

# 10/100 BASE-T SINGLE PORT TRANSFORMER MODULES

## With 1:1 Transmit Turns Ratios



- Compatible with Broadcom, Intel, Micrel, National Semiconductor, ICS, and TDK Transceivers
- Transceivers Meets IEEE 802.3 specification
- RoHS"NL"peak solder rating 260°C
- non-RoHS peak solder rating 235°C

**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)
		0.1-100MHz	1-30MHz	40MHz	50MHz	60-80MHz	30MHz	60MHz	100MHz	30MHz	60MHz	
SH1012	-1.0	-20	-20	-18	-14	-42	-36	-33	-50	-40	-40	1500
SH1019	-1.0	-20	-18	-18	-14	-45	-40	-35	-45	-40	-35	1500
SH1042	-1.0	-16	-13.5	-11.5	-10	-45	-40	-35	-40	-38	-35	1500
SH1086	-1.0	-22	-20	-18	-12	-45	-40	-35	-50	-40	-40	1500
SH1089	-1.0	-22	-20	-18	-12	-42	-38	-32	-50	-40	-40	1500
SH1117	-1.0	-22	-20	-18	-12	-45	-40	-35	-50	-40	-40	1500
SH1138	-0.8	-18	-16	-14	-12	-42	-37	-33	-50	-40	-40	1500
SHX1148	-1.5	-18	-13.5	-11.5	-10	-42	-37	-33	-50	-40	-40	1500
SHX1178	-1.5	-18	-13.5	-11.5	-10	-42	-37	-33	-50	-40	-40	1500
SH68515L	-1.0	-18	-18	-16	-12	-50	-45	-40	-55	-50	-50	1500
SH68517L	-1.0	-18	-16	-15	-12	-45	-40	-35	-50	-40	-40	1500
SH1338	-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 t the end of the part number when ordering e.g. SH1012T
4. MSL=Moisture Sensitivity Level: a=1, b=2, c=3, d=4.

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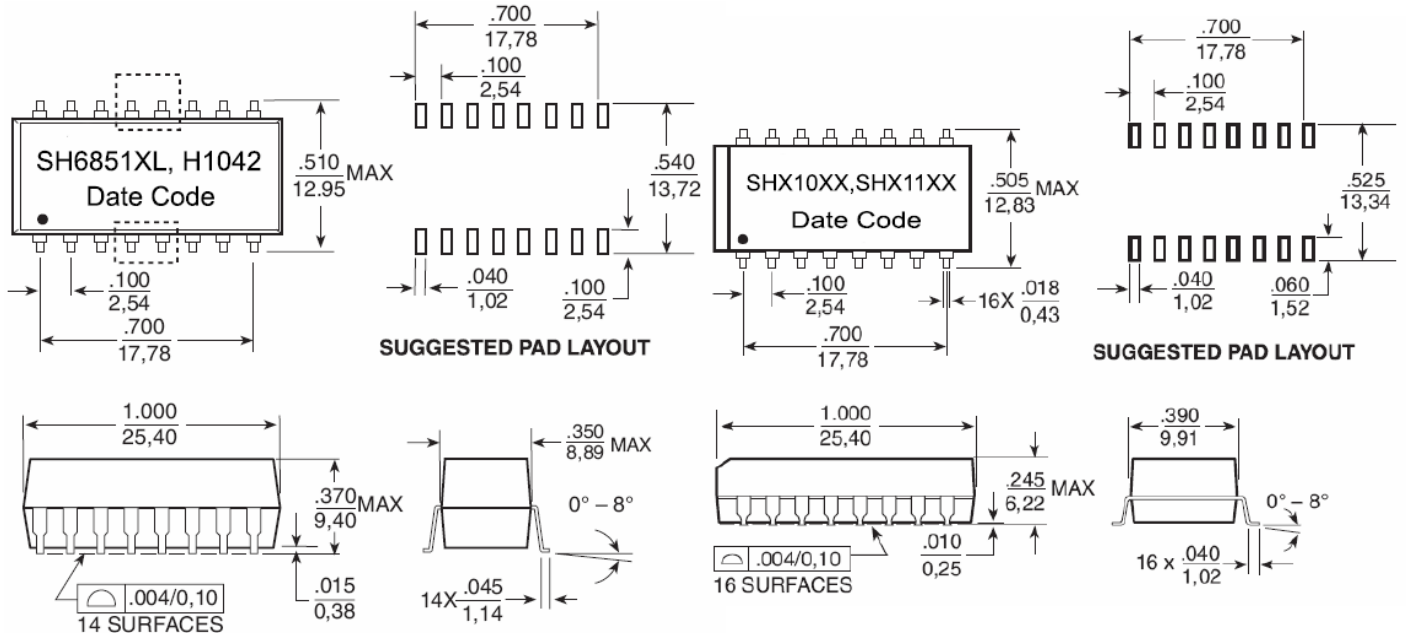
## With 1:1 Transmit Turns Ratios



