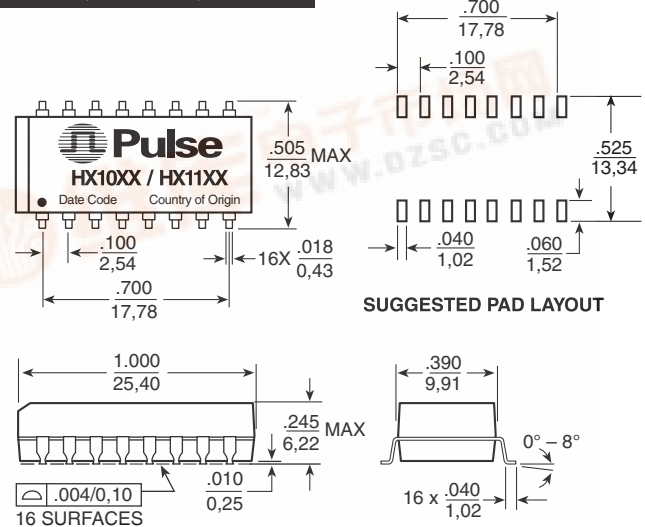
Mechanicals

PE-68515L, PE-68517L, H1042



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

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



Weight 3.0 grams
Tube20/tube
Tape & Reel300/reel

Dimensions: Inches mm Unless otherwise specified, all tolerances are $\pm .010$ / $\pm .025$

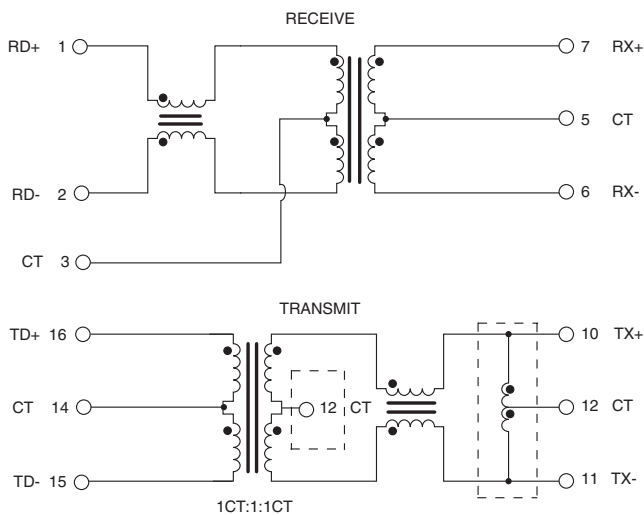
10/100 BASE-T SINGLE PORT TRANSFORMER MODULES

With 1:1 Transmit Turns Ratios



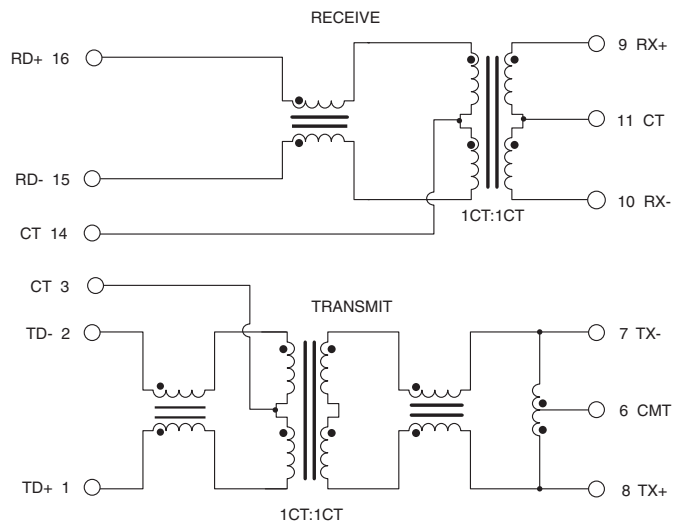
Schematics

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

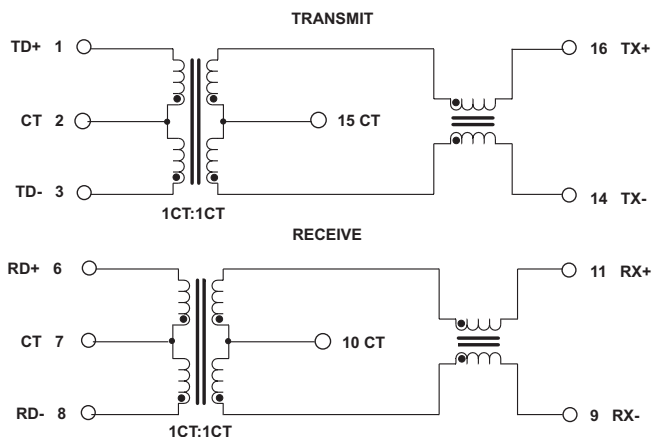


Center-tapped inductor not included in H1089. So, pin 12 connects to the transformer center tap.

