DC Block

Matching Transformer

Z7550-FMSFDC+

50/75Ω 1 to 2500 MHz

Generic photo used for illustration purposes only
CASE STYLE: H795-3

The Big Deal

- Low loss (0.5 dB) matching device
- Wideband coverage, 1-2500MHz
- Blocks DC
- Connectorized package

Product Overview

Z7550-FMSFDC+ is a DC Blocking matching transformer that allows impedance matching between 50Ω and 75Ω systems with minimum reflection in to the circuit. This matching transformer will find its application in any system where 50Ω-75Ω matching is required

Key Features

Feature	Advantages
Low insertion loss	Low insertion loss ensures minimum signal loss through the device and at the same time provides 50-75 impedance transformation.
Very good return loss	Return loss of 20dB ensures minimum reflection with maximum power transfer
Connectorized package	The connectorized package is easy to interface with other devices and well suited for test setups.

Notes
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

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Connectors	Model
75Ω F-M	Z7550-FMSFDC+
50Ω S-F	

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C

Permanent damage may occur if any of these limits are exceeded.

Features

- Low loss (0.5 dB) matching device
- Wideband coverage, 1-2500MHz
- Blocks DC
- Connectorized package

Applications

- Impedance matching

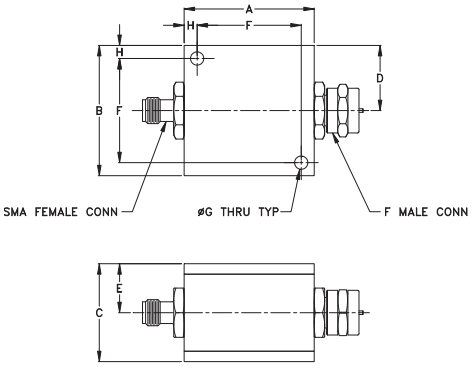
+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Coaxial Connections

Input	SMA-Female
Output	F-Male

Outline Drawing



Outline Dimensions (inch / mm)

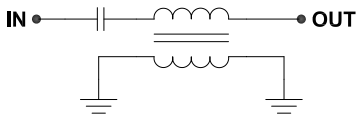
A	B	C	D	E
1.25	**1.25**	**.94**	**.63**	**.47**
31.75	31.75	23.88	16.00	11.94

F	G	H		wt
1.000	**.125**	**.125**		**grams**
25.40	3.18	3.18		49.8

Note: Please refer to case style drawing for details

Functional Schematic

Config. Q1



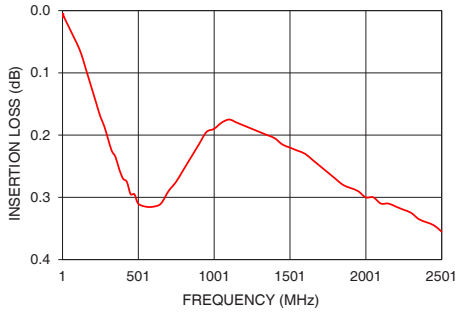
Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range	-	1	-	2500	MHz
Insertion Loss	1-950	-	0.35	0.8	dB
	950-2500	-	0.5	1.0	
VSWR	1-950	-	1.5	1.8	:1
	950-2500	-	1.2	1.5	
Power	1-2500	-	-	1	W

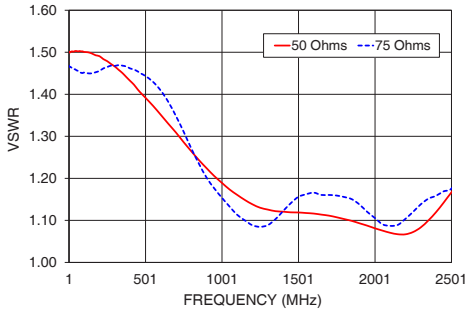
Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	VSWR	
		50 Ω	**75 Ω**
1	0.01	1.50	1.47
10	0.01	1.50	1.46
100	0.06	1.50	1.45
250	0.17	1.48	1.46
300	0.21	1.47	1.47
950	0.20	1.21	1.18
1500	0.22	1.12	1.16
2150	0.31	1.07	1.09
2300	0.33	1.08	1.14
2500	0.36	1.17	1.18

