



dataTec

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MIL-STD-1553 Bus Couplers

BOX TYPE



MIL-STD-1553 Box 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.



Box Type Couplers with 1 Stub			
Product Code	Transformer Ratio	Stub Resistor Value	Termination Type
DE8201	1:1.41	59 Ohms \pm 1% 1W	Non-terminated
DE8211	1:1.41	59 Ohms \pm 1% 1W	Right side terminated
DE8221	1:1.41	59 Ohms \pm 1% 1W	Left side terminated
Box Type Couplers with 2 Stubs			
Product Code	Transformer Ratio	Stub Resistor Value	Termination Type
DE8202	1:1.41	59 Ohms \pm 1% 1W	Non-terminated
DE8212	1:1.41	59 Ohms \pm 1% 1W	Right side terminated
DE8222	1:1.41	59 Ohms \pm 1% 1W	Left side terminated
DE8232	1:1.41	59 Ohms \pm 1% 1W	Dual terminated
Box Type Couplers with 3 Stubs			
Product Code	Transformer Ratio	Stub Resistor Value	Termination Type
DE8203	1:1.41	59 Ohms \pm 1% 1W	Non-terminated
DE8213	1:1.41	59 Ohms \pm 1% 1W	Right side terminated
DE8223	1:1.41	59 Ohms \pm 1% 1W	Left side terminated
DE8233	1:1.41	59 Ohms \pm 1% 1W	Dual terminated
Box Type Couplers with 4 Stubs			
Product Code	Transformer Ratio	Stub Resistor Value	Termination Type
DE8204	1:1.41	59 Ohms \pm 1% 1W	Non-terminated
DE8214	1:1.41	59 Ohms \pm 1% 1W	Right side terminated
DE8224	1:1.41	59 Ohms \pm 1% 1W	Left side terminated
DE8234	1:1.41	59 Ohms \pm 1% 1W	Dual terminated
Box Type Couplers with 5 Stubs			
Product Code	Transformer Ratio	Stub Resistor Value	Termination Type
DE8205	1:1.41	59 Ohms \pm 1% 1W	Non-terminated
DE8215	1:1.41	59 Ohms \pm 1% 1W	Right side terminated
DE8225	1:1.41	59 Ohms \pm 1% 1W	Left side terminated
DE8235	1:1.41	59 Ohms \pm 1% 1W	Dual terminated
Box Type Couplers with 6 Stubs			
Product Code	Transformer Ratio	Stub Resistor Value	Termination Type
DE8206	1:1.41	59 Ohms \pm 1% 1W	Non-terminated
DE8216	1:1.41	59 Ohms \pm 1% 1W	Right side terminated
DE8226	1:1.41	59 Ohms \pm 1% 1W	Left side terminated
DE8236	1:1.41	59 Ohms \pm 1% 1W	Dual terminated
Box Type Couplers with 7 Stubs			
Product Code	Transformer Ratio	Stub Resistor Value	Termination Type
DE8207	1:1.41	59 Ohms \pm 1% 1W	Non-terminated
DE8217	1:1.41	59 Ohms \pm 1% 1W	Right side terminated
DE8227	1:1.41	59 Ohms \pm 1% 1W	Left side terminated
DE8237	1:1.41	59 Ohms \pm 1% 1W	Dual terminated
Box Type Couplers with 8 Stubs			
Product Code	Transformer Ratio	Stub Resistor Value	Termination Type
DE8208	1:1.41	59 Ohms \pm 1% 1W	Non-terminated
DE8218	1:1.41	59 Ohms \pm 1% 1W	Right side terminated
DE8228	1:1.41	59 Ohms \pm 1% 1W	Left side terminated
DE8238	1:1.41	59 Ohms \pm 1% 1W	Dual terminated

Box Type Coupler Accessories

Product Code	Product Description	Product	Product Code	Product Description	Product
DE8701	Connector, TRB, Male, 500MHZ M17/176-00002 Compatible, Free Hanging (In-Line) Solder		DE8603	Connector, Male, 3000 OHM TRB Stub Termination, 6 Inch, Chained	
DE8702	Connector, TRB, Male, 500MHZ M17/176-00002 Compatible, Free Hanging (In-Line) Solder, Bend Relief		DE8604	Connector, Male, 78 OHM TRB Bus Termination	
DE8801	Twinax cable, 24AWG 77OHM Cable, Shielded, Blue PFA		DE8605	Connector, Male, 78 OHM TRB Bus Termination, 3 Inch, Chained	
DE8501	RFI Dust Cap		DE8606	Connector, Male, 78 OHM TRB Bus Termination, 6 Inch, Chained	
DE8502	RFI Dust Cap, 3 Inch, Chained		DE8607	Connector, Male, 2W, 78 OHM TRB Bus Termination, 4 Inch, Chained	
DE8503	RFI Dust Cap, 6 Inch, Chained		DE8608	Connector, Male, 2W, 3000 OHM TRB Stub Termination, 4 Inch, Chained	
DE8601	Connector, Male, 3000 OHM TRB Stub Termination		-	Custom Cable Assembly	
DE8602	Connector, Male, 3000 OHM TRB Stub Termination, 3 Inch, Chained				

