



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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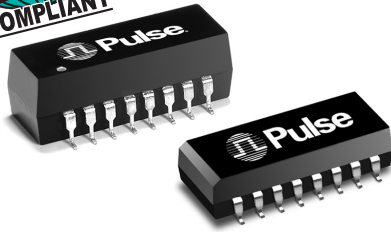
Email & Skype: info@chipsmall.com Web: www.chipsmall.com





Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



10/100 BASE-T SINGLE PORT TRANSFORMER MODULES

With 1:1 Transmit Turns Ratios



-  RoHS-5 peak reflow temperature rating: 235°C
-  RoHS-6 peak reflow temperature rating: 245°C
-  Compatible with Broadcom, Intel, Micrel, National Semiconductor, ICS, and TDK Transceivers
-  Meets IEEE 802.3 specification

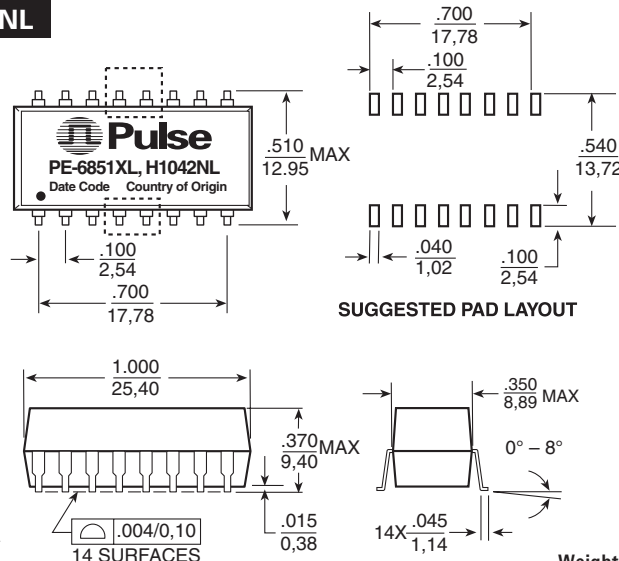
Electrical Specifications @ 25°C — Operating Temperature 0°C to 70°C

RoHS ⁶ Compliant Part Number	RoHS ⁵ Compliant 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	
H1012NL ^{4d}	H1012	-1.0	-20	-20	-18	-14	-42	-36	-33	-50	-40	-40	1500
H1019NL ^{4c}	H1019	-1.0	-20	-18	-18	-14	-45	-40	-35	-45	-40	-35	1500
H1042NL ^{4c}	—	-1.0	-16	-13.5	-11.5	-10	-45	-40	-35	-40	-38	-35	1500
H1086NL ^{4c}	H1086 ¹	-1.0	-22	-20	-18	-12	-45	-40	-35	-50	-40	-40	1500
H1089NL ^{4c}	H1089	-1.0	-22	-20	-18	-12	-42	-38	-32	-50	-40	-40	1500
H1117NL ^{4d}	H1117	-1.0	-22	-20	-18	-12	-45	-40	-35	-50	-40	-40	1500
H1138NL ^{4a}	H1138	-0.8	-18	-16	-14	-12	42	-37	-33	-50	-40	-40	1500
HX1148NL ^{2, 4d}	HX1148 ²	-1.5	-18	-13.5	-11.5	-10	-42	-37	-33	-50	-40	-40	1500
HX1178NL ^{2, 4d}	HX1178 ²	-1.5	-18	-13.5	-11.5	-10	-42	-37	-33	-50	-40	-40	1500
PE-68515LNL ^{4d}	PE-68515L	-1.0	-18	-18	-16	-12	-50	-45	-40	-55	-50	-50	1500
PE-68517LNL ^{4d}	PE-68517L	-1.0	-18	-16	-15	-12	-45	-40	-35	-50	-40	-40	1500
H1338NL ^{4a}	H1338	-1.1	-18	-16	-14	-12	-42	-37	-35	-40	-40	-35	1800

- Rise time optimized for National's DP83843.
- Operating temperature: -40°+ 85°C.
- When ordering Tape & Reel packaging, add a "T" suffix to the end of the part number, e.g. H1012T
- MSL = Moisture Sensitivity Level: a = 1, b = 2, c = 3, d = 4.
- RoHS-5: Product does not contain 5 out of the 6 banned substances specified in the RoHS directive (product contains lead in applications considered solder).
- RoHS-6: Product does not contain 5 out of the 6 banned substances specified in the RoHS directive. Some internal connections may contain lead in high-temperature solder (solder alloys containing more than 85% lead).

