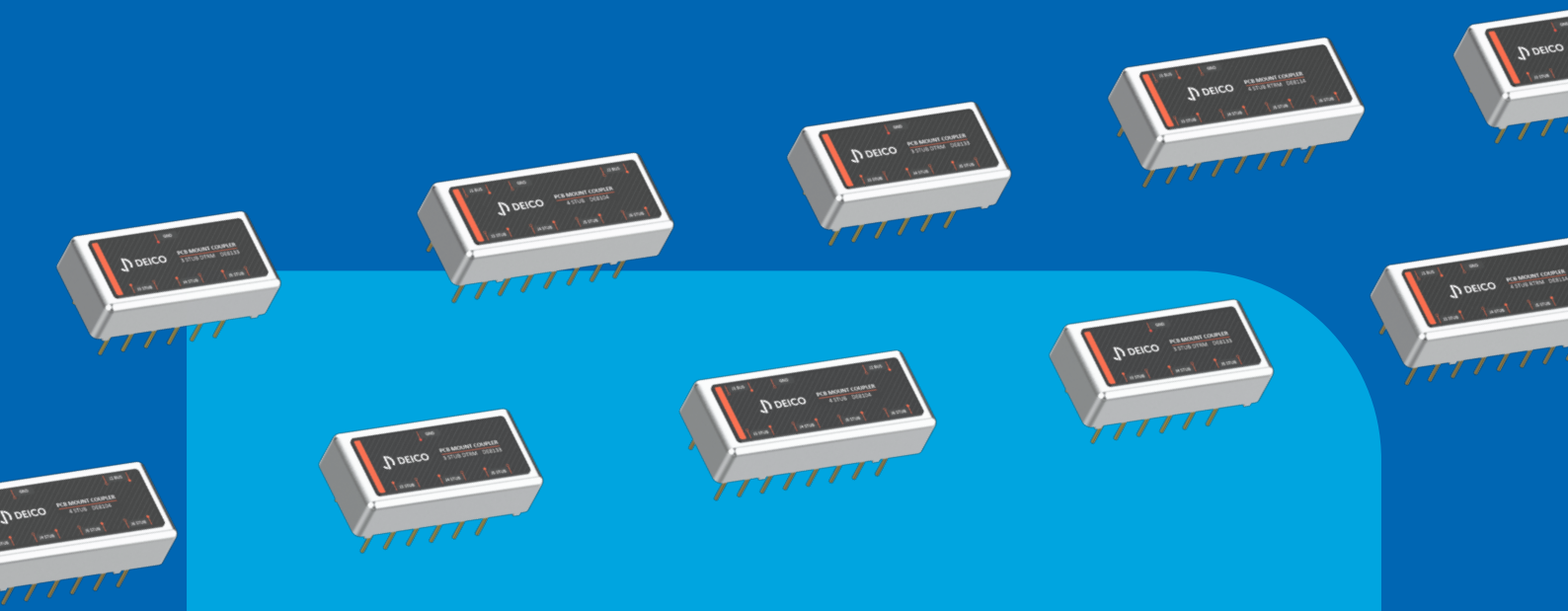
Catalog



DE8100

MIL-STD-1553 Bus Couplers

PCB Type

DEICO

www.deico.com.tr

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1. Description

The MIL-STD-1553 communication bus electrically connects multiple devices to facilitate reliable communication in various platforms, including both military and civil applications.

These bus configurations are built using various components such as cables, bus couplers, terminating resistors and connectors. In a data bus structure, bus couplers play a role in providing shielding, isolation resistance and transformer interfaces for connection points known as stubs. In this respect, bus couplers are the commercial off-the-shelf (COTS) solutions for easier and more reliable wiring.

DEICO bus couplers are designed to provide an economical solution for both platform and professional benchtop test systems. The product offers users the opportunity to have MIL-STD-1553 bus networks through fast delivery options at a fraction of the cost.

