MIL-STD-1553 TRANSCEIVER

DESCRIPTION

The BUS-1553 Transceiver is a complete transmitter and receiver which fully conforming to MIL-STD-1553A and 1553B. Features of this high reliability transceiver include: Harris 15530 type Encoder/Decoder direct interface compatibility, ±15 V or +15 and -12 V power supply requirements, and an internal (factory pre-set) threshold level.

The block diagram, FIGURE 1, illustrates the BUS-8553 Transceiver. The receiver section accepts phase-modulated bipolar data from a MIL-STD-553 Data Bus and produces TTL signal data at outputs: RX Data Out and RX $\overline{\text{Data}}$ Out. These outputs represent positive and negative excursions of the input bus signals beyond a preset threshold level. The receiver can be taken off-line (outputs disabled) by applying a logic "0" to the RECEIVER STROBE input.

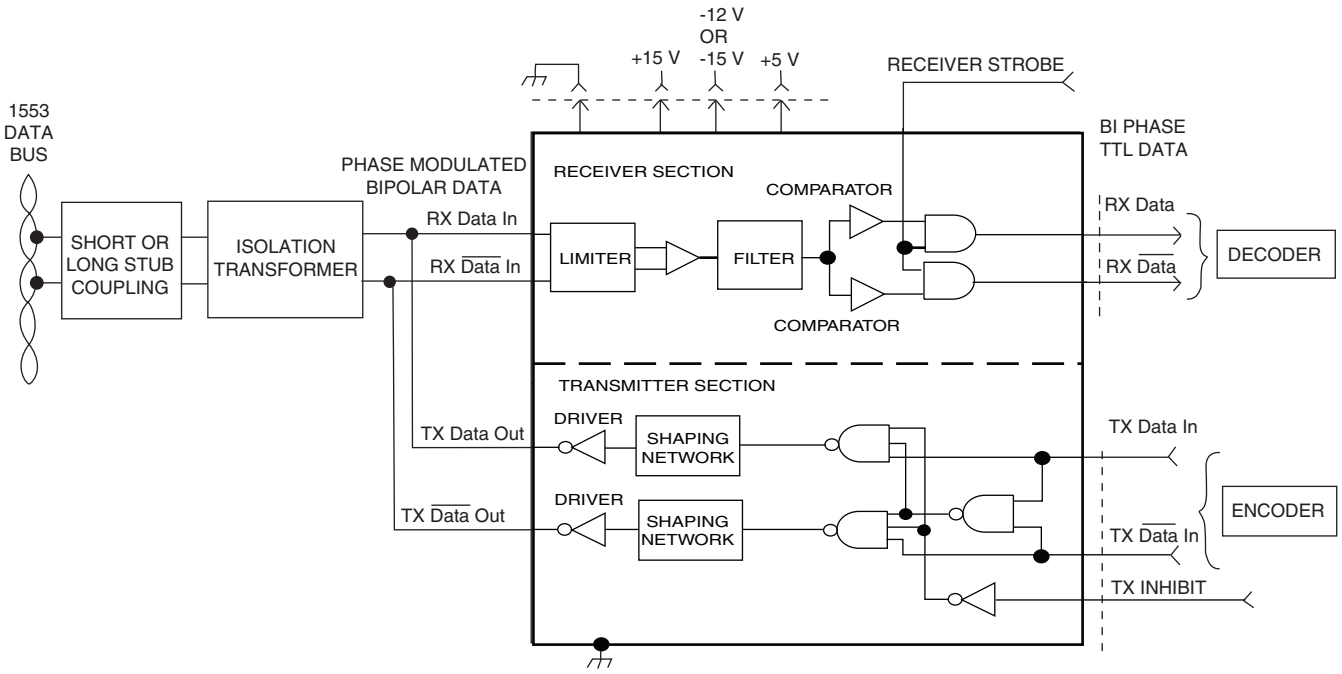
The transmitter section accepts bipolar TTL signal data at its TX Data and TX $\overline{\text{Data}}$ input lines and produces a 28 V pk-pk differential signal across a 140 Ω load that is coupled through a transformer to the TX Data and TX $\overline{\text{Data}}$ outputs. An external TX INHIBIT, when activated with a logic "1" will take the transmitter off-line and ignore the data inputs

APPLICATION

The BUS-8553s small size, low power dissipation, and direct interface compatibility with Harris 15530 type Encoder/Decoder makes it an excellent choice for any MIL-STD-1553A or 1553B transceiver application. The BUS-8553 comes in a hermetic 24-pin DDIP package that measures 1.4 x 0.8 x 0.2 inches.

