

Coaxial RF Transformer

FT-1.5-232+

50/75Ω

0.5 to 2350 MHz

The Big Deal

- Good return loss, 22 dB
- Low insertion loss, 1.3 dB
- 1W power handling
- SMA /N-Type or SMA/F-Type connectors



CASE STYLE: H795-13

Product Overview

Mini-Circuits' FT1.5-232+ is a coaxial 50/75Ω transformer with a covering the 0.5 to 2350 MHz frequency range, supporting impedance matching in CATV systems and other applications. This model handles RF input power up to 1W and provides low insertion loss and excellent return loss. Measuring only 1.25 x 1.25 x 0.94", the transformer comes housed in a rugged, aluminum alloy case with your choice of SMA/N-Type or SMA/F-Type connectors.

Key Features

Feature	Advantages
Wideband, 0.5 to 2350 MHz	Supports a variety of applications including CATV and DOCSIS 3.1 systems and equipment.
Low insertion loss, 0.5 - 1.3 dB	Enables excellent signal power transmission from input to output.
Good return loss, 22 dB typ.	Excellent matching with minimal signal reflection.
Compact size, 1.25 x 1.25 x 0.94"	Accommodates tight space requirements for crowded system layouts.
SMA/N-Type or SMA/F-Type connectors	Supports a variety of connector configuration requirements.

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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50/75Ω

0.5 to 2350 MHz

FT-1.5-232+



Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	1W

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

Coaxial Connections

SMA (Input)	50Ω
N-Type (Output)	75Ω

Features

- wideband, 0.5 to 2350 MHz
- good return loss, 22 dB typ.

Applications

- impedance matching
- DOCSIS 3.1

Connectors	Model	Case Style
SMA / N-Type	FT-1.5-232-SN+	H795-13
SMA / F-Type	FT-1.5-232-SF+	H795-5

+RoHS Compliant

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

Electrical Specifications at 25°C

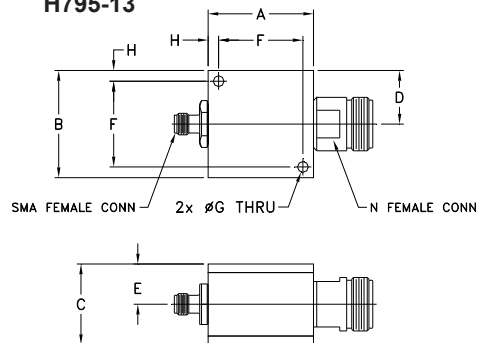
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio (secondary/primary)			1.5		
Frequency Range		0.5		2350	MHz
Insertion Loss	0.5-1250	—	0.5	1.0	dB
	1250-2350	—	1.3	2.0	
VSWR	0.5-5	—	1.28	1.5	:1
	5-1250	—	1.15	1.3	
	1250-2350	—	1.25	1.6	

Typical Performance Data

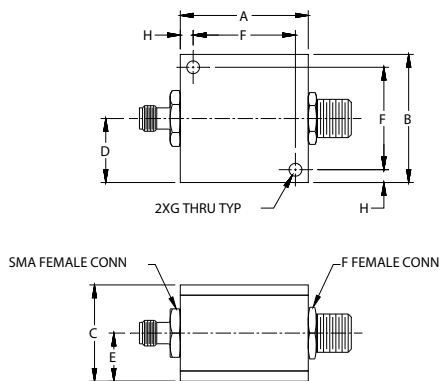
Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	
		50 Ω	75 Ω
1	0.59	1.23	1.31
5	0.29	1.05	1.15
10	0.27	1.03	1.14
100	0.32	1.03	1.14
500	0.45	1.07	1.14
1000	0.62	1.08	1.12
1250	0.73	1.07	1.10
1750	1.01	1.07	1.06
2000	1.21	1.07	1.10
2350	1.68	1.14	1.23