2. Ordering Guide

D	E	8	1	X	X

Product Code

Product Type

1	PCB type
2	Box type

Termination Type

0	No termination
1	Right side termination (RTRM)
2	Left side termination (LTRM)
3	Double termination (DTRM)

Stub Count

1	1 stub (for box type)
2	2 stubs (for box type)
3	3 stubs (for box & PCB type)
4	4 stubs (for box & PCB type)
5	5 stubs (for box & PCB type)
6	6 stubs (for box type)
7	7 stubs (for box type)
8	8 stubs (for box type)

Eg: **DE8125** - PCB Type Bus Coupler - Left Side Termination - 5 Stubs

3. Configuration Options

Table 1: PCB Type Bus Couplers with 3 Stubs

Product Code	Transformer Ratio	Stub Resistor Value	Termination Type
DE8103	1:1.41	59 Ohms ±1% 1 W	Non-terminated
DE8113	1:1.41	59 Ohms ±1% 1 W	Right side terminated
DE8123	1:1.41	59 Ohms ±1% 1 W	Left side terminated
DE8133	1:1.41	59 Ohms ±1% 1 W	Dual terminated

Table 2: PCB Type Bus Couplers with 4 Stubs

Product Code	Transformer Ratio	Stub Resistor Value	Termination Type
DE8104	1:1.41	59 Ohms ±1% 1 W	Non-terminated
DE8114	1:1.41	59 Ohms ±1% 1 W	Right side terminated
DE8124	1:1.41	59 Ohms ±1% 1 W	Left side terminated
DE8134	1:1.41	59 Ohms ±1% 1 W	Dual terminated

Table 3: PCB Type Bus Couplers with 5 Stubs

Product Code	Transformer Ratio	Stub Resistor Value	Termination Type
DE8105	1:1.41	59 Ohms ±1% 1 W	Non-terminated
DE8115	1:1.41	59 Ohms ±1% 1 W	Right side terminated
DE8125	1:1.41	59 Ohms ±1% 1 W	Left side terminated
DE8135	1:1.41	59 Ohms ±1% 1 W	Dual terminated

4. Specifications

Table 5: Electrical Specifications

Common Mode Rejection	-45.0 dB Max @1.0 MHz
Droop	20% max (250 kHz)
Overshoot & Ringing	±1.0 V peak (250 kHz square wave with 100 ns)
Stub Voltage	1.0 V to 14.0 V P-P, line to line, signal voltage, transformer coupling
Input Impedance Of Bus	3000 Ω min (75 kHz – 1.0 MHz), stub with open circuit

Table 6: Mechanical Specifications

Enclosure Material	Tinplate 0.5 mm thk.

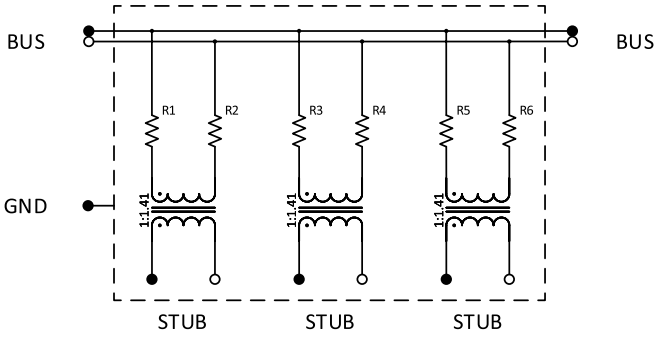
Table 7: Environmental Specifications

High Temperature Operating	MIL-STD-810G_CHG-1 Method 501.6 Procedure II, +125 °C
Low Temperature Operating	MIL-STD-810G_CHG-1 Method 502.6 Procedure II, -55 °C
High Temperature Storage	MIL-STD-810G_CHG-1 Method 501.6 Procedure I, +125 °C
Low Temperature Storage	MIL-STD-810G_CHG-1 Method 502.6 Procedure I, -55 °C
Vibration	MIL-STD-810G_CHG-1 Method 514.7 Procedure I - Category 12, 15 Hz to 2000 Hz, (performance: W0=0.040 and A=0.02, duration: half hour/axis), (endurance: W0=0.053 and A=0.02, duration: 1 hour/axis)
Shock	MIL-STD-810G_CHG-1 Method 516.7 Procedure V (40 g, 11 ms, terminal peak sawtooth, number of shocks: 12, two in each direction of three axes)
Rain	MIL-STD-810G Method 506.5 Procedure I