Mechanicals

PE-68515L, PE-68517L, H1042NL



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

Dimensions: $\frac{\text{Inches}}{\text{mm}}$

Unless otherwise specified, all tolerances are $\pm \frac{.010}{0.25}$

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

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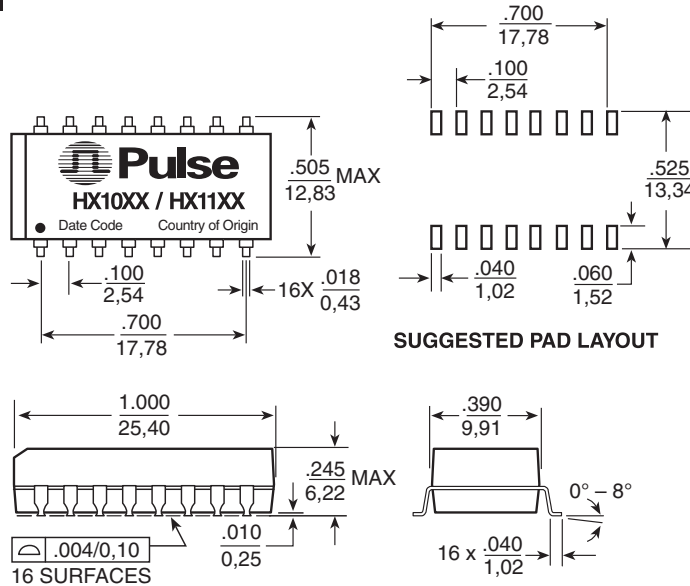
With 1:1 Transmit Turns Ratios



Mechanicals (continued)

H1012, H1019, H1086, H1089, H1117,

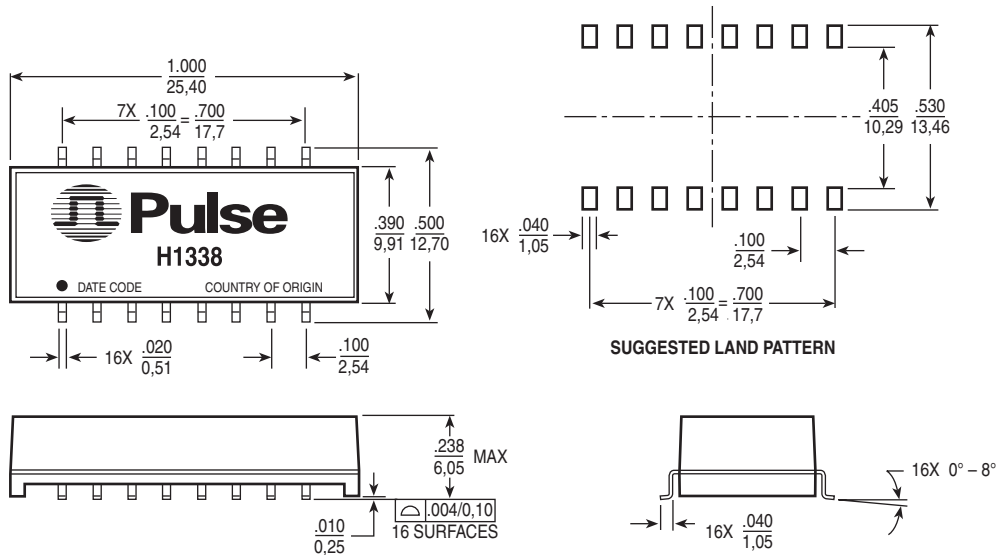
H1138, HX1148, HX1178



Dimensions: $\frac{\text{Inches}}{\text{mm}}$ Unless otherwise specified, all tolerances are $\pm \frac{.010}{0,25}$

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

H1338



Dimensions: $\frac{\text{Inches}}{\text{mm}}$ Unless otherwise specified, all tolerances are $\pm \frac{.010}{0,25}$