Outline Drawing

H795-13



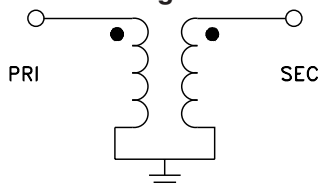
H795-5



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		43.8

Config. D



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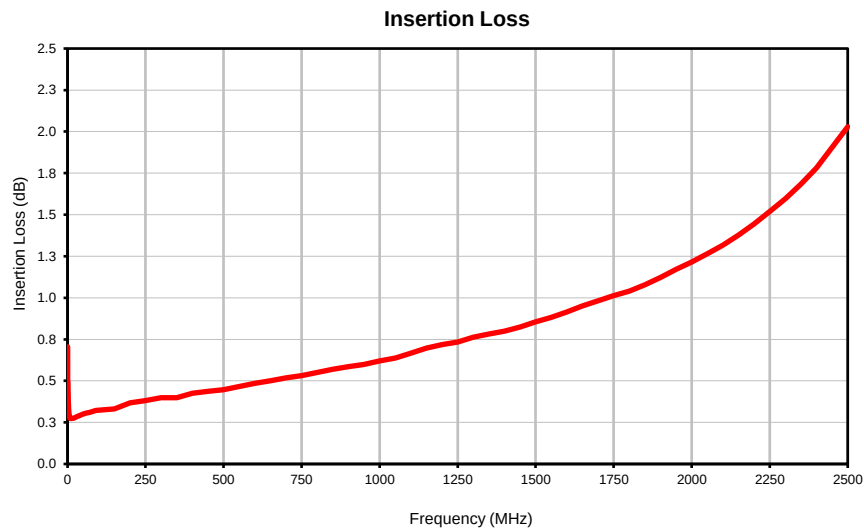
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FT-1.5-232+
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Typical Performance Data