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:	ALUMINUM 2mm THK.
2.2	MOUNTING PLATE MATERIAL:	ALUMINUM 2mm THK.
2.3	FINISH:	WHITE CHROMATE
2.4	CONNECTORS:	BJ770
2.5	RECOMMENDED MATING CONNECTOR:	PL75
2.6	RECOMENDED STUB TERMINATION:	DE8608
2.7	RECOMMENDED BUS TERMINATION:	DE8607

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]

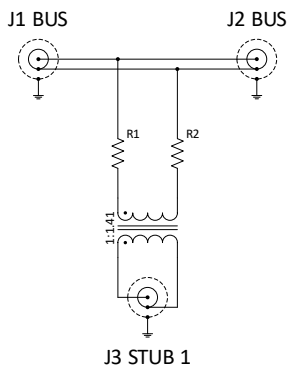
EXAMPLE DE8228 – BOX TYPE LEFT SIDE TERMINATED 8 STUBS

DE8201 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_0 = 78 \text{ OHMS}$
- FAULT PROTECTION:** $59 \text{ OHMS } \pm 1\% \text{ 1W (R1-R2) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE}$
- TERMINATION RESISTOR VALUE:** NOT TERMINATED



Schematics

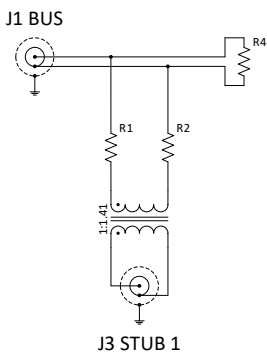


DE8211 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_0 = 78 \text{ OHMS}$
- FAULT PROTECTION:** $59 \text{ OHMS } \pm 1\% \text{ 1W (R1-R2) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE}$
- TERMINATION RESISTOR VALUE:** $78.7 \text{ OHMS } \pm 1\% \text{ 2W (R4) BUS TERMINATION}$



Schematics

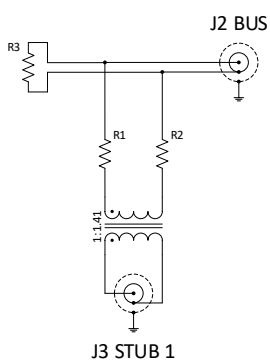


DE8221 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_0 = 78 \text{ OHMS}$
- FAULT PROTECTION:** $59 \text{ OHMS } \pm 1\% \text{ 1W (R1-R2)}$ IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** $78.7 \text{ OHMS } \pm 1\% \text{ 2W (R3)}$ BUS TERMINATION



Schematics

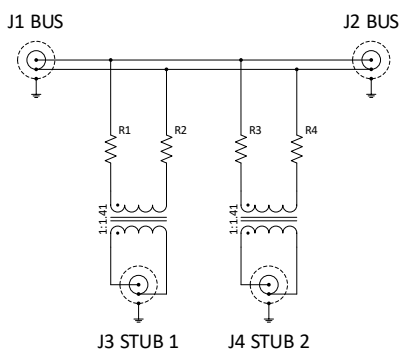


DE8202 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_0 = 78 \text{ OHMS}$
- FAULT PROTECTION:** $59 \text{ OHMS } \pm 1\% \text{ 1W (R1-R4)}$ IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** NOT TERMINATED



Schematics

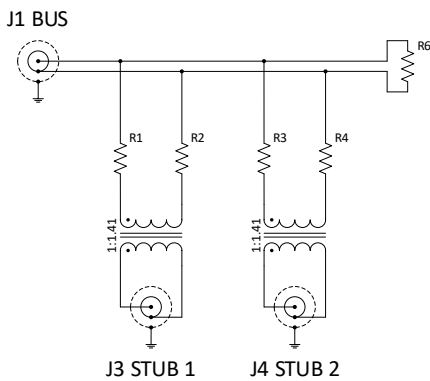


DE8212 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_0 = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R4) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** 78.7 OHMS $\pm 1\%$ 2W (R6) BUS TERMINATION



Schematics

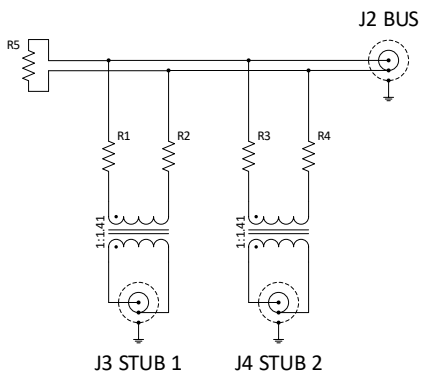


DE8222 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_0 = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R4) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** 78.7 OHMS $\pm 1\%$ 2W (R5) BUS TERMINATION



