

Sub-Miniature Data Bus Coupler



Data Sheet

North Hills has developed a series of miniature data bus couplers for programs that are weight sensitive and have limited space and volume for installation. The sub-miniature data bus coupler is specifically designed for applications where the couplers must be firmly attached to the aircraft's surface. The couplers meet all MIL-STD-1553 electrical requirements and are manufactured using North Hills transformers and MIL-R-39007 one Watt minimum resistors. The parts can be purchased with internal termination resistors to further reduce installation complexity and parts count.

The couplers are supplied with one foot lengths of MIL-C-17/176-00002 cable without connectors for in-line splicing. Other lengths are readily available and connectors can be added if required. The couplers can also be provided as a fully tested harness assembly ready for installation.



The North Hills NH16552 Balanced Impedance Adaptor and typical test set up.

Features:

- Internal terminating resistor
- Through hole for mounting and case grounding
- Painted per MIL-P-23377 to resist fluids and solvents

Benefits:

- Easy to install -- reduces part count
- Ideal for programs that are weight sensitive and have limited space and volume for installation

Electrical Specifications *(All parameters are in accordance with IAW MIL-STD-1553B, Notice 1.)*

Parameter	Value
Input Impedance of Transformer ¹	3000 ohms minimum (75 kHz to 1.0 MHz)
Input Open Circuit	$Z_o = 3000/\text{Number of Stubs}$ CABLE LENGTHS WILL AFFECT THE IMPEDANCE VALUE MEASURED
Droop	20% Maximum (250 kHz)
Overshoot and Ringing	+ 1.0V Peak (250 kHz square wave input with 100 ns maximum rise and fall time)
Common Mode Rejection (CMR)	-45.0 dB (Max) @ 1.0 MHz
Termination Resistor (Models DB12305 & DB22305)	76.8 Ω +1% (1W Min Per MIL-R-39007)
Isolation Resistors (0.75Z _o)	59 Ω + 1% resistor in series with each bus winding connection
Stub Voltage	1.0V to 14.0V PP line-to-line, signal voltage (transformer coupled)
Operating Temperature	55°C to +125°C
Storage Temperature	-55°C to +150°C

1. Individual input open-circuit

2. Specifications subject to change without notice.



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

Technical Drawings

Figure 1.

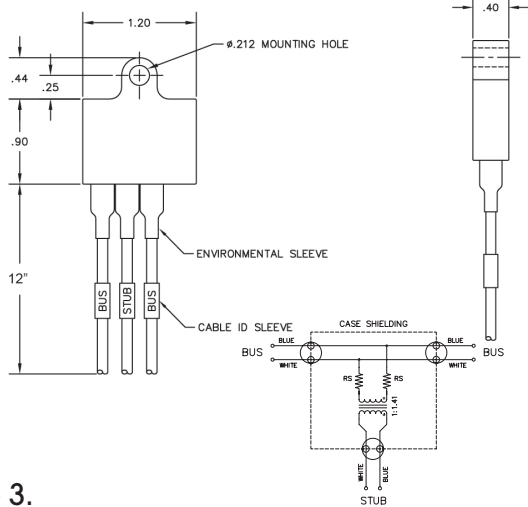


Figure 2.

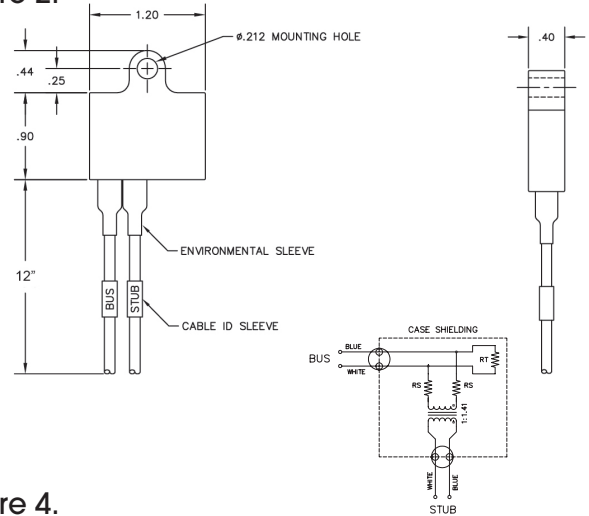


Figure 3.

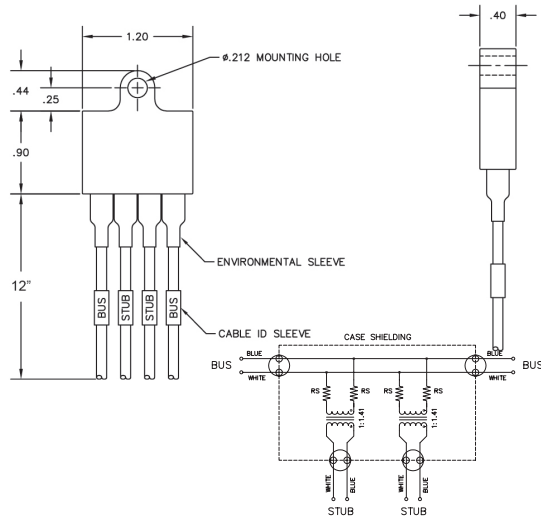
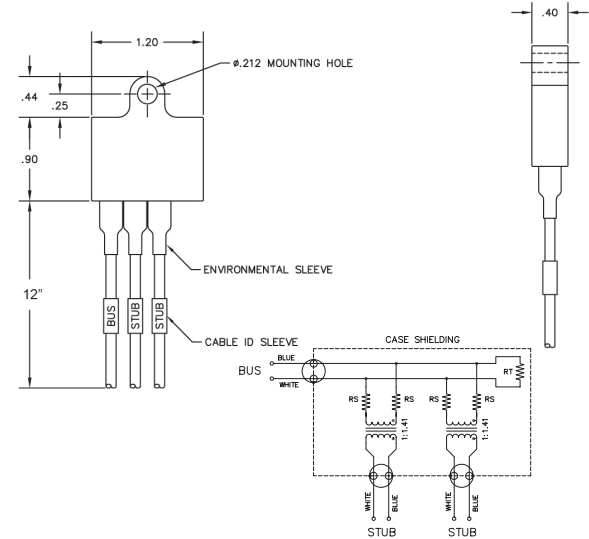


Figure 4.



Material Specifications:

Parameter	Value
Cable	Per MIL-C-17/176-00002
Case Material	Per MIL-C-17/176-00002
Finish	Painted with one coat epoxy primer per MIL-P-23377 and 2 coats of polyurethane enamel per MIL-C-83286. The finished color shall be gloss white, color 17875, per FED-STD-595.
All cables identified with marked heat shrink sleeves	

Ordering Information

Model #	Description	Figure
DB10305	1 stub	1
DB12305	1 Stub with Terminator	2
DB20305	2 Stub	3
DB22305	2 Stub with Terminator	4



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.

For ordering assistance and technical support,

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