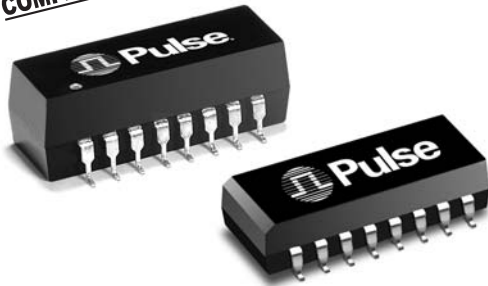






10/100 BASE-T SINGLE PORT TRANSFORMER MODULES

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 ⁵ Compliant Part Number	RoHS ⁶ 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)
			0.1-100MHz	1-30MHz	40MHz	50MHz	60-80MHz	30MHz	60MHz	100MHz	30MHz	60MHz	
H1012	H1012NL ^{4c}	-1.0	-20	-20	-18	-14	-42	-36	-33	-50	-40	-40	1500
H1019	H1019NL ^{4c}	-1.0	-20	-18	-18	-14	-45	-40	-35	-45	-40	-35	1500
H1042	H1042NL ^{4c}	-1.0	-16	-13.5	-11.5	-10	-45	-40	-35	-40	-38	-35	1500
H1086 ¹	H1086NL ^{4c}	-1.0	-22	-20	-18	-12	-45	-40	-35	-50	-40	-40	1500
H1089	H1089NL ^{4c}	-1.0	-22	-20	-18	-12	-42	-38	-32	-50	-40	-40	1500
H1117	H1117NL ^{4c}	-1.0	-22	-20	-18	-12	-45	-40	-35	-50	-40	-40	1500
H1138	H1138NL ^{4a}	-0.8	-18	-16	-14	-12	42	-37	-33	-50	-40	-40	1500
HX1148 ²	HX1148NL ^{2, 4c}	-1.5	-18	-13.5	-11.5	-10	-42	-37	-33	-50	-40	-40	1500
HX1178 ²	HX1178NL ^{2, 4c}	-1.5	-18	-13.5	-11.5	-10	-42	-37	-33	-50	-40	-40	1500
PE-68515L	PE-68515LNL ^{4d}	-1.0	-18	-18	-16	-12	-50	-45	-40	-55	-50	-50	1500
PE-68517L	PE-68517LNL ^{4c}	-1.0	-18	-16	-15	-12	-45	-40	-35	-50	-40	-40	1500
H1338	H1338NL ^{4a}	-1.1	-18	-16	-14	-12	-42	-37	-35	-40	-40	-35	1800

1. Rise time optimized for National's DP83843.
2. Operating temperature: -40°+ 85°C.
3. For Tape & Reel packaging, add a "T" suffix to the end of the part number when ordering e.g. H1012T
4. MSL=Moisture Sensitivity Level: a=1, b=2, c=3, d=4.
5. 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).
6. 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).

10/100 BASE-T SINGLE PORT TRANSFORMER MODULES

With 1:1 Transmit Turns Ratios

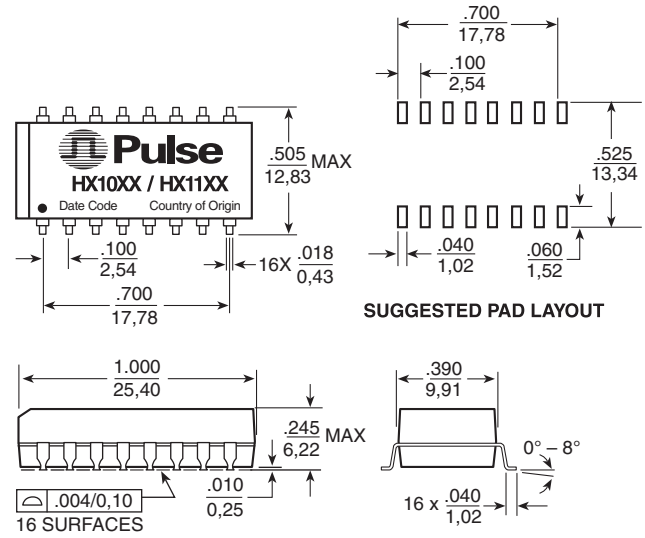
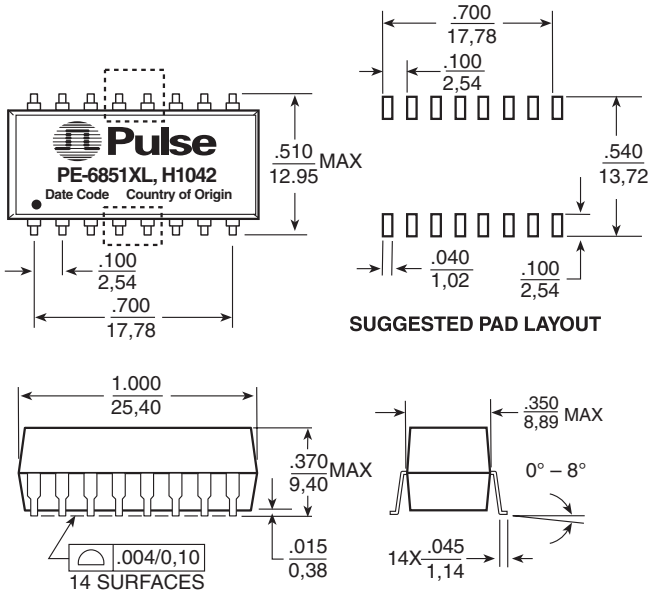