Schematics

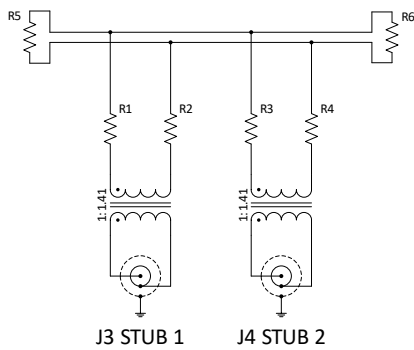


DE8232 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_0 = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R4) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** 78.7 OHMS $\pm 1\%$ 2W (R5, R6) BUS TERMINATION



Schematics

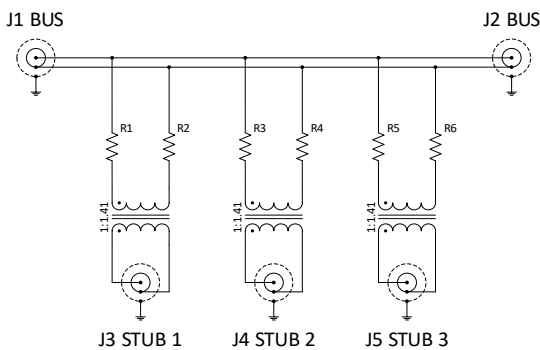


DE8203 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_0 = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R6) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** NOT TERMINATED



Schematics

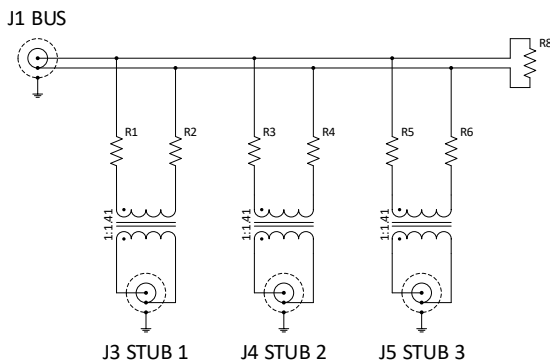


DE8213 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_o = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R6) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** 78.7 OHMS $\pm 1\%$ 2W (R8) BUS TERMINATION



Schematics

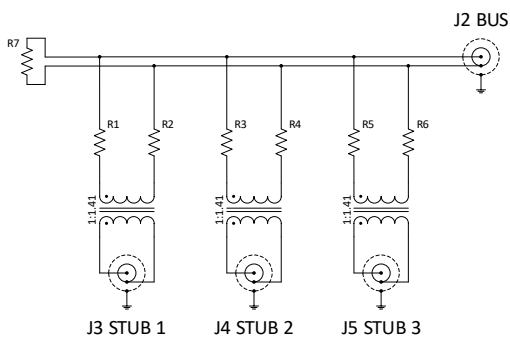


DE8223 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_o = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R6) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** 78.7 OHMS $\pm 1\%$ 2W (R7) BUS TERMINATION



Schematics

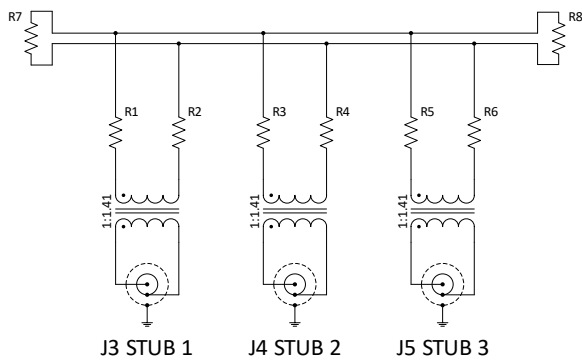


DE8233 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_o = 78 \text{ OHMS}$
- FAULT PROTECTION:** $59 \text{ OHMS } \pm 1\% \text{ 1W (R1-R6) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE}$
- TERMINATION RESISTOR VALUE:** $78.7 \text{ OHMS } \pm 1\% \text{ 2W (R7, R8) BUS TERMINATION}$



Schematics

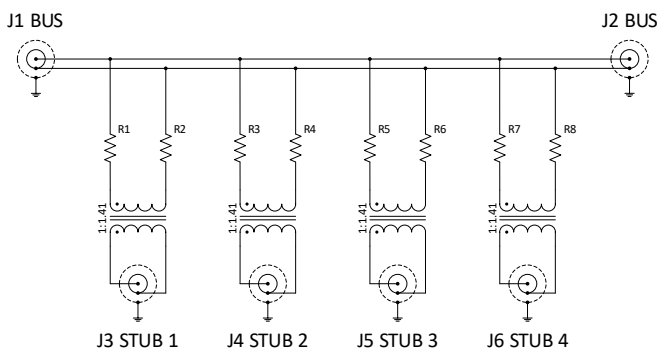


DE8204 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_o = 78 \text{ OHMS}$
- FAULT PROTECTION:** $59 \text{ OHMS } \pm 1\% \text{ 1W (R1-R8) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE}$
- TERMINATION RESISTOR VALUE:** NOT TERMINATED