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

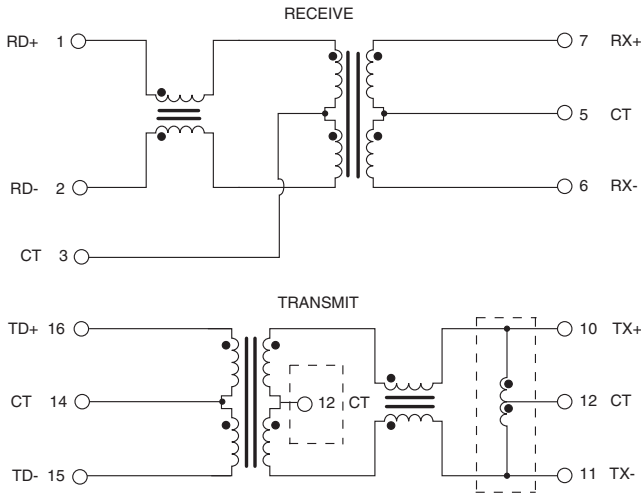
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With 1:1 Transmit Turns Ratios



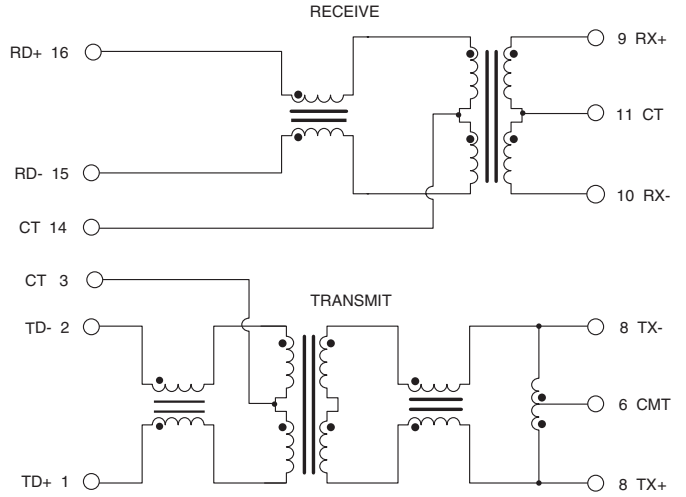
Schematics

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

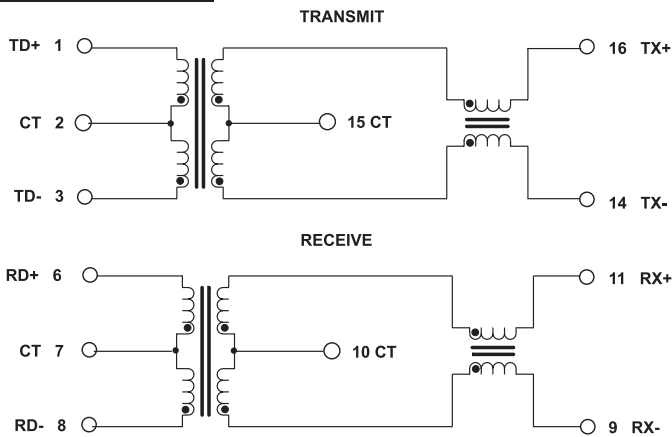


Center-tapped inductor not included in H1089. So, pin 12 connects to the transformer center tap.