Mechanicals

PE-68515L, PE-68517L, H1042

H1012, H1019, H1086, H1089, H1117,

H1138, HX1148, HX1178



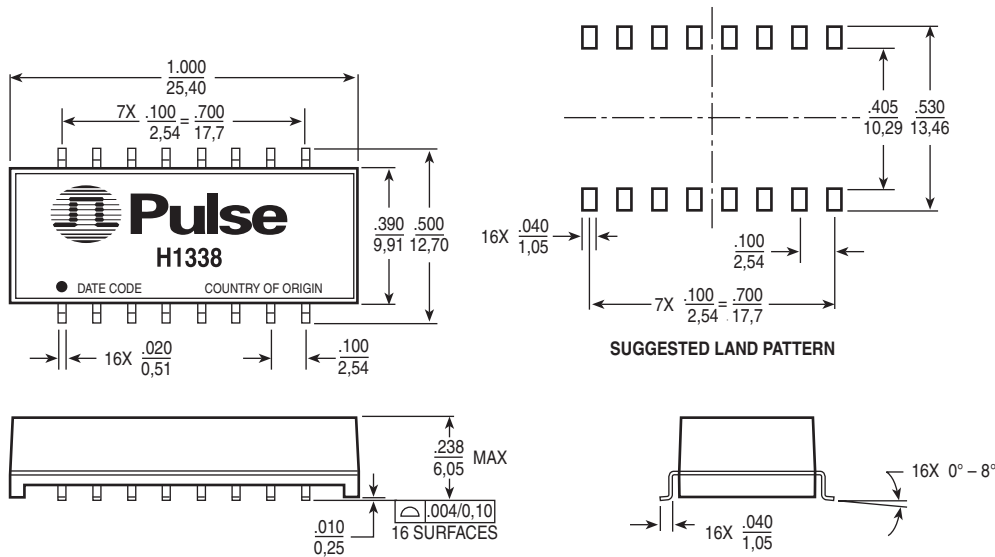
NOTE: The PE-68515L pins 4 and 13 are removed.
The PE-68517L pins 5 and 12 are removed.

Weight 3.5 grams
Tube20/tube
Tape & Reel160/reel

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

Weight 3.0 grams
Tube20/tube
Tape & Reel300/reel

H1338



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

Weight 3.0 grams
Tube20/tube
Tape & Reel300/reel

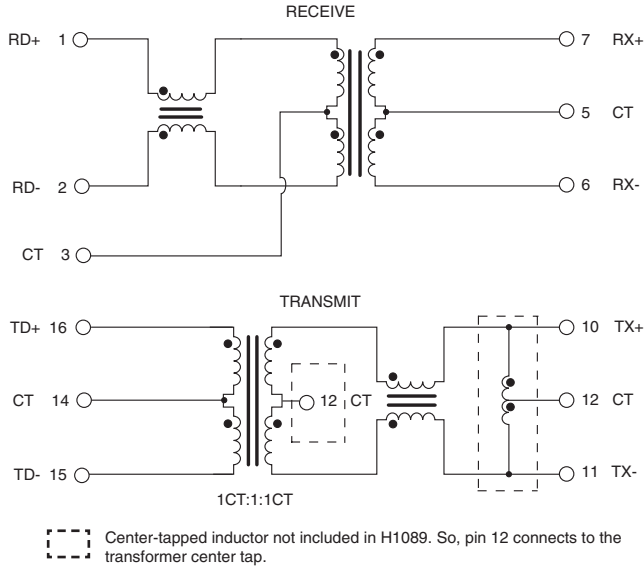
10/100 BASE-T SINGLE PORT TRANSFORMER MODULES

