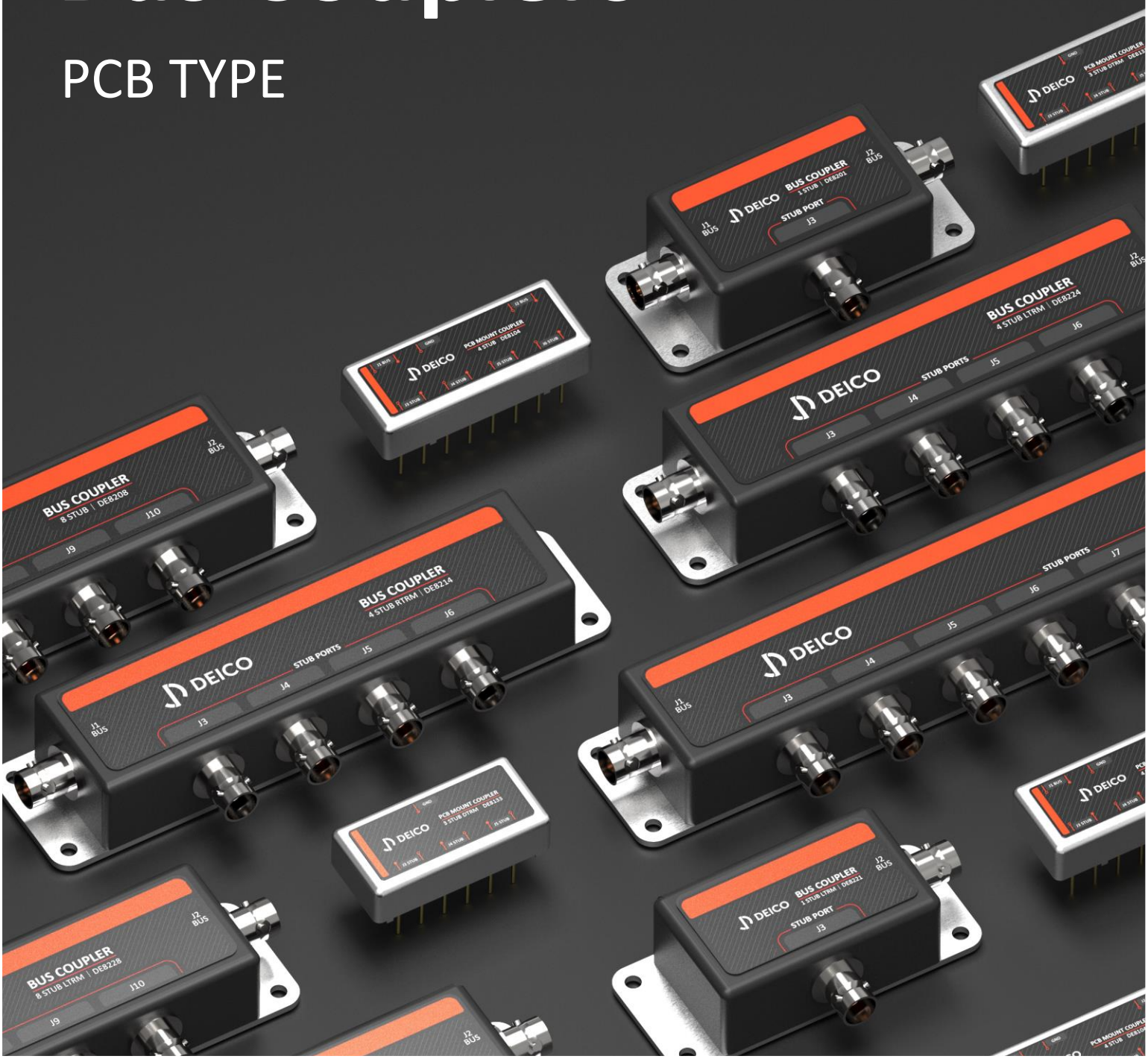
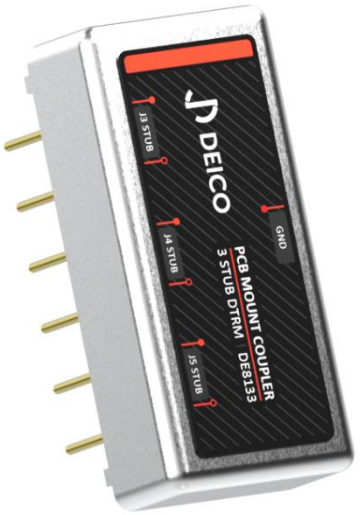
DEICO

MIL-STD-1553 Bus Couplers

PCB TYPE



MIL-STD-1553
PCB Type Bus Couplers



Product Overview

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.