### Mechanical

PE-68515L, PE-68517L, H1042

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

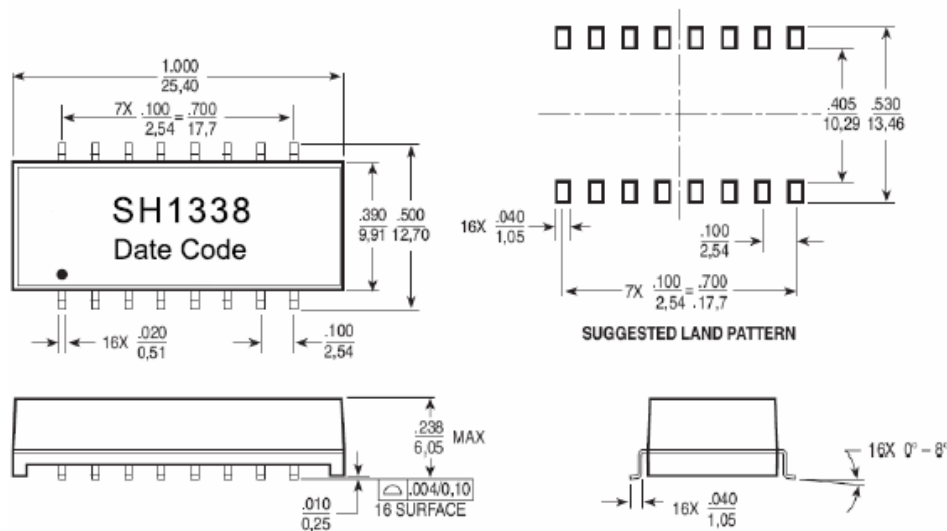


NOTE: The SH68515L pins 4 and 13 are removed. The SH68517L pins 5 and 12 are removed.

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

### Mechanical

SH1338



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

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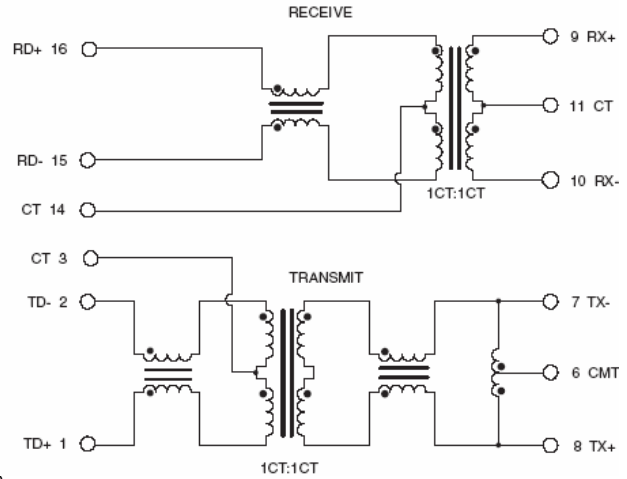
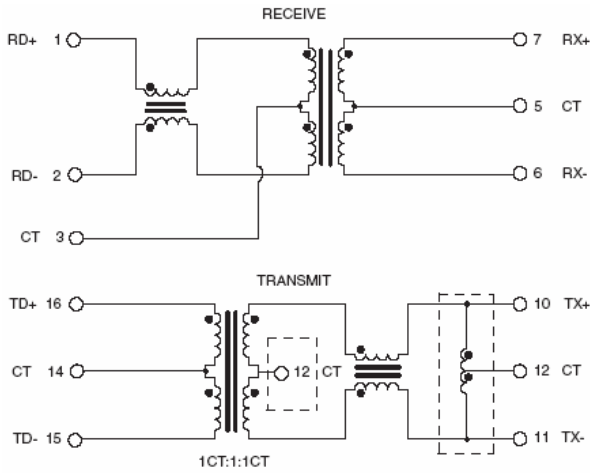
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### Schematics

SH68515L,SH1012,SH1086,SH1089,SHX1148,SH1138

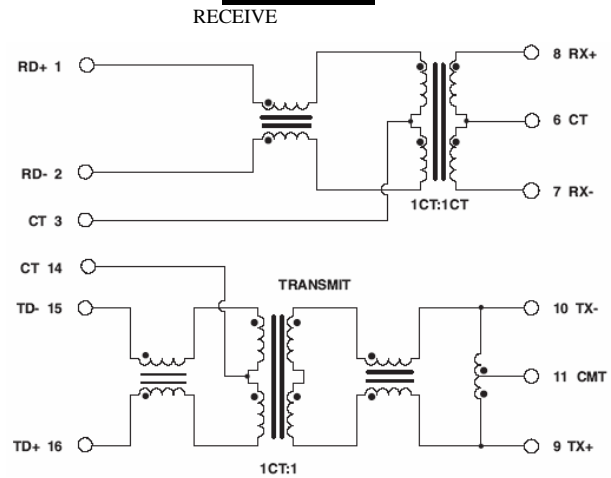
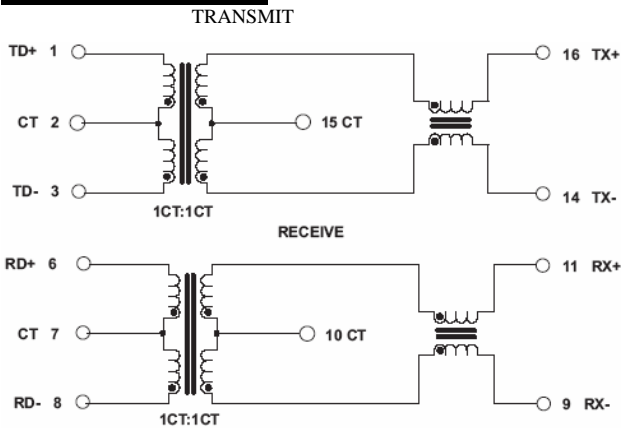
SH68517L,SH1019



Center-tapped inductor not included in SH1089. So, pin 12 connects to the transformer center tap.

SH1117,SHX1178

SH1042



SH1338