Schematics

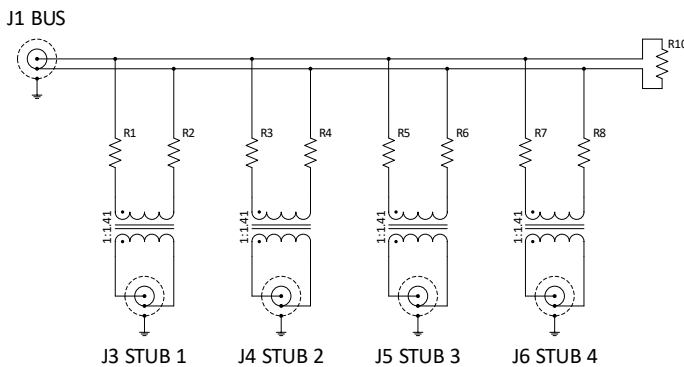


DE8214 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_o = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R8) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** 78.7 OHMS $\pm 1\%$ 2W (R10) BUS TERMINATION



Schematics

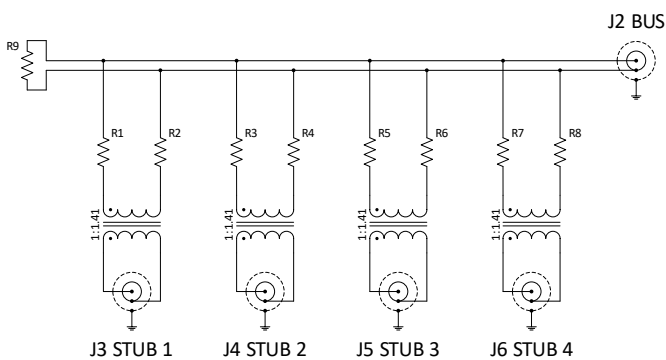


DE8224 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_o = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R8) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** 78.7 OHMS $\pm 1\%$ 2W (R9) BUS TERMINATION



Schematics

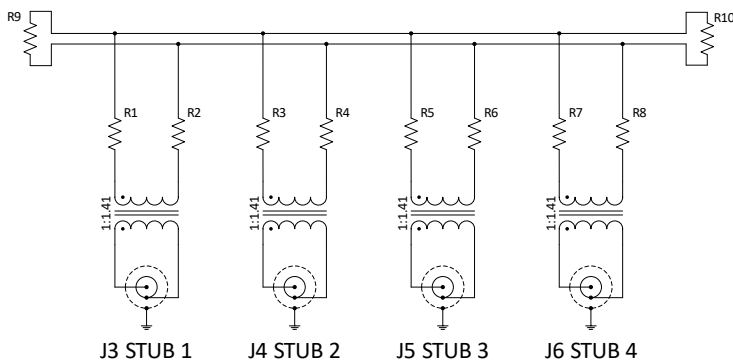


DE8234 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_o = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R8) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** 78.7 OHMS $\pm 1\%$ 2W (R9, R10) BUS TERMINATION



Schematics

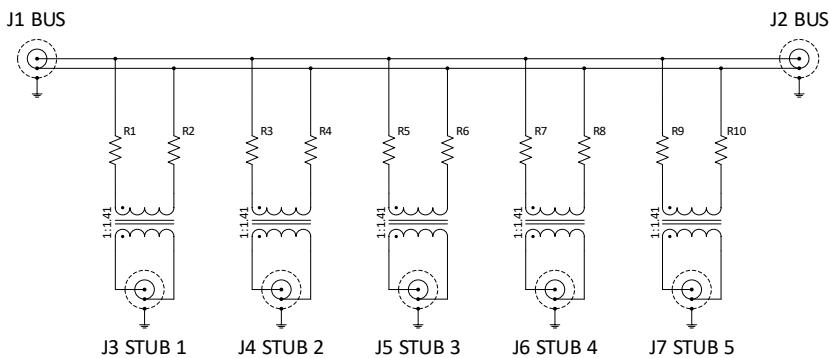


DE8205 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_o = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R10) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** NOT TERMINATED



Schematics

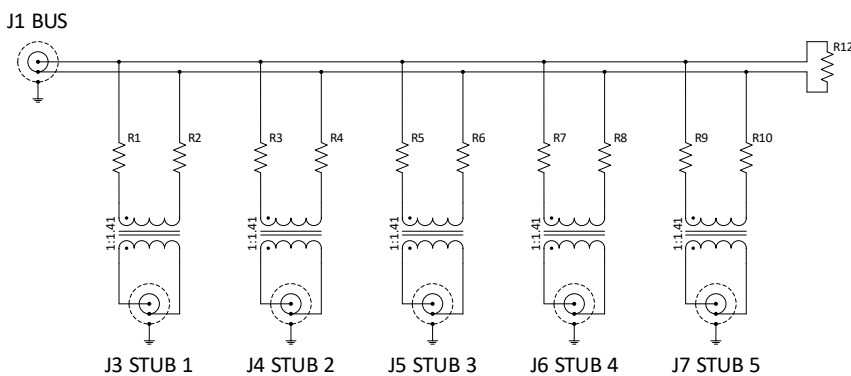


DE8215 Technical Specifications



- CHARACTERISTIC IMPEDANCE:** $Z_0 = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R10) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** 78.7 OHMS $\pm 1\%$ 2W (R12) BUS TERMINATION