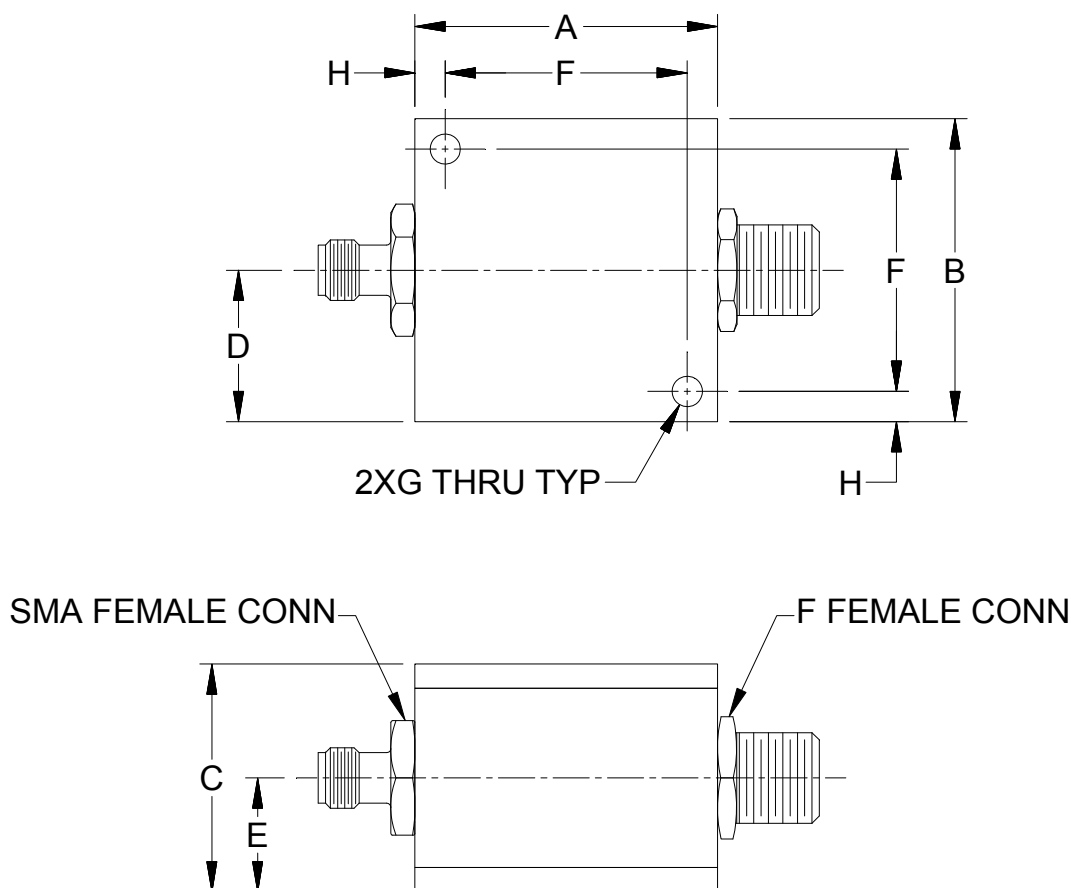
FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)	
		50-Ohm	75-Ohm
0.3	0.71	16.03	15.05
0.4	0.63	18.15	16.50
0.5	0.59	19.71	17.46
0.6	0.55	20.96	18.11
0.7	0.53	21.94	18.58
0.8	0.51	22.75	19.00
0.9	0.49	23.49	19.35
1.0	0.47	24.09	19.61
2.0	0.38	28.05	21.40
3.0	0.33	30.30	22.26
4.0	0.30	31.89	22.84
5.0	0.29	33.09	23.30
6.0	0.29	33.94	23.52
7.0	0.28	34.63	23.74
8.0	0.28	35.18	23.86
9.0	0.28	35.58	23.95
10	0.27	35.96	23.98
20	0.28	37.35	24.20
30	0.28	37.76	24.27
40	0.29	38.06	24.17
50	0.30	38.15	24.08
60	0.31	38.12	23.95
70	0.31	38.06	23.81
80	0.32	37.86	23.70
90	0.32	37.60	23.65
100	0.32	37.44	23.61
150	0.33	36.17	24.17
200	0.37	34.72	25.16
250	0.38	33.71	25.11
300	0.40	32.87	24.63
350	0.40	31.85	23.63
400	0.43	31.09	22.97
450	0.44	30.55	23.40
500	0.45	29.78	23.61
550	0.47	29.31	23.55
600	0.49	29.27	24.34
650	0.50	29.08	25.10
700	0.52	28.84	24.83
750	0.53	29.06	24.95
800	0.55	29.10	24.80
850	0.57	28.83	23.98
900	0.59	28.83	23.80
950	0.60	28.92	24.60
1000	0.62	28.66	24.77
1050	0.64	28.77	24.63
1100	0.67	29.05	26.12
1150	0.70	28.91	25.98
1200	0.72	28.94	25.15
1250	0.73	29.46	26.41
1300	0.76	29.55	27.88
1350	0.78	29.24	29.05
1400	0.80	29.58	31.26
1450	0.82	29.92	30.90
1500	0.86	29.45	29.24
1550	0.88	29.42	28.86
1600	0.92	29.56	29.55
1650	0.95	29.19	29.85
1700	0.98	29.21	29.62
1750	1.01	29.47	30.65
1850	1.08	29.33	31.06
1900	1.12	29.63	28.73
1950	1.17	29.46	27.42
2000	1.21	29.19	26.09
2100	1.32	28.27	24.00
2200	1.44	26.62	23.68
2300	1.60	24.63	21.08
2350	1.68	23.53	19.84
2400	1.78	22.33	18.52
2500	2.03	20.29	17.60

Typical Performance Curves



Outline Dimensions

H795-5



CASE#	A	B	C	D	E	F	G	H	WT.GRAMS
H795-5	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)	43.8

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

Notes:

1. Case material: Aluminum alloy.
2. Case finish:

For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.



ISO 9001 ISO 14001 CERTIFIED

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site

The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS

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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