Coaxial

Matching Pad

UNMP-5075-33R+

50/75Ω DC to 3000 MHz

Generic photo used for illustration purposes only

CASE STYLE: FF779

The Big Deal

- Wideband coverage, DC to 3000 MHz
- Good return loss
- Loss < 2 dB

Product Overview

Mini-Circuits' UNMP-5075-33R+ is a coaxial 50/75Ω matching pad covering the DC to 3000 MHz frequency range, supporting impedance matching in a wide range of systems. The matching pad housed in a rugged unibody construction with N-Male (50Ω) to N-Female (75Ω) connectors.

Key Features

Feature	Advantages
Wideband, DC to 3000 MHz	Supports a wide variety of applications including CATV systems and equipment.
Compact size, 0.71" x 2.11" x 0.71"	Accommodates tight space requirements for crowded system layouts.
Connectorized package N-Male (50Ω) to N-Female (75Ω) connectors	Supports connections between components with different connector types.

Notes
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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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CASE STYLE: FF779

Connectors	Model
75Ω F-N	UNMP-5075-33R+
50Ω M-N	

+RoHS Compliant

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

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Input Power	1W

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

Coaxial Connections

75 Ω	*N-Female*
50 Ω	*N-Male*

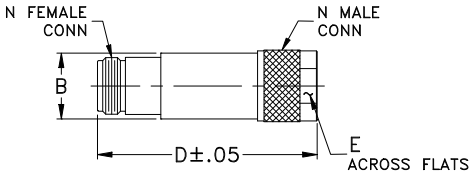
Features

- Wideband coverage, DC to 3000 MHz
- Good return loss
- Rugged unibody construction
- Unidirectional only, 50-75Ω
- Equivalent to Rhode & Schwarz matching pad 50/75Ω, P/N: 385.5714.02

Applications

- Impedance matching
- CATV Systems

Outline Drawing

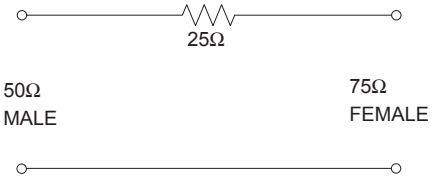