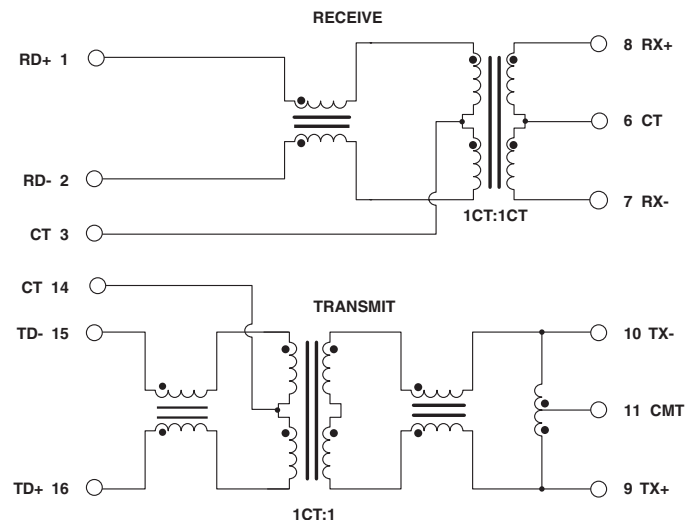
PE-68517L, H1019



H1117, HX1178



H1042



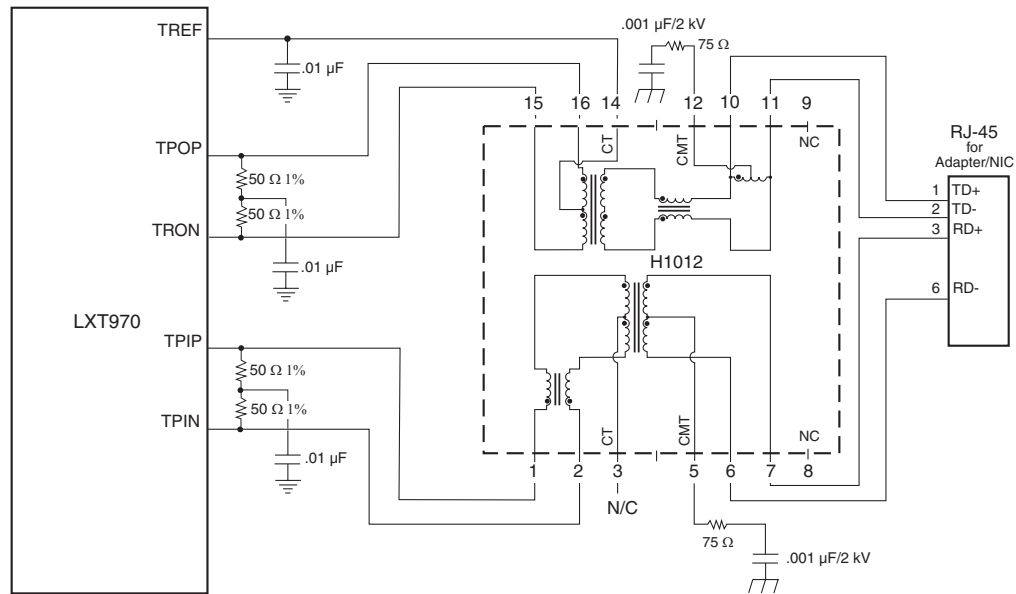
10/100 BASE-T SINGLE PORT TRANSFORMER MODULES