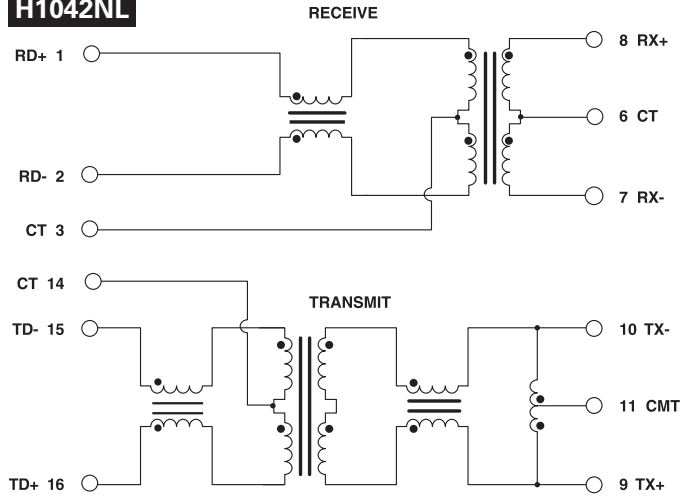
PE-68517L, H1019



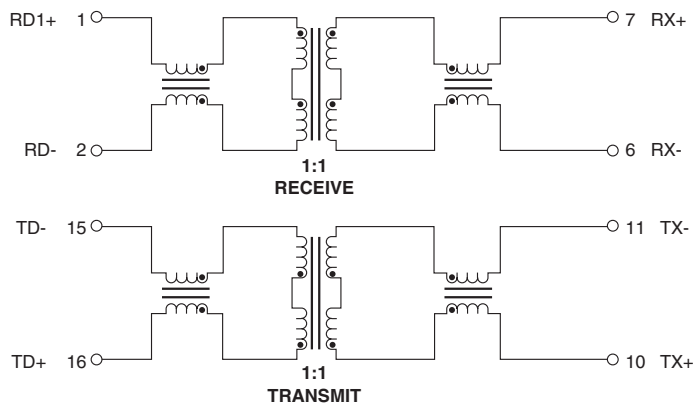
H1117, HX1178



H1042NL



H1338



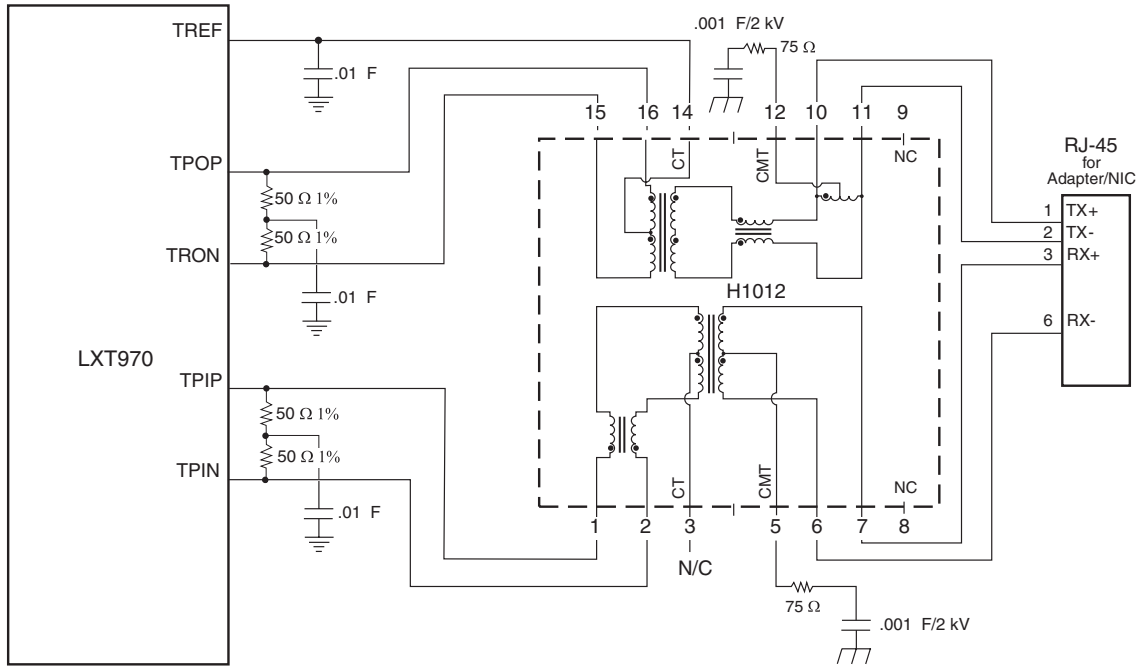
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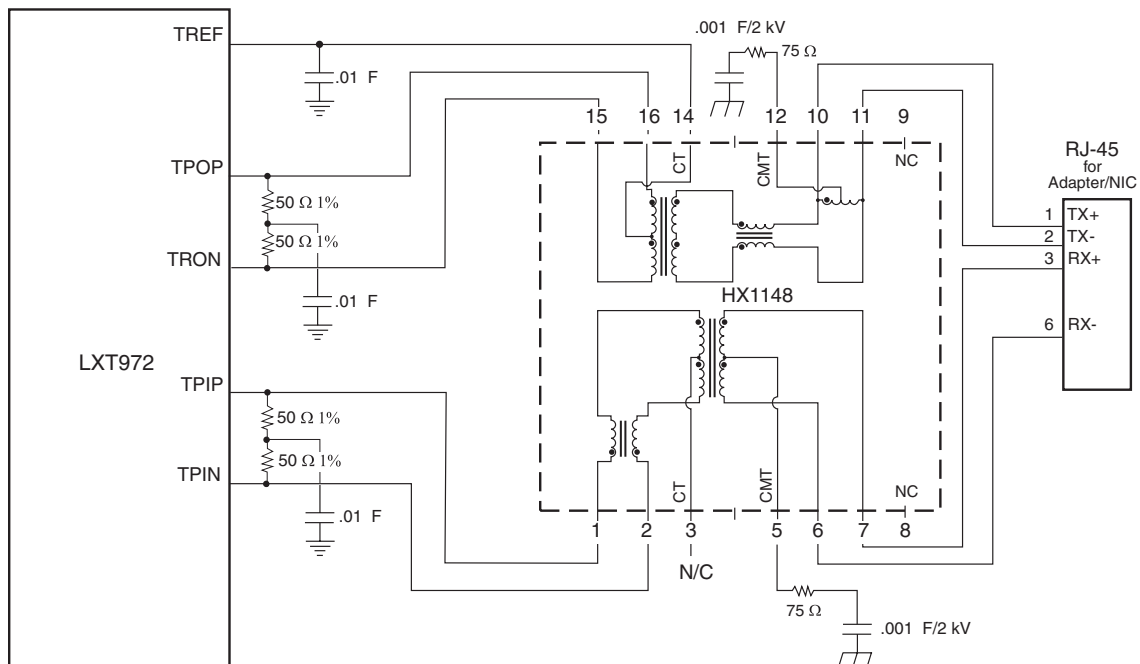