Z7550-FMSFDC+
INSERTION LOSS



Z7550-FMSFDC+
VSWR



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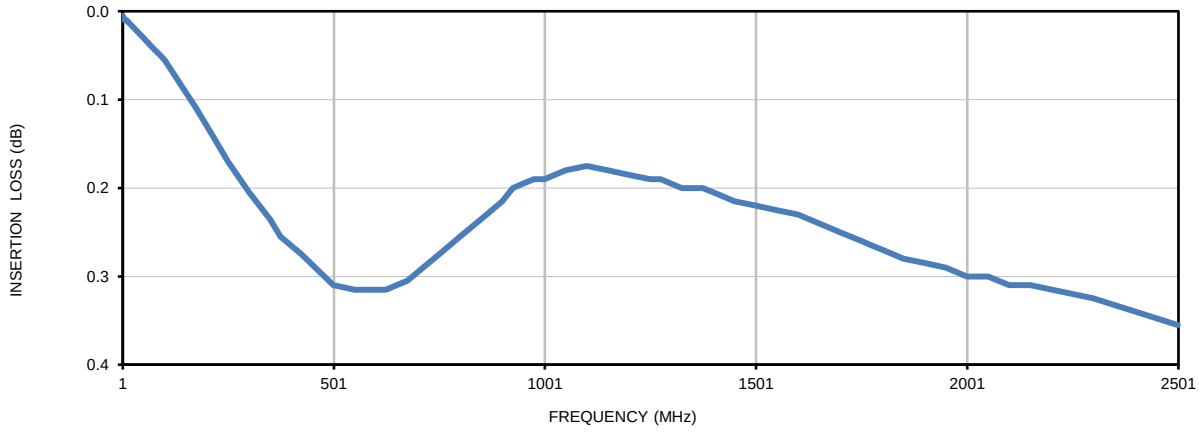
Typical Performance Data