PCB Type Couplers with 3 Stubs			
Product Code	**Transformer Ratio**	**Stub Resistor Value**	**Termination Type**
DE8103	1:1.41	59 Ohms ±1% 1W	Non-terminated
DE8113	1:1.41	59 Ohms ±1% 1W	Right side terminated
DE8123	1:1.41	59 Ohms ±1% 1W	Left side terminated
DE8133	1:1.41	59 Ohms ±1% 1W	Dual terminated
PCB Type Couplers with 4 Stubs			
Product Code	**Transformer Ratio**	**Stub Resistor Value**	**Termination Type**
DE8104	1:1.41	59 Ohms ±1% 1W	Non-terminated
DE8114	1:1.41	59 Ohms ±1% 1W	Right side terminated
DE8124	1:1.41	59 Ohms ±1% 1W	Left side terminated
DE8134	1:1.41	59 Ohms ±1% 1W	Dual terminated

1. ELECTRICAL SPECIFICATIONS		
1.1	**COMMON MODE REJECTION:**	-45.0dB MAX @ 1.0MHz
1.2	**DROOP:**	20% MAX (250kHz)
1.3	**OVERSHOOT & RINGING:**	± 1.0V PEAK (250kHz SQUARE WAVE WITH 100ns)
1.4	**STUB VOLTAGE:**	1.0V TO 14.0V P-P, LINE TO LINE, SIGNAL VOLTAGE, TRANSFORMER COUPLING
1.5	**INPUT IMPEDANCE OF BUS:**	3000 ΩMIN. (75kHz – 1.0MHz), STUB WITH OPEN CIRCUIT

2. MECHANICAL SPECIFICATIONS		
2.1	**ENCLOSURE MATERIAL:**	TINPLATE 0.5mm THK.

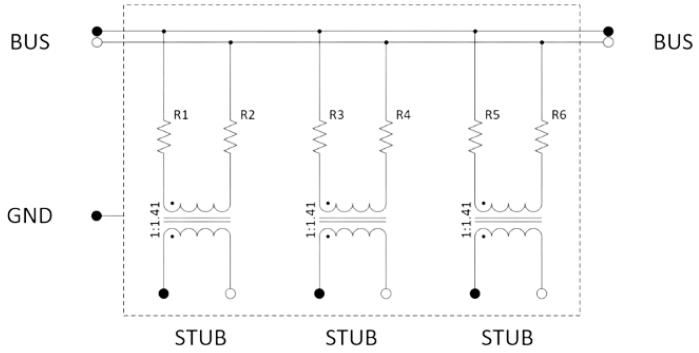
3. ENVIRONMENTAL SPECIFICATIONS		
3.1	**HIGH TEMPERATURE OPERATING:**	MIL-STD-810G_CHG-1 METHOD 501.6 PROCEDURE II, +125°C
3.2	**LOW TEMPERATURE OPERATING:**	MIL-STD-810G_CHG-1 METHOD 502.6 PROCEDURE II, -55°C
3.3	**HIGH TEMPERATURE STORAGE:**	MIL-STD-810G_CHG-1 METHOD 501.6 PROCEDURE I, +125°C
3.4	**LOW TEMPERATURE STORAGE:**	MIL-STD-810G_CHG-1 METHOD 502.6 PROCEDURE I, -55°C
3.5	**VIBRATION:**	MIL-STD-810G_CHG-1 METHOD 514.7 PROCEDURE I - CATEGORY 12, 15Hz TO 2000Hz, (Performance: W0=0.040 and A=0.02, Duration: half hour/axis), (Endurance: W0=0.053 and A=0.02, Duration: 1 hour/axis)
3.6	**SHOCK:**	MIL-STD-810G_CHG-1 METHOD 516.7 PROCEDURE V (40g, 11ms, Terminal Peak Sawtooth, Number of shocks: 12, two in each direction of three axes)
3.7	**RAIN:**	MIL-STD-810G METHOD 506.5 PROCEDURE I