With 1:1 Transmit Turns Ratios

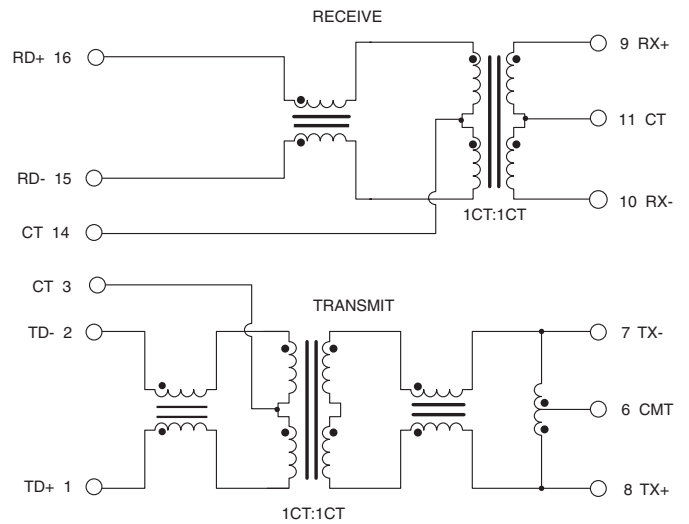


Schematics

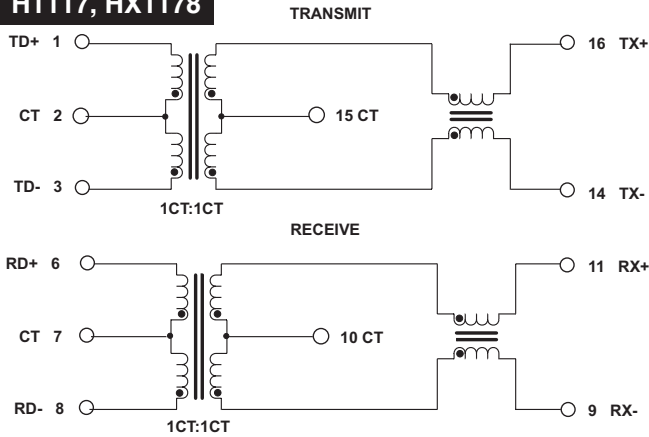
PE-68515L, H1012, H1086, H1089, HX1148, H1138