Typical Application Circuits

H1012, H1138



HX1148



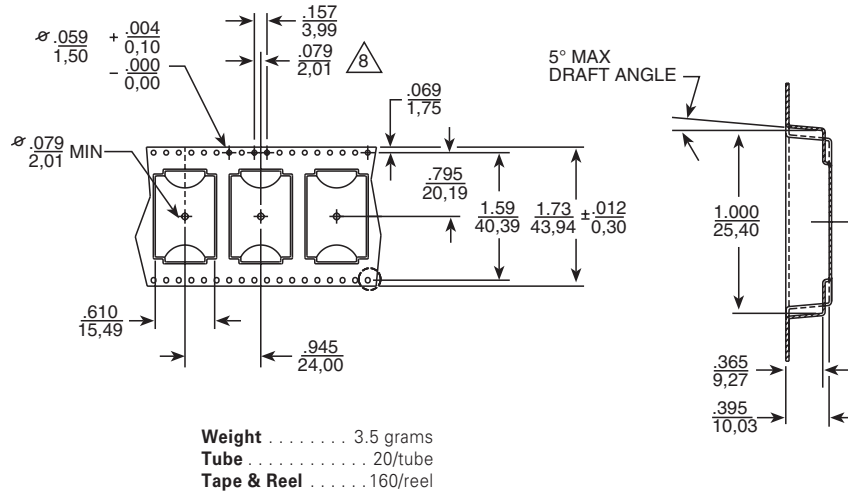
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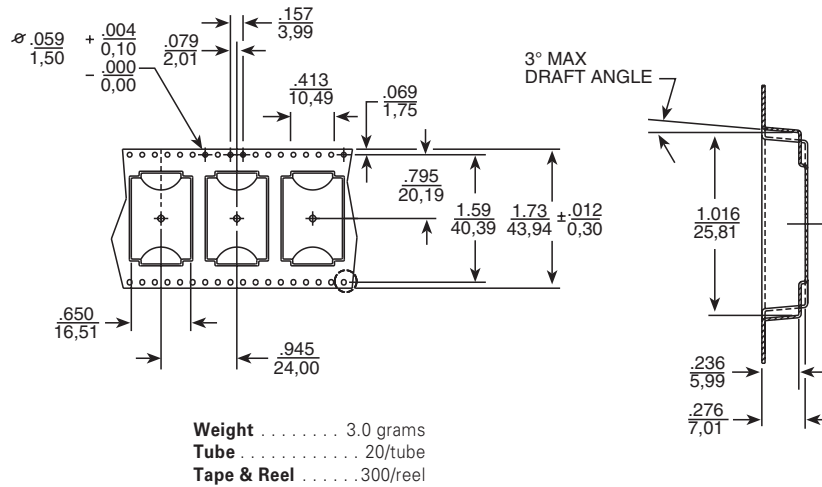
Tape & Reel Specifications

PE-68515L, PE-68517L, H1042NL



H1012, H1019, H1086, H1089, H1117,

H1138, H1338, HX1148, HX1178



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