Schematics

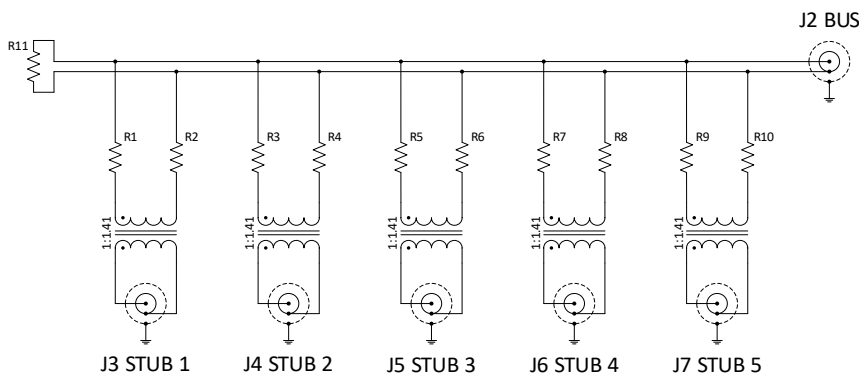


DE8225 Technical Specifications



- CHARACTERISTIC IMPEDANCE:** $Z_0 = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R10) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** 78.7 OHMS $\pm 1\%$ 2W (R11) BUS TERMINATION

Schematics

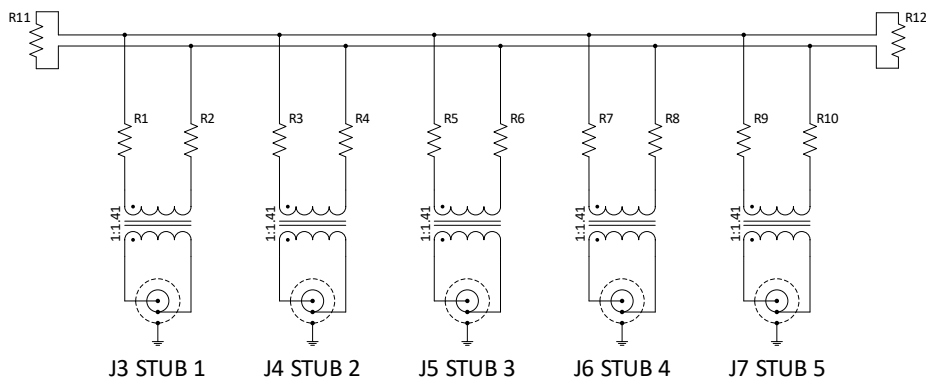


DE8235 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_o = 78 \text{ OHMS}$
- FAULT PROTECTION:** $59 \text{ OHMS } \pm 1\% \text{ 1W (R1-R10) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE}$
- TERMINATION RESISTOR VALUE:** $78.7 \text{ OHMS } \pm 1\% \text{ 2W (R11, R12) BUS TERMINATION}$



Schematics

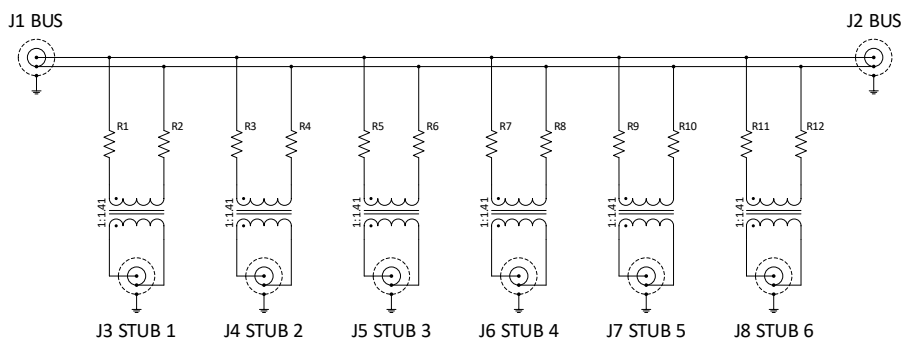


DE8206 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_o = 78 \text{ OHMS}$
- FAULT PROTECTION:** $59 \text{ OHMS } \pm 1\% \text{ 1W (R1-R12) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE}$
- TERMINATION RESISTOR VALUE:** NOT TERMINATED