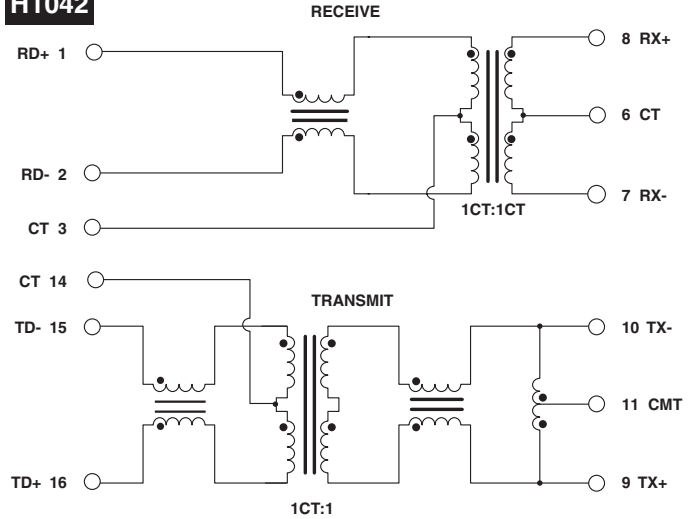
PE-68517L, H1019



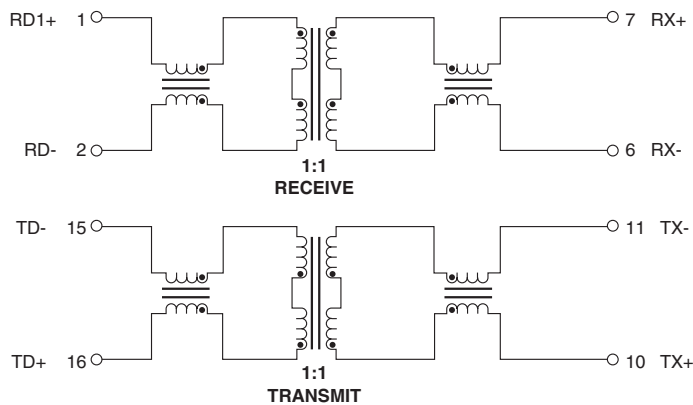
H1117, HX1178



H1042



H1338



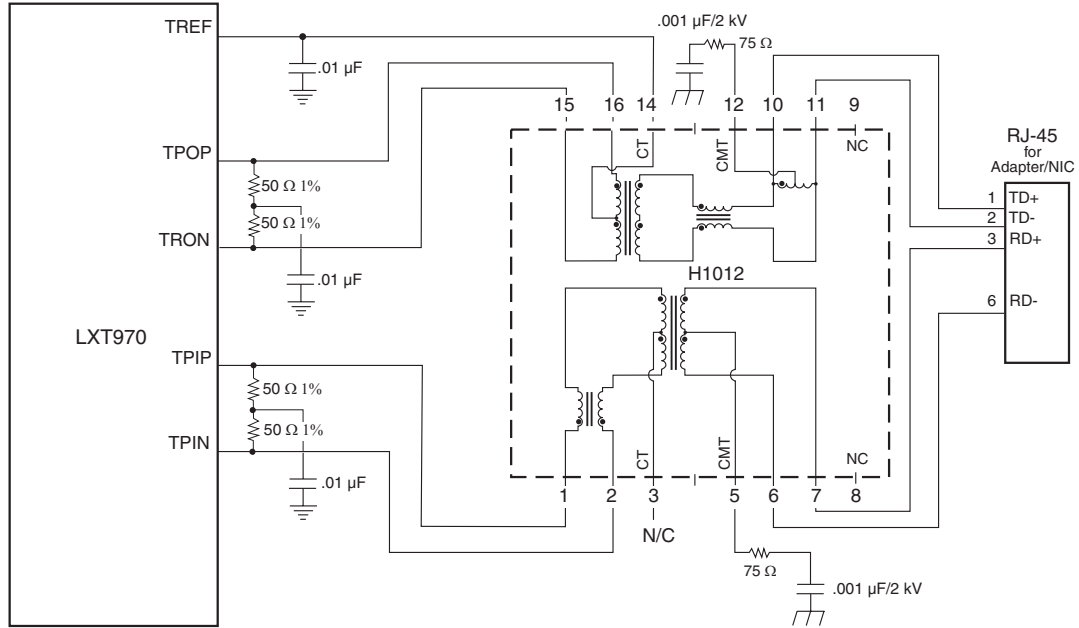
10/100 BASE-T SINGLE PORT TRANSFORMER MODULES