With 1:1 Transmit Turns Ratios

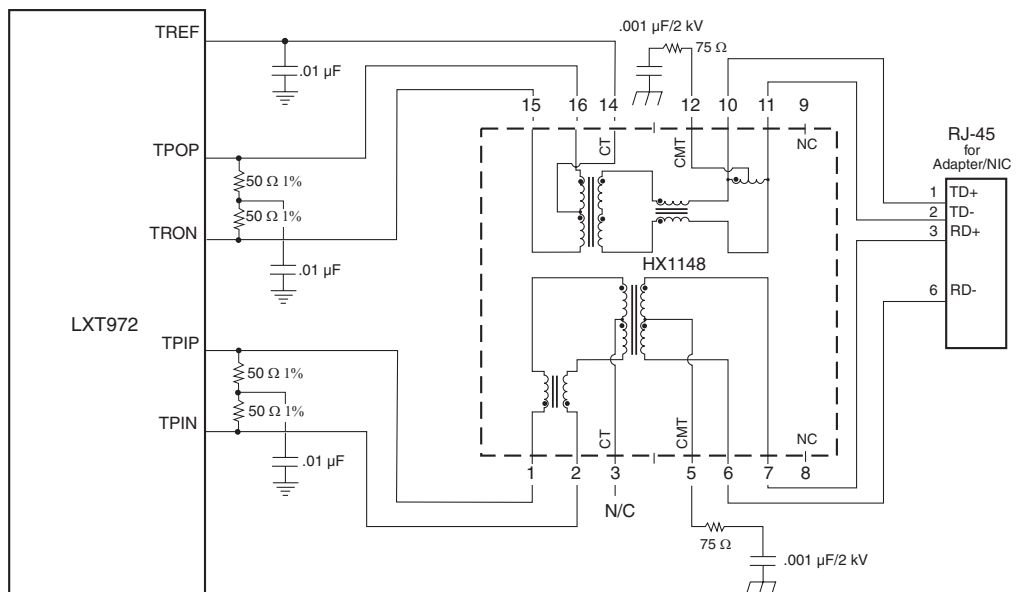


Typical Application Circuits

H1012, H1138



HX1148



10/100 BASE-T SINGLE PORT TRANSFORMER MODULES

With 1:1 Transmit Turns Ratios



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.

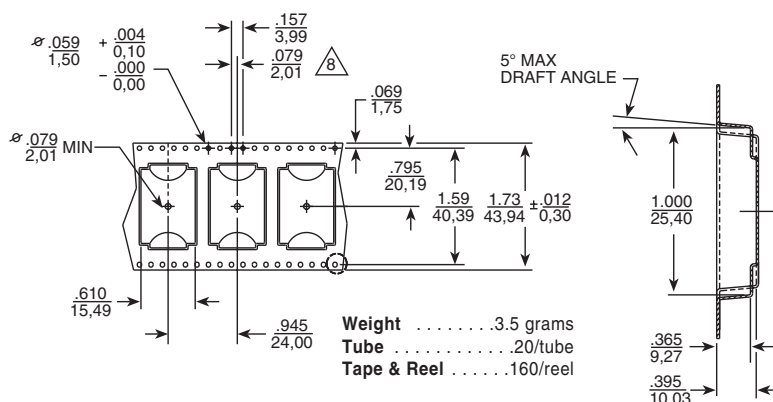
Pulse has worked closely with the leading IC manufacturers in providing these 10/100 solutions, thereby assuring compatibility with each transceiver. Additionally, each solution meets the stringent open circuit inductance requirements imposed by IEEE. When an 8 mA DC current is applied across the transformer windings, the transformer will provide at least 350 μ H. 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 $\pm.002"$ (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.

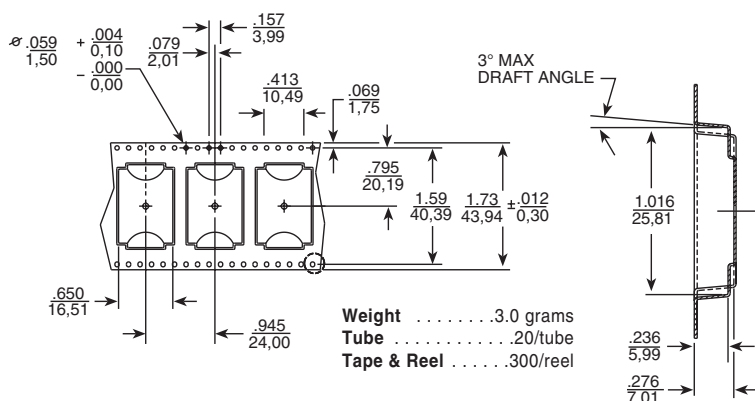
Tape & Reel Specifications

PE-68515L, PE-68517L, H1042



H1012, H1019, H1086, H1089, H1117,

H1138, HX1148, HX1178



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