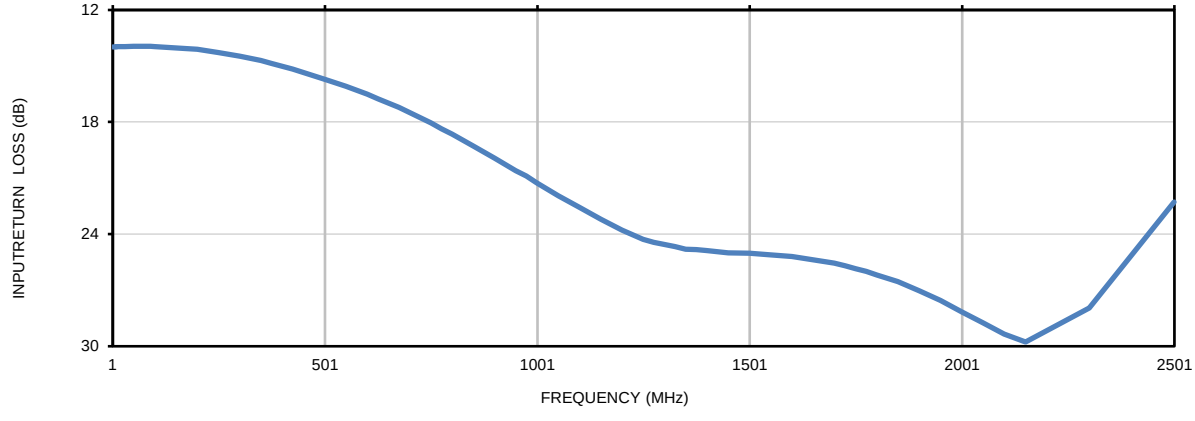
FREQ.	INSERTION LOSS	INPUT RETURN LOSS (50Ω)	OUTPUT RETURN LOSS (75Ω)
(MHz)	(dB)	(dB)	(dB)
1.00	0.01	13.98	14.44
5.00	0.01	13.98	14.47
7.00	0.01	13.98	14.49
9.00	0.01	13.98	14.49
10.00	0.01	13.97	14.49
30.00	0.02	13.96	14.57
50.00	0.03	13.94	14.61
70.00	0.04	13.94	14.68
90.00	0.05	13.95	14.71
100.00	0.06	13.97	14.69
175.00	0.11	14.08	14.68
200.00	0.13	14.11	14.63
250.00	0.17	14.28	14.49
300.00	0.21	14.47	14.45
350.00	0.24	14.71	14.44
375.00	0.26	14.86	14.47
425.00	0.28	15.16	14.58
500.00	0.31	15.71	14.82
550.00	0.32	16.08	15.05
600.00	0.32	16.51	15.40
625.00	0.32	16.75	15.64
650.00	0.31	16.98	15.90
675.00	0.31	17.21	16.20
750.00	0.28	18.05	17.42
775.00	0.27	18.36	17.92
800.00	0.26	18.65	18.46
850.00	0.24	19.29	19.57
900.00	0.22	19.93	20.76
925.00	0.20	20.28	21.26
950.00	0.20	20.61	21.83
975.00	0.19	20.89	22.34
1000.00	0.19	21.26	22.92
1050.00	0.18	21.95	24.10
1100.00	0.18	22.57	25.41
1150.00	0.18	23.20	26.44
1200.00	0.19	23.79	27.47
1250.00	0.19	24.28	27.82
1275.00	0.19	24.44	27.95
1325.00	0.20	24.67	26.88
1350.00	0.20	24.81	26.22
1375.00	0.20	24.84	25.65
1400.00	0.21	24.89	24.80
1450.00	0.22	25.00	23.64
1500.00	0.22	25.02	22.81
1550.00	0.23	25.11	22.50
1600.00	0.23	25.20	22.31
1700.00	0.25	25.56	22.58
1725.00	0.26	25.70	22.61
1750.00	0.26	25.85	22.65
1775.00	0.27	25.99	22.67
1800.00	0.27	26.19	22.83
1850.00	0.28	26.55	23.11
1900.00	0.29	27.04	23.82
1950.00	0.29	27.55	24.92
2000.00	0.30	28.17	25.98
2050.00	0.30	28.76	27.25
2100.00	0.31	29.35	27.60
2150.00	0.31	29.78	27.39
2300.00	0.33	27.96	23.79
2500.00	0.36	22.29	21.87