With 1:1 Transmit Turns Ratios

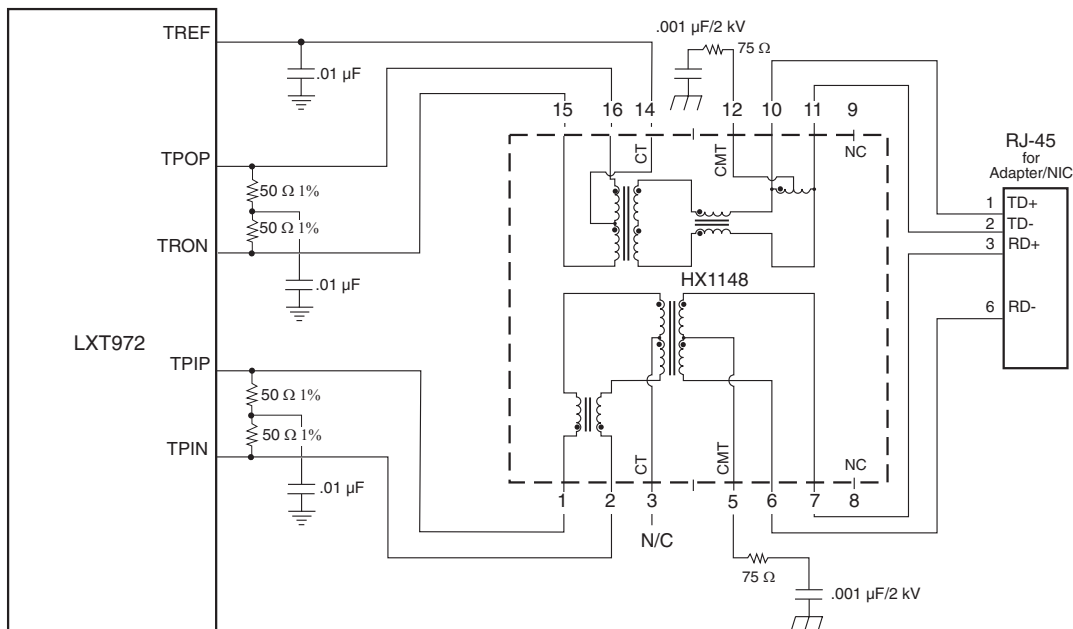


Typical Application Circuits

H1012, H1138



HX1148



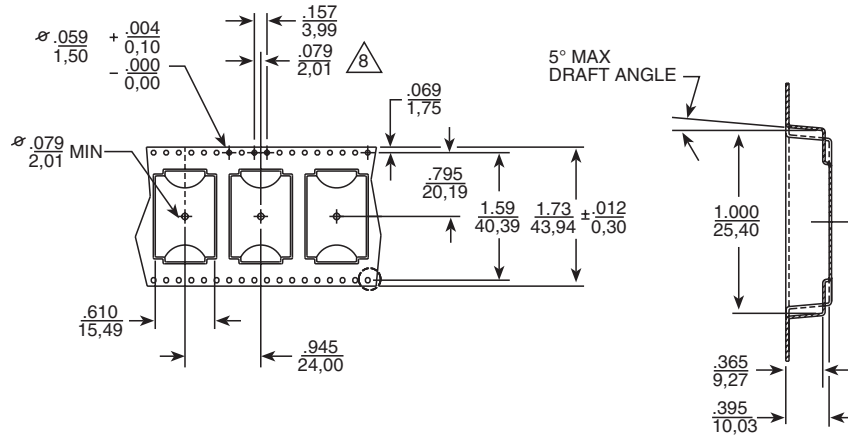
10/100 BASE-T SINGLE PORT TRANSFORMER MODULES

With 1:1 Transmit Turns Ratios



Tape & Reel Specifications

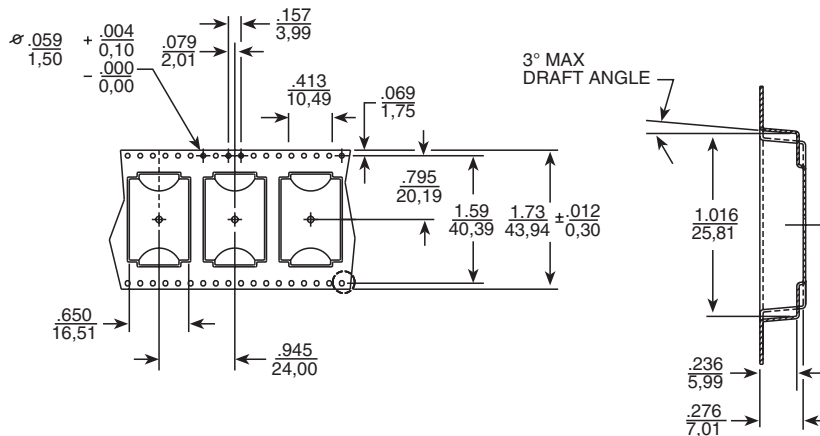
PE-68515L, PE-68517L, H1042



Weight 3.5 grams
 Tube20/tube
 Tape & Reel160/reel

H1012, H1019, H1086, H1089, H1117,

H1138, H1338, HX1148, HX1178



Weight 3.0 grams
 Tube20/tube
 Tape & Reel300/reel

For More Information:

Pulse Worldwide Headquarters

12220 World Trade Dr.
 San Diego, CA 92128
 U.S.A.

www.pulseeng.com

TEL: 858 674 8100

FAX: 858 674 8262

Pulse European Headquarters

Einsteinstrasse 1
 71083 Herrenberg
 Germany

TEL: 49 7032 7806 0

FAX: 49 7032 7806 12

Pulse China Headquarters

No. 1
 Industrial District
 Changan, Dongguan
 China

TEL: 86 769 85538070

FAX: 86 769 85538870

Pulse North China

Room 1503
 XinYin Building
 No. 888 YiShan Rd.
 Shanghai 200233
 China

TEL: 86 21 54643211/2

FAX: 86 21 54643210

Pulse South Asia

150 Kampong Ampat
 #07-01/02
 KA Centre
 Singapore 368324

TEL: 65 6287 8998

FAX: 65 6280 0080

Pulse North Asia

No. 26
 Kao Ching Rd.
 Yang Mei Chen
 Taoyuan Hsien
 Taiwan, R. O. C.

TEL: 886 3 4641811

FAX: 886 3 4641911

Performance warranty of products offered on this data sheet is limited to the parameters specified. Data is subject to change without notice. Other brand and product names mentioned herein may be trademarks or registered trademarks of their respective owners.

© Copyright, 2006. Pulse Engineering, Inc. All rights reserved.