

Active 1394b Triple Transformer Cable Interface Module



Data Sheet

North Hills Transceiver Cable Interface Transformers condition transmit and receive signals in accordance with the specifications of SAE AS5643/1 and IEEE STD 1394b-2008. It incorporates low insertion loss transmit and receive transformers to reject common mode signals and provide isolation between the cable and other electronics at the S100 β / S200 β / S400 β data rates.



Features:

- Semiconductor grade transfer molded package
- Three active transmit circuit
- Integrated transmit and receive transformers
- Operates 3.3VDC up to 5.5VDC
- LVPECL transmitter inputs
- S100 / S200 / S400 Operation
- Internal 0.1 μ F Vcc decoupling capacitor per channel
- Typical transmitter output - 1300mV at 3.3VDC
- Low transmit and receive jitter
- Withstands 225°C peak solder reflow profile
- Lead Finish: Tin/Lead
- Operating Temperature -55°C to +125°C
- Made in USA

Specifications

Transmitter Characteristics @25°C						
Parameter	TR250X3B10			TR500X3B10		
	MIN	TYP	MAX	MIN	TYP	MAX
Input Data Voltage - V_{IL} (V)	1.35	1.60	1.85	1.35	1.60	1.85
Input Data Voltage - V_{IH} (V)	2.07	2.33	2.58	2.07	2.33	2.58
Input Voltage Differential - V_{IN} (mV)	150	800	1200	150	800	1200
Input Current - I_L (μ A)	-	500	-	-	500	-
Input Current - I_H (μ A)	-	750	-	-	750	-
Differential Signal Level - V_{OUT} (mV)	1200	1300	1500	1200	1300	1500
Data Rate	-	S100/S200	-	-	S200/S400	-
Input Voltage - V_{CC} (V)	-	3.3	-	-	3.3	-
Input Current - I_{CC} (mA)	-	160	-	-	160	-
Power Dissipation (mW)	-	-	600	-	-	600
θ_{CA} (°C/W)	41 @85°C	-	39 @125°C	41 @85°C	-	39 @125°C
Total Transmit Jitter P-P (pS)	-	40	100	-	40	100
Output Rise/Fall Time (10%-90%) (pS)	-	350	400	-	350	400
Return Loss (dB)	-10	-	-	-10	-	-
Receiver Transformer Characteristics @25°C						
Turns Ratio	-	1:1	-	-	1:1	-
Primary Inductance (μ H)	23	-	-	4.5	-	-
Rise/Fall Time (10%-90%) (pS)	-	250	300	-	250	300
DC Winding Resistance (Ω)	-	0.1	0.2	-	0.1	0.2
Insertion Loss (dB)	-	-	-2	-	-	-2
Return Loss (dB)	-	-	-12	-	-	-12
Hipot Vrms	1500	-	-	1500	-	-

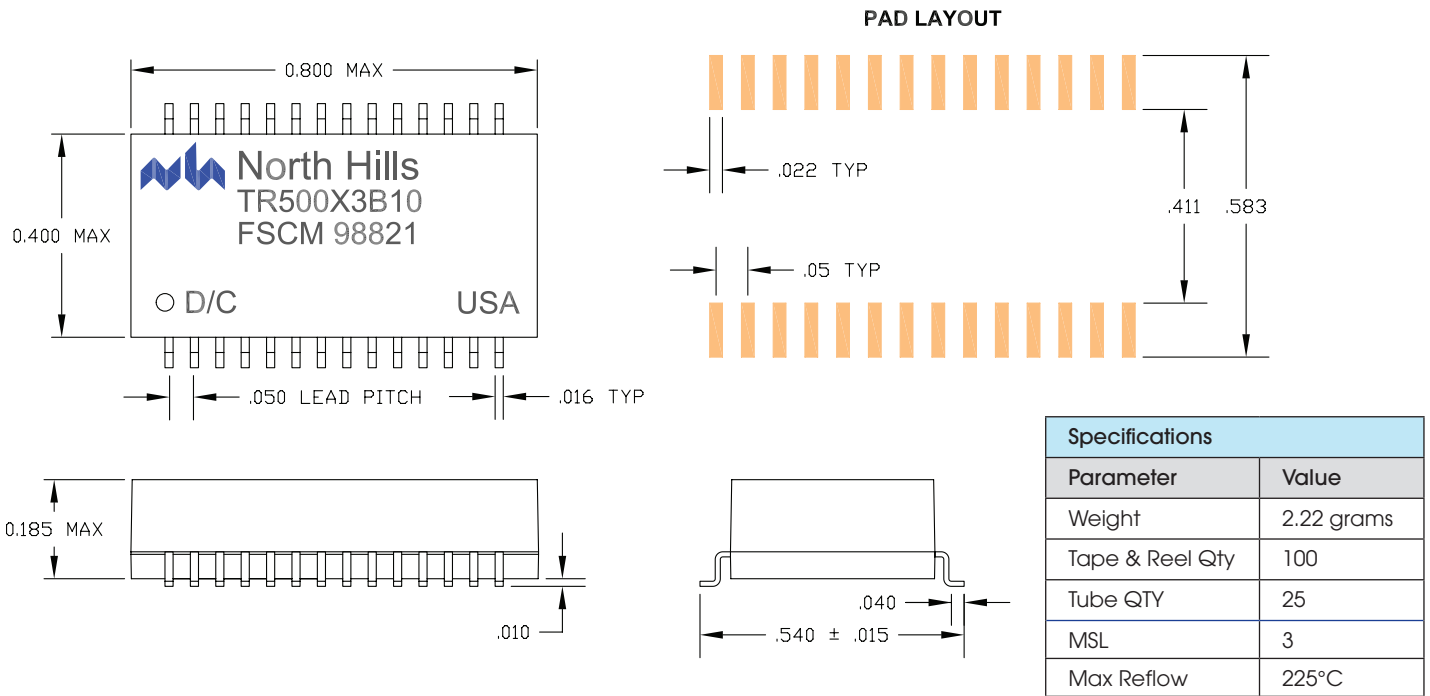
NOTE: Add suffix "TR" to part number to indicate Tape and Reel packaging