4. ORDERING INFORMATION	
TYPE	**1: PCB TYPE** **2: BOX TYPE**
TERMINATION	**0: NOT TERMINATED** **1: RIGHT SIDE TERMINATED** **2: LEFT SIDE TERMINATED** **3: DOUBLE/DUAL TERMINATED [NOT OPTIONAL FOR 1 STUB]**
NUMBER OF STUBS	**(1-8 STUB FOR BOX TYPE) – [3-4 STUB FOR PCB TYPE]**
EXAMPLE	**DE8228 – BOX TYPE LEFT SIDE TERMINATED 8 STUBS**

DE8103 Technical Specifications

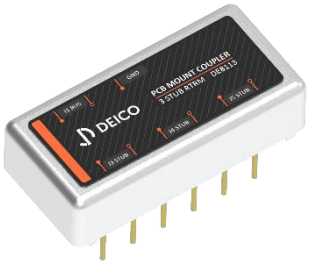
CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R6) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	NOT TERMINATED

Schematics

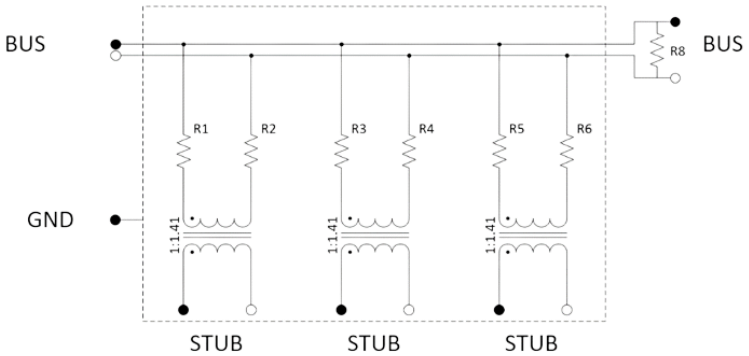


DE8113 Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R6) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R8) BUS TERMINATION



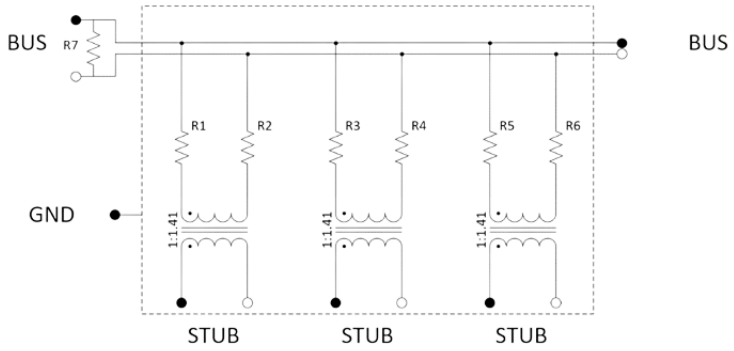
Schematics



DE8123 Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R6) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R7) BUS TERMINATION

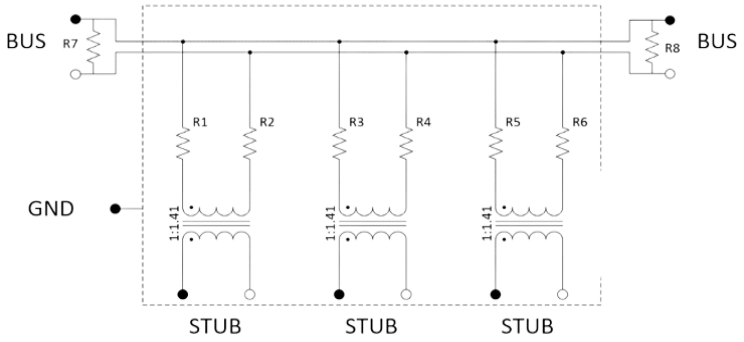
Schematics



DE8133 Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R6) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R7, R8) BUS TERMINATION