Schematics

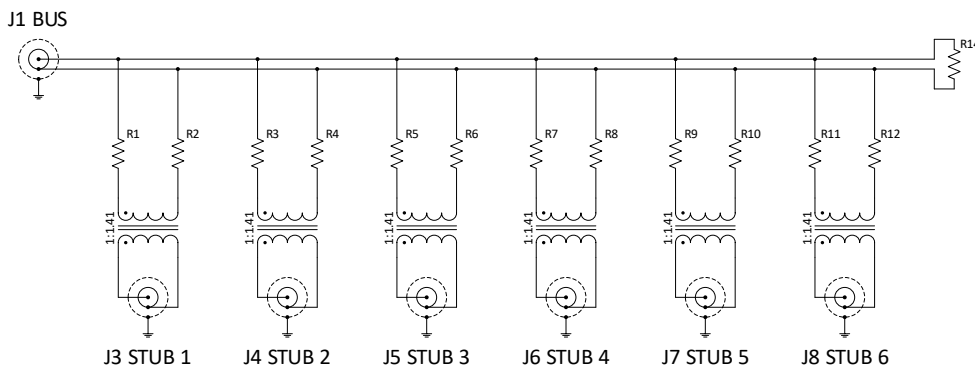


DE8216 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_o = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R12) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** 78.7 OHMS $\pm 1\%$ 2W (R14) BUS TERMINATION



Schematics

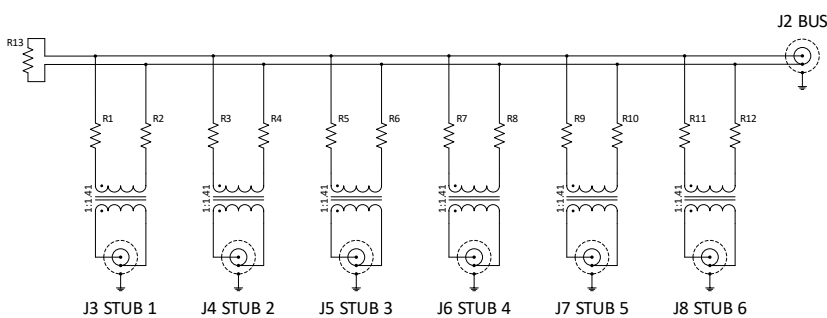


DE8226 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_o = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R12) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** 78.7 OHMS $\pm 1\%$ 2W (R13) BUS TERMINATION



Schematics

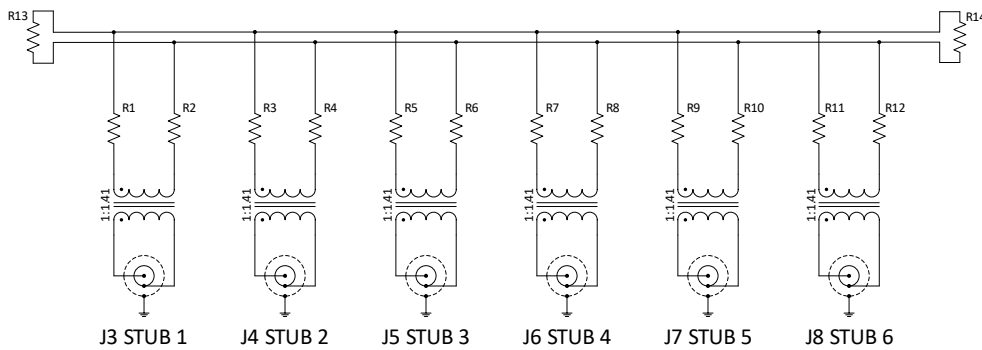


DE8236 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_o = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R12) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** 78.7 OHMS $\pm 1\%$ 2W (R13, R14) BUS TERMINATION



Schematics

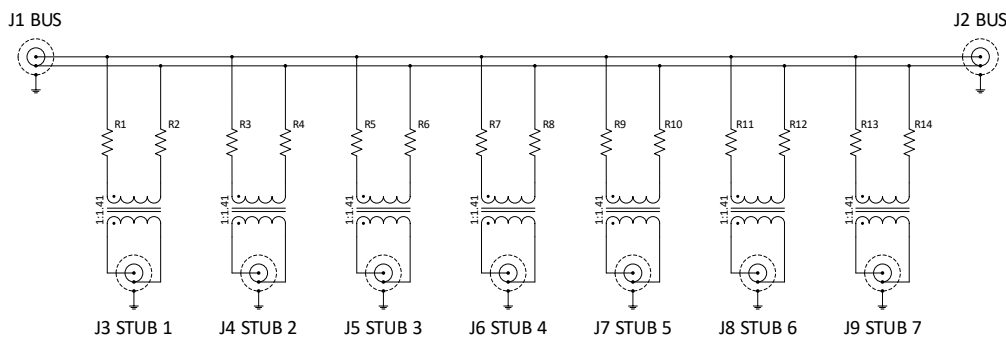


DE8207 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_o = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R14) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** NOT TERMINATED