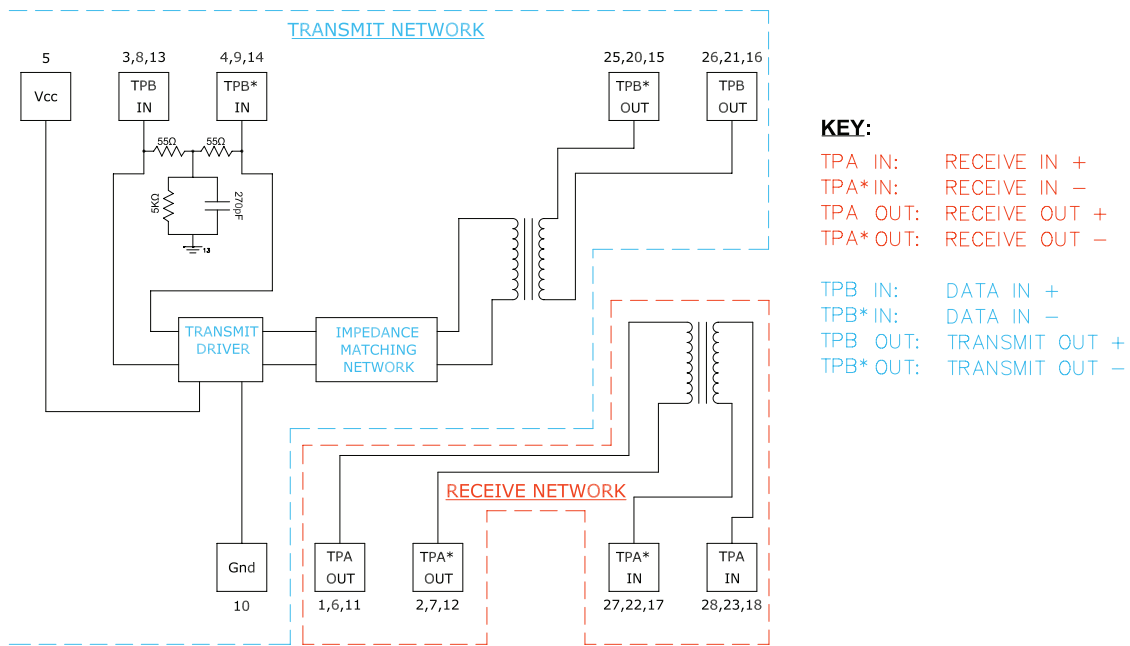
For more information: www.BTTC-Beta.com/TRXX0X3B10

Technical Drawings

Mechanical Outline



Electrical Schematics



The information in this Brochure is believed to be accurate; however, no responsibility is assumed by Beta Transformer Technology Corporation for its use, and no license or rights are granted by implication or otherwise in connection therewith. Specifications are subject to change without notice.

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