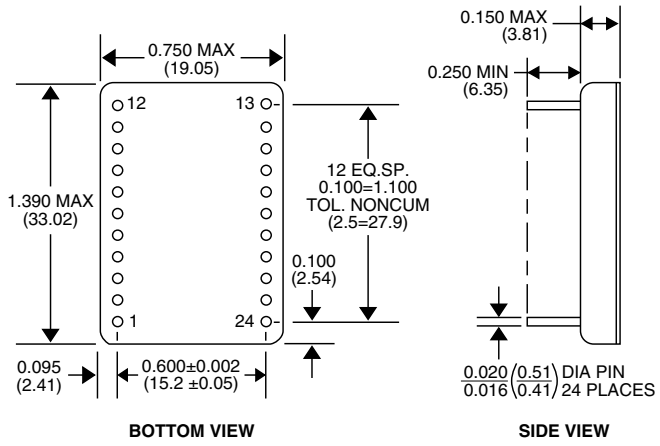
FEATURES

- ***Meets All MIL-STD-1553A and 1553B Requirements***
- ***Very Low Power Dissipation***
- ***Improved Receiver Filtering Enhances System Bit Error Rate***
- ***HARRIS 15530 Encoder/Decoder Direct Interface Compatibility***
- ***Screened to MIL-PRF-38534***
- ***Power Supplies: ±15 V or +15 V and -12V***



BUS-8553-BLOCK DIAGRAM

TABLE 3. BUS-8553 PIN FUNCTION TABLE 24-PIN DDIP	
PIN	**FUNCTION**
1	TX Data Out
2	TX Data Out
3	Gnd
4	N.C.
5	N.C.
6	N.C.
7	RX Data Out
8	Strobe
9	Gnd
10	RX Data Out
11	N.C.
12	N.C
13	+15V DC
14	N.C.
15	RX Data In
16	RX Data In
17	N.C.
18	Gnd
19	-12V or -15V DC
20	+5V DC
21	TX Inhibit
22	TX Data In
23	TX Data In
24	N.C.



BUS-8553 MECHANICAL OUTLINE

ORDERING INFORMATION

BUS-8553-XX0X

Supplemental Process Requirements:
- S = Pre-Cap Source Inspection
- L = Pull Test
- Q = Pull Test and Pre-Cap Inspection
- Blank = None of the Above

Process Requirements:
- 0 = Standard DDC Processing, no Burn-In (See page xiii.)
- 1 = MIL-PRF-38534 Compliant
- 2 = B*
- 3 = MIL-PRF-38534 Compliant with PIND Testing
- 4 = MIL-PRF-38534 Compliant with Solder Dip
- 5 = MIL-PRF-38534 Compliant with PIND Testing and Solder Dip
- 6 = B* with PIND Testing
- 7 = B* with Solder Dip
- 8 = B* with PIND Testing and Solder Dip
- 9 = Standard DDC Processing with Solder Dip, no Burn-In (See page xiii.)

Temperature Grade/Data Requirements:
- 1 = -55°C to +125°C
- 2 = -40°C to +85°C
- 3 = 0°C to +70°C
- 4 = -55°C to +125°C with Variables Test Data
- 5 = -40°C to +85°C with Variables Test Data
- 8 = 0°C to +70°C with Variables Test Data

NOTE: Mating Transformer is BUS-25679

These products contain tin-lead solder finish as applicable to solder dip requirements.

The information in this data sheet is believed to be accurate; however, no responsibility is assumed by Data Device 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.

Please visit our web site at **www.ddc-web.com** for the latest information.

105 Wilbur Place, Bohemia, New York 11716-2426

For Technical Support - 1-800-DDC-5757 ext. 7771

Headquarters - Tel: (631) 567-5600, Fax: (631) 567-7358
United Kingdom - Tel: +44-(0) 1635-811140, Fax: +44-(0) 1635-32264
France - Tel: +33-(0) 1-41-16-3424, Fax: +33-(0) 1-41-16-3425
Germany - Tel: +49-(0) 8141-349-087, Fax: +49-(0) 8141-349-089
Japan - Tel: +81-(0) 3-3814-7688, Fax: +81-(0) 3-3814-7689
World Wide Web - http://www.ddc-web.com

DATA DEVICE CORPORATION
REGISTERED TO ISO 9001:2000
FILE NO. A5976

L-ABR-10/09-0

PRINTED IN THE U.S.A.

RECORD OF CHANGE

For BUS-8553 Data Sheet

Revision	Date	Pages	Description
L	10/2009	1, 3	Modified Block Diagram, removed notes page.