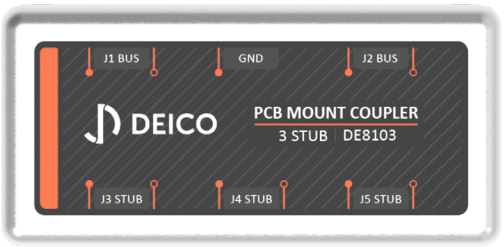
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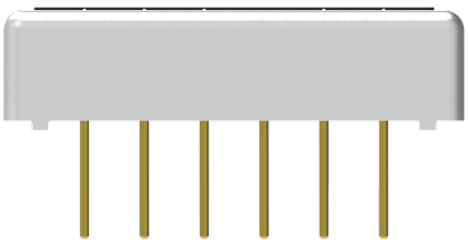
MIL-STD-1553 Bus Coupler

PCB Type, 3 Stub



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R6) in series with transformer winding on bus side	Not terminated

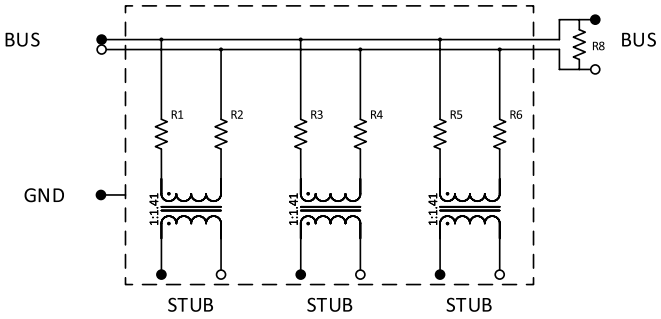




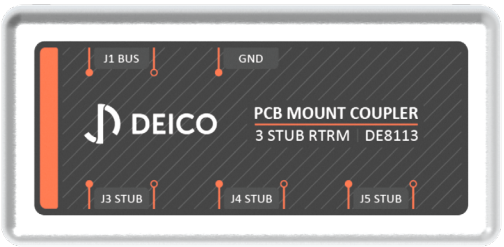
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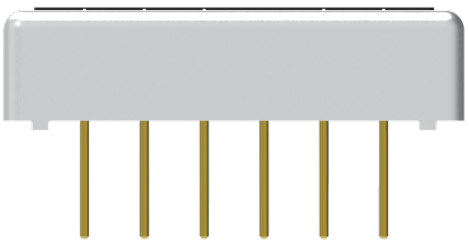
MIL-STD-1553 Bus Coupler

PCB Type, 3 Stub, RTRM



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R6) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R8) bus termination

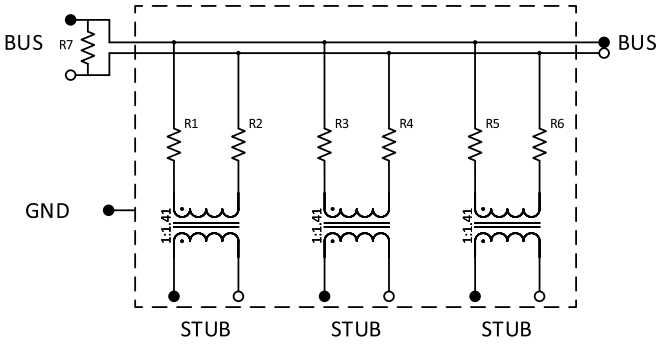




DE8123

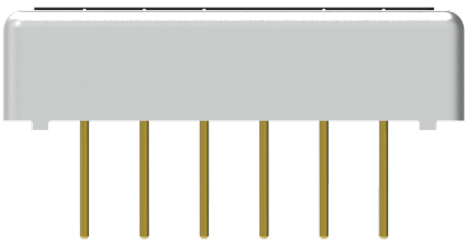
MIL-STD-1553 Bus Coupler

PCB Type, 3 Stub, LTRM



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R6) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R7) bus termination

