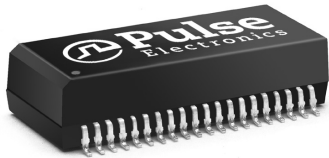


# 10/100Base-TX Transformer Modules

For Auto MDI/MDIX Applications



- RoHS peak reflow temperature rating 245°C
- Symmetrical transmit and receive channels for Auto MDI/MDIX capability
- Approved for use with the Broadcom BCM5226 and Level One LXT9784
- Meets IEEE 802.3 specification

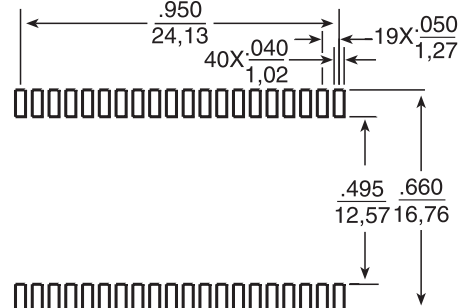
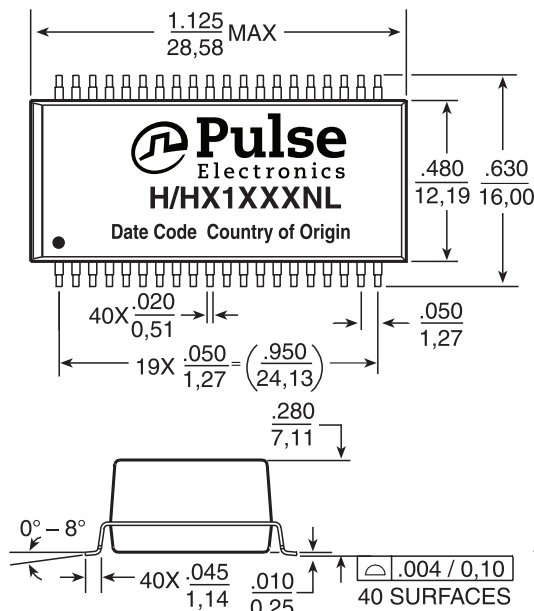
### Electrical Specifications @ 25°C - Operating Temperature 0°C to 70°C

RoHS Compliant Part Number <sup>2</sup>	Insertion Loss (MAX)	Return Loss (dB MIN)					Crosstalk (dB MIN)				Differential to Common Mode Rejection (dB MIN)		Hipot (Vrms MIN)
		0.1-100 MHz	2-30 MHz	40 MHz	50 MHz	60-80 MHz	1 kHz	30 MHz	60 MHz	100 MHz	1-60 MHz	60-200 MHz	
H1164NL <sup>3d</sup>	-1.0	-18	-14.4	-13.1	-12	-65	-45	-40	-33	-37	-25	1500	
HX1234NL <sup>1,3d</sup>	-1.4	-18	-14.4	-13.1	-12	-65	-45	-40	-33	-37	-25	1500	

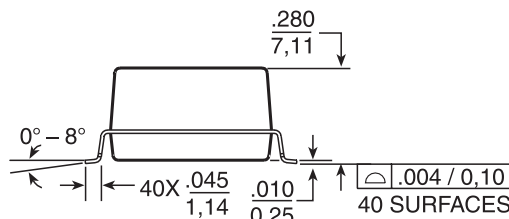
1. Operating Temperature -40°C to +85°C
2. For Tape & Reel packaging, add "T" suffix to the end of the part number when ordering, (Ex. H1164NLT)
3. MSL = Moisture Sensitivity Level a=1 b=2 c=3 d=4

### Mechanicals

#### H1164NL, HX1234NL



#### SUGGESTED PAD LAYOUT



HX1234NL

H1164NL

Weight .....4.8 grams  
Tape & Reel .....250/reel  
Tube .....15/tube

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

USA 858 674 8100

Germany 49 7032 7806 0

Singapore 65 6287 8998

Shanghai 86 21 62787060

China 86 755 33966678

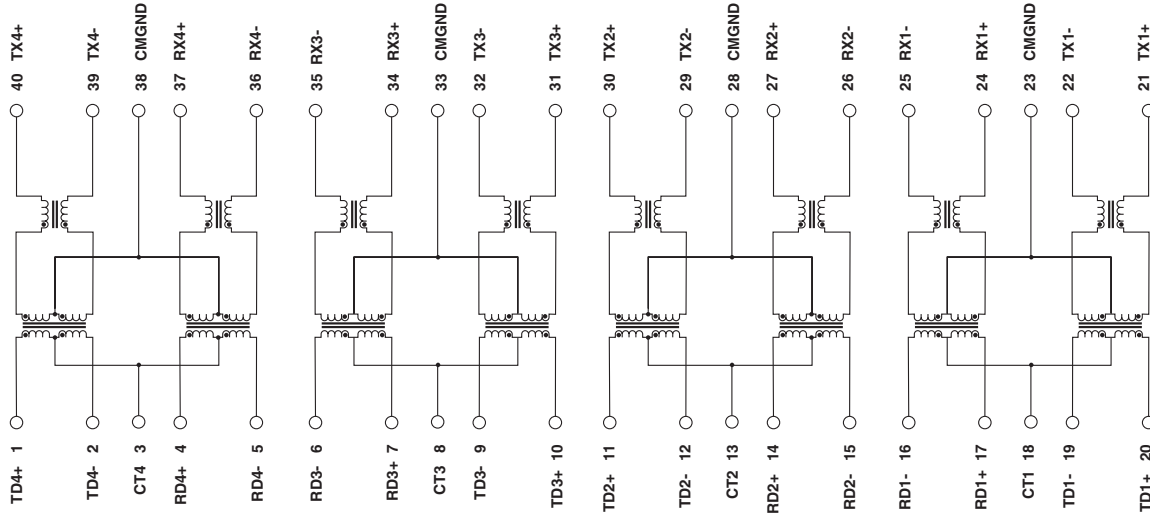
Taiwan 886 3 4356768

# 10/100Base-TX Transformer Modules

For Auto MDI/MDIX Applications

## Schematic

HT164NL, HX1234NL



### For More Information:

Americas - [prodinfonetworkamericas@pulseelectronics.com](mailto:prodinfonetworkamericas@pulseelectronics.com) | Europe - [comms-Apps-Europe@pulseelectronics.com](mailto:comms-Apps-Europe@pulseelectronics.com) | Asia - [prodinfonetworkapac@pulseelectronics.com](mailto:prodinfonetworkapac@pulseelectronics.com)

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, 2019. Pulse Electronics, Inc. All rights reserved.