Schematics

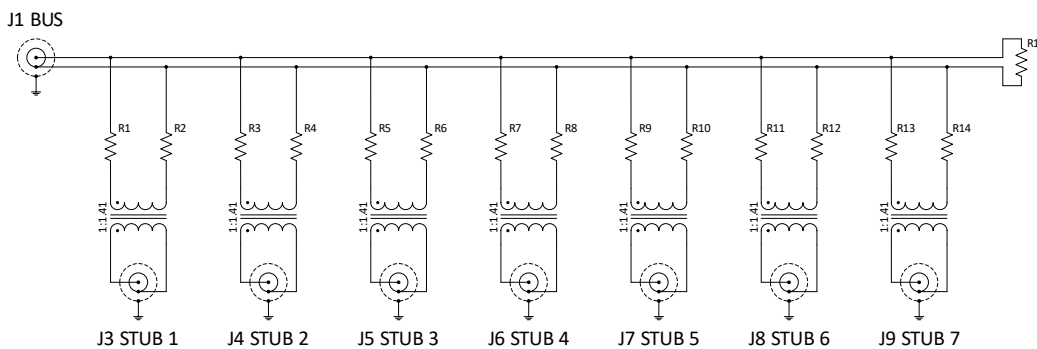


DE8217 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_o = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R14) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** 78.7 OHMS $\pm 1\%$ 2W (R16) BUS TERMINATION



Schematics

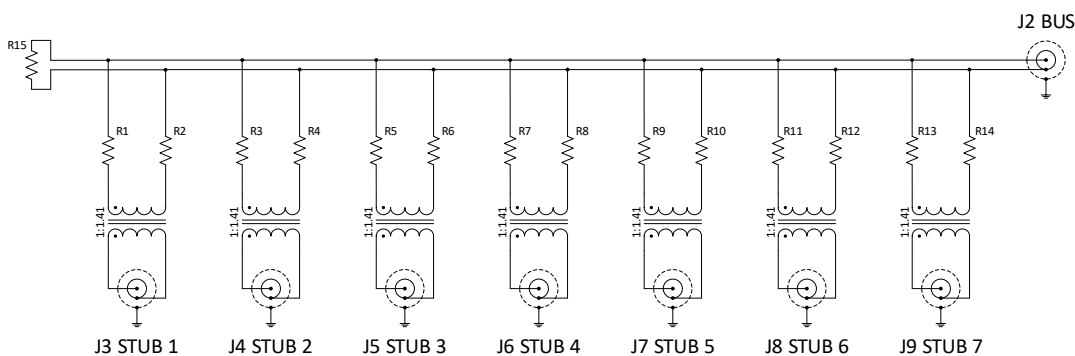


DE8227 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_o = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R14) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** 78.7 OHMS $\pm 1\%$ 2W (R15) BUS TERMINATION



Schematics

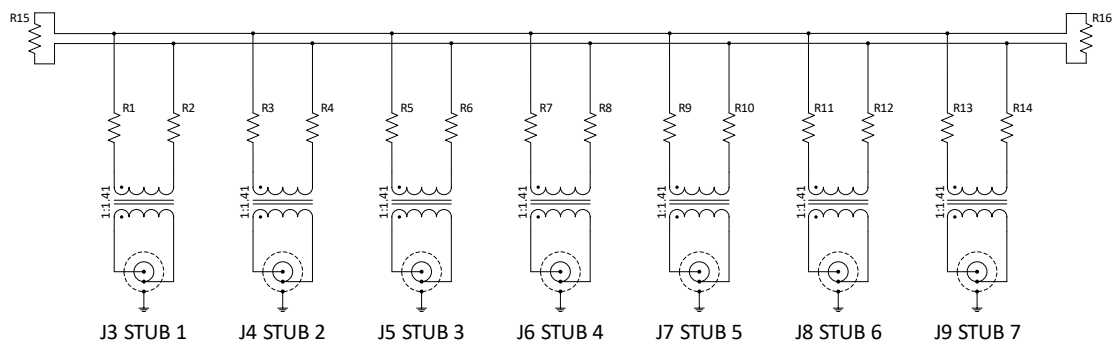


DE8237 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_o = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R14) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** 78.7 OHMS $\pm 1\%$ 2W (R15, R16) BUS TERMINATION



Schematics

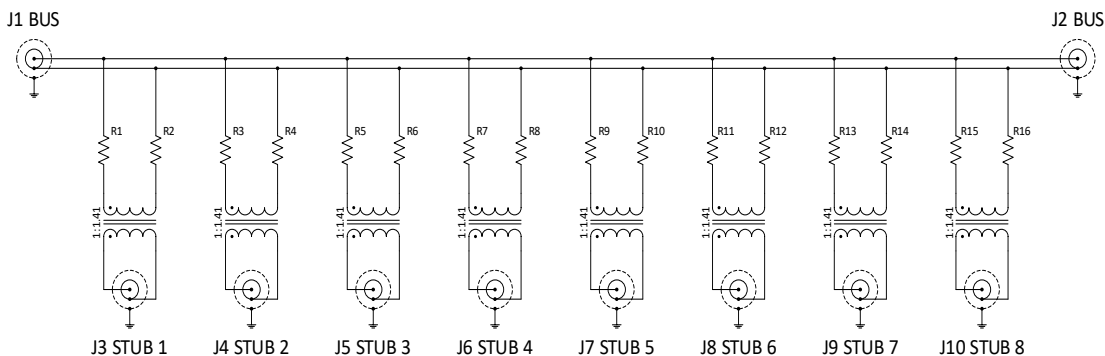


DE8208 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_o = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R16) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** NOT TERMINATED