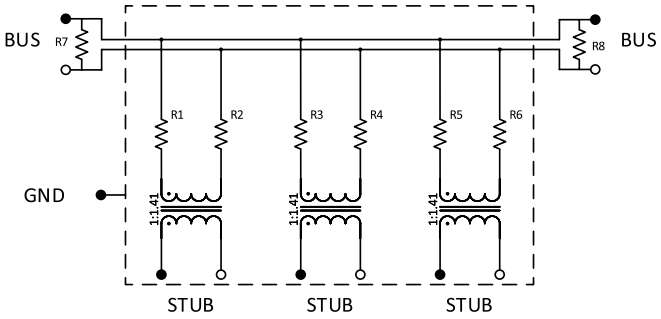




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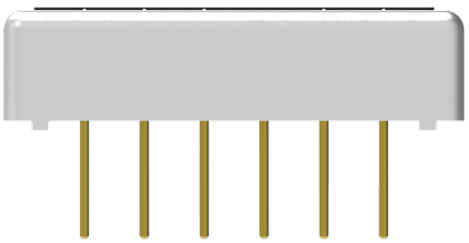
MIL-STD-1553 Bus Coupler

PCB Type, 3 Stub, DTRM



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R6) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R7, R8) bus termination

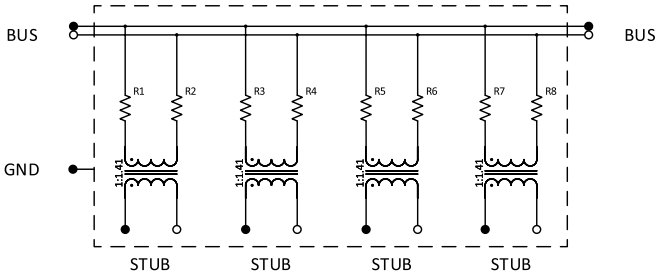




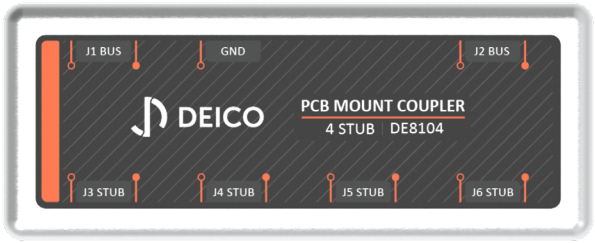
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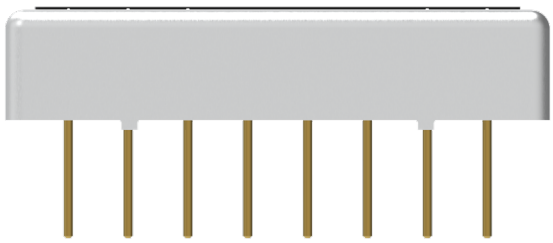
MIL-STD-1553 Bus Coupler

PCB Type, 4 Stub



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R8) in series with transformer winding on bus side	Not terminated

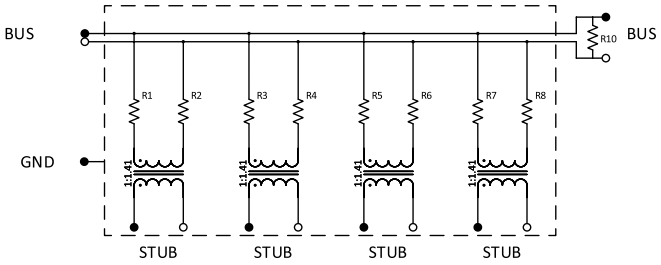




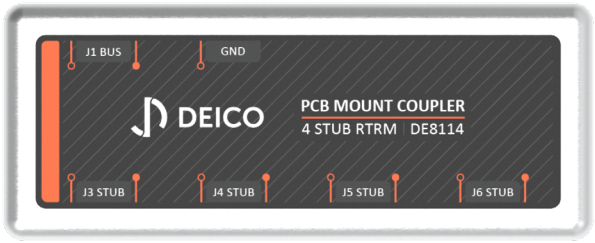
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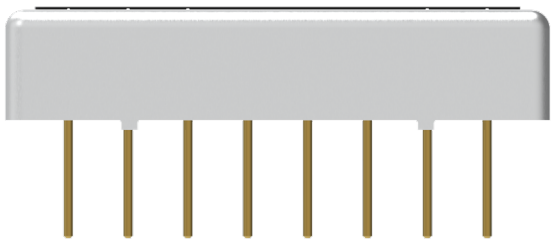
MIL-STD-1553 Bus Coupler