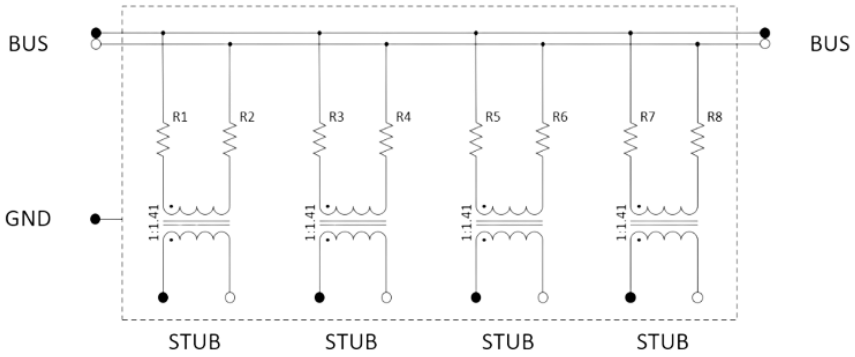
Schematics



DE8104 Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R8) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	NOT TERMINATED

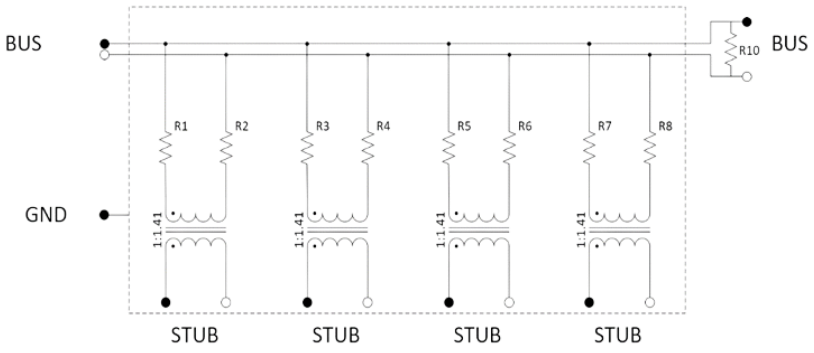
Schematics



DE8114 Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R8) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R10) BUS TERMINATION

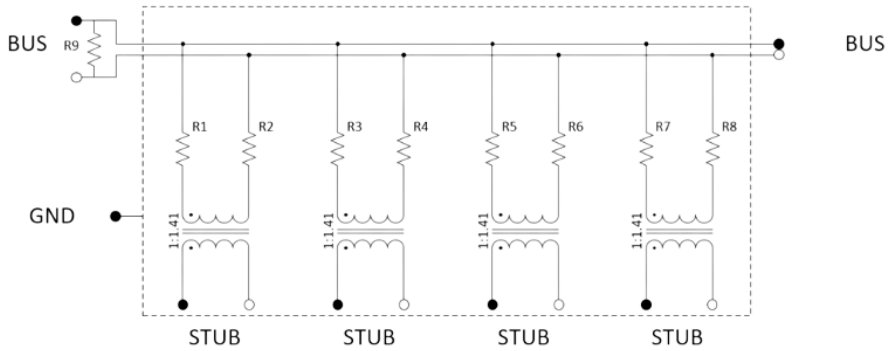
Schematics



DE8124 Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R8) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R9) BUS TERMINATION

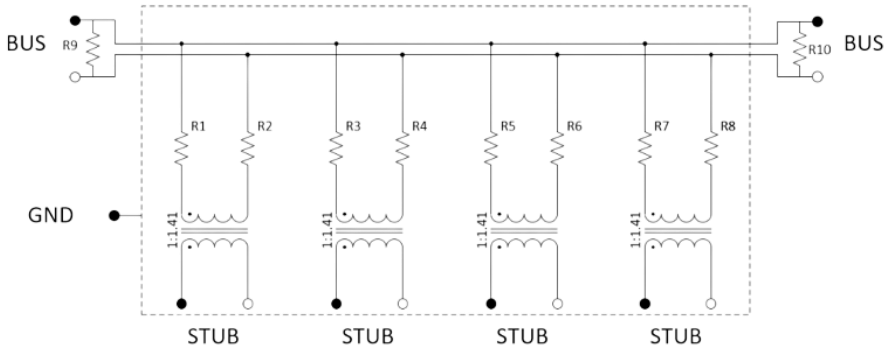
Schematics



DE8134 Technical Specifications

CHARACTERISTIC IMPEDANCE:	Zo = 78 OHMS
FAULT PROTECTION:	59 OHMS ±1% 1W (R1-R8) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
TERMINATION RESISTOR VALUE:	78.7 OHMS ±1% 2W (R9, R10) BUS TERMINATION

Schematics



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