Typical Performance Curves

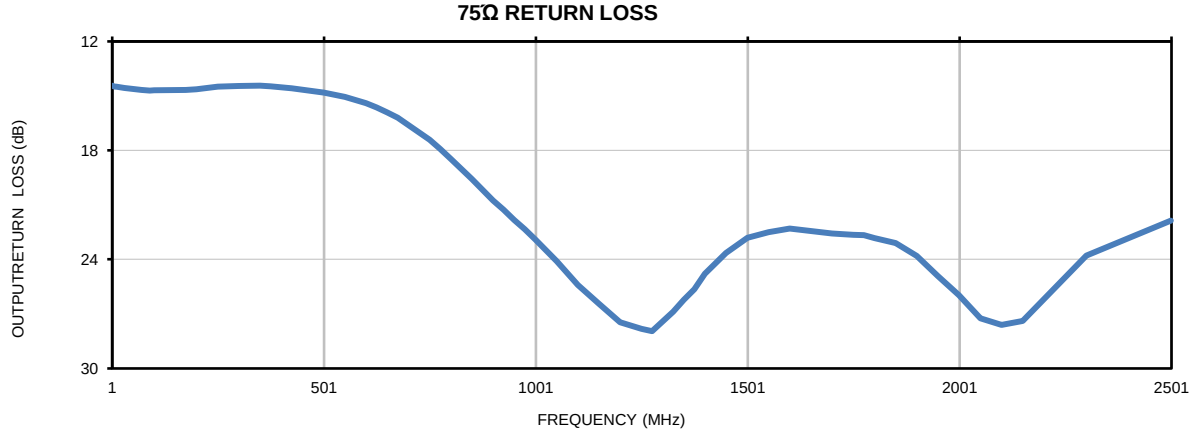
INSERTION LOSS



50Ω RETURN LOSS



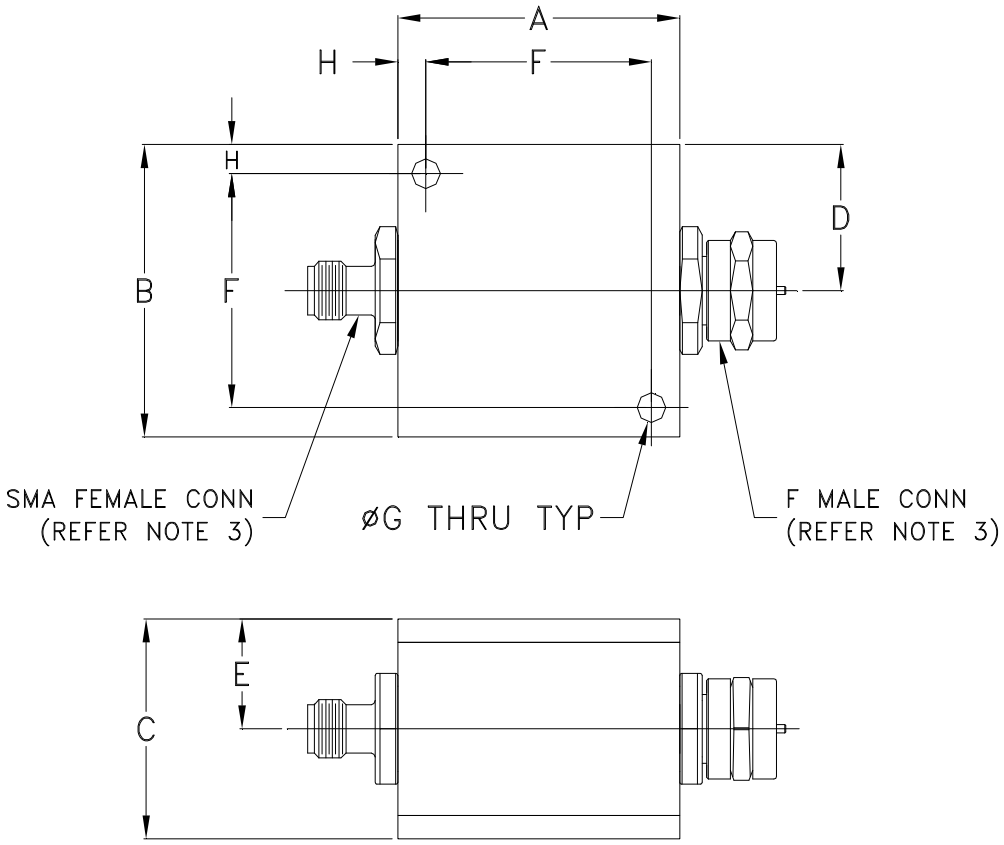
75Ω RETURN LOSS



Case Style H

Outline Dimensions

H795-3



CASE#	A	B	C	D	E	F	G	H	WT.GRAMS
H795-3	1.25 (31.75)	1.25 (31.75)	.94 (23.88)	.63 (16.00)	.47 (11.94)	1.000 (25.40)	.125 (3.18)	.125 (3.18)	49.8

Dimensions are in inches (mm). Tolerances: 2PL. ± .03; 3PL. ± .015

Notes:

1. Case material: Aluminum alloy.
2. Case finish:
   For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.
3. Refer to the individual model data sheet for the type of connectors available.

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Environmental Specifications ENV28

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-55° to 100°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D
Humidity	90% RH, 65°C Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103
Thermal Shock	-65° to 125°C, 5 cycles	MIL-STD-202, Method 107, Condition B
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)	MIL-STD-202, Method 213, Condition I

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