PCB Type, 4 Stub, RTRM



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R8) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R10) bus termination

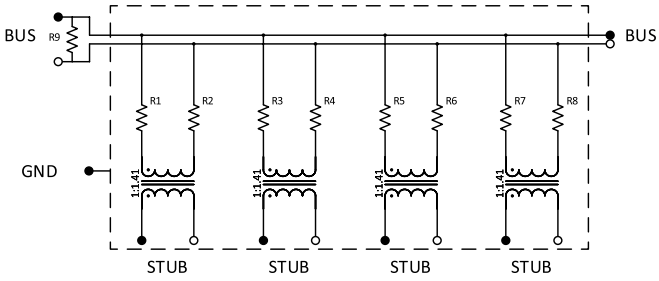




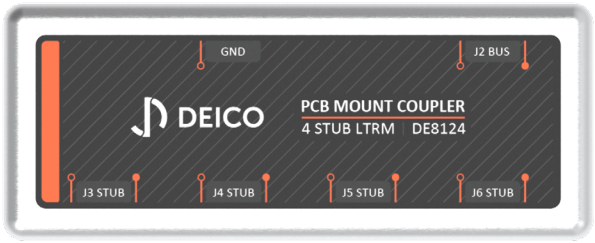
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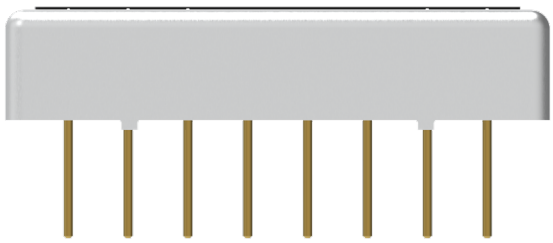
MIL-STD-1553 Bus Coupler

PCB Type, 4 Stub, LTRM



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R8) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R9) bus termination

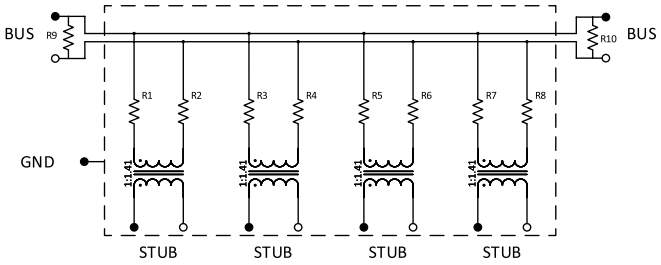




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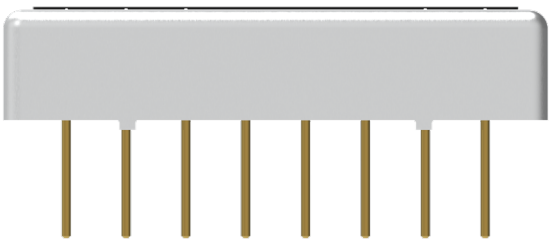
MIL-STD-1553 Bus Coupler

PCB Type, 4 Stub, DTRM



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R8) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R9, R10) bus termination

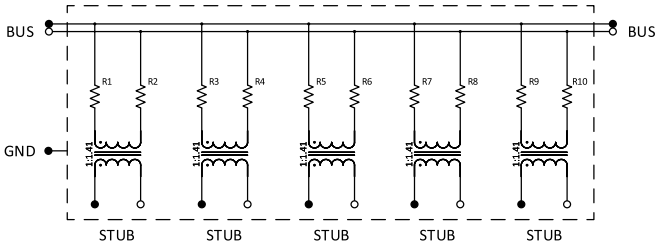




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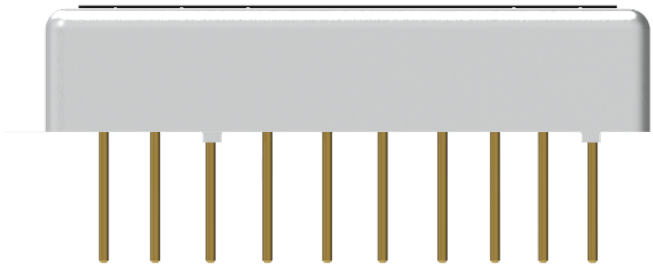
MIL-STD-1553 Bus Coupler

PCB Type, 5 Stub



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R10) in series with transformer winding on bus side	Not terminated

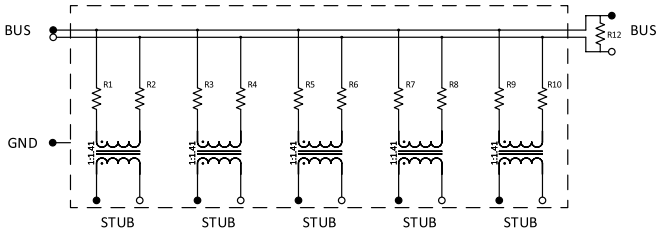




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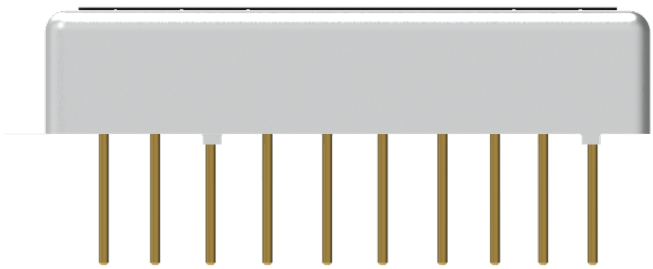
MIL-STD-1553 Bus Coupler

PCB Type, 5 Stub, RTRM



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R10) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R12) bus termination

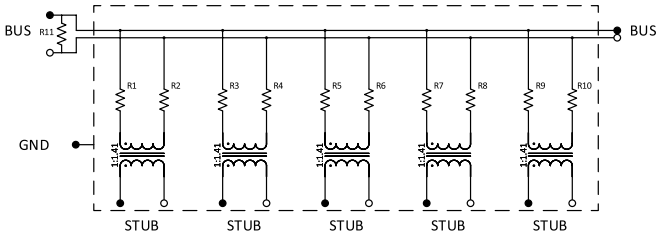




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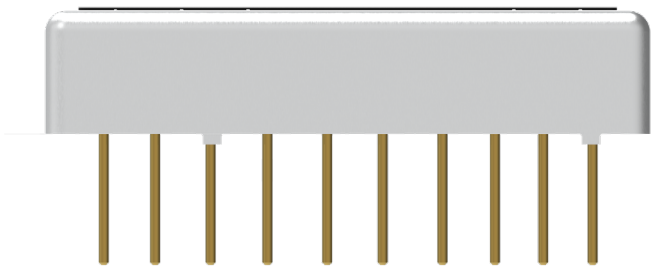
MIL-STD-1553 Bus Coupler

PCB Type, 5 Stub, LTRM



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R10) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R11) bus termination

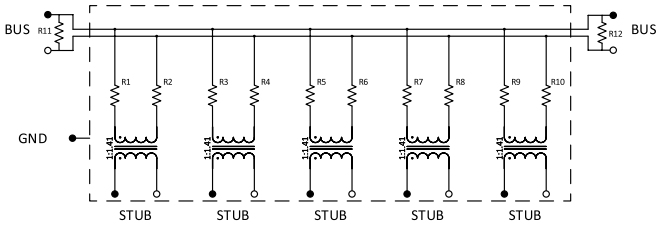




DE8135

MIL-STD-1553 Bus Coupler

PCB Type, 5 Stub, DTRM



Characteristic Impedance	Fault Protection	Termination Resistor Value
Zo=78 Ohms	59 Ohms ±1% 1 W (R1-R10) in series with transformer winding on bus side	78.7 Ohms ±1% 2 W (R11, R12) bus termination