Schematics

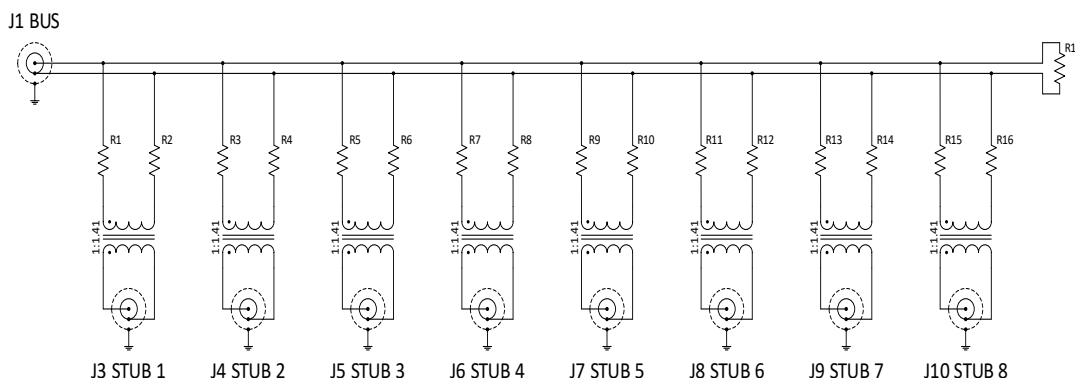


DE8218 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_o = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R16) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** 78.7 OHMS $\pm 1\%$ 2W (R18) BUS TERMINATION



Schematics

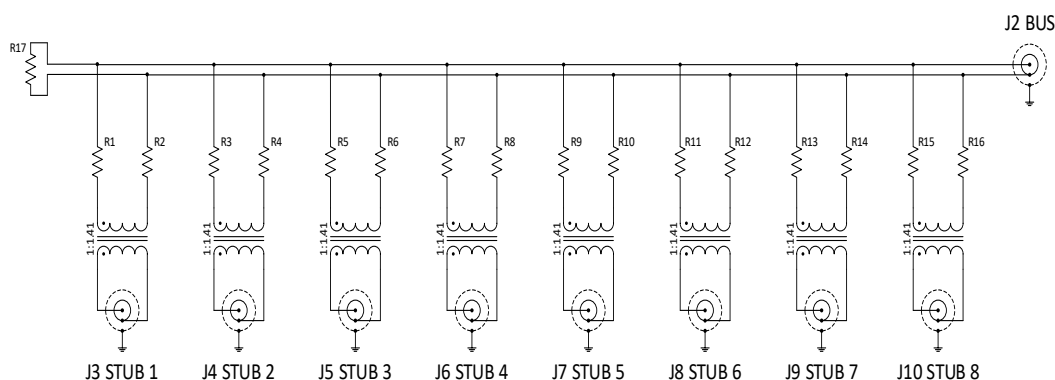


DE8228 Technical Specifications

- CHARACTERISTIC IMPEDANCE:** $Z_o = 78 \text{ OHMS}$
- FAULT PROTECTION:** 59 OHMS $\pm 1\%$ 1W (R1-R16) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE
- TERMINATION RESISTOR VALUE:** 78.7 OHMS $\pm 1\%$ 2W (R17) BUS TERMINATION



Schematics



DE8238 Technical Specifications

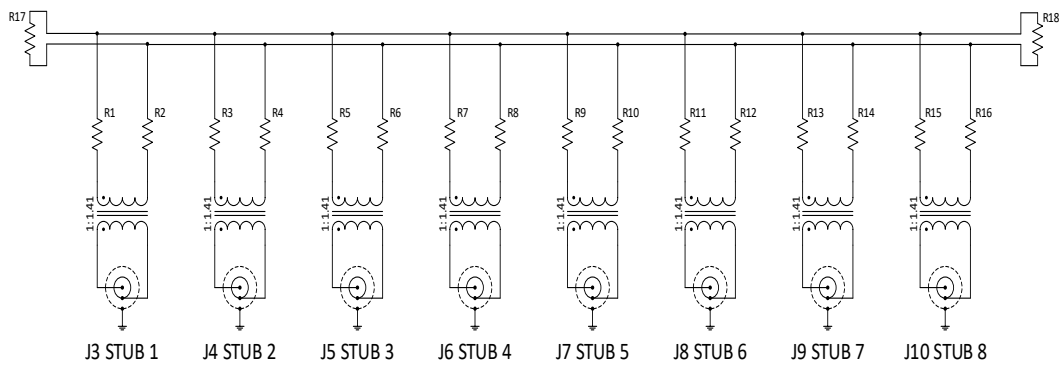
CHARACTERISTIC IMPEDANCE: $Z_o = 78 \text{ OHMS}$

FAULT PROTECTION: 59 OHMS $\pm 1\%$ 1W (R1-R16) IN SERIES WITH TRANSFORMER WINDING ON BUS SIDE

TERMINATION RESISTOR VALUE: 78.7 OHMS $\pm 1\%$ 2W (R17, R18) BUS TERMINATION



Schematics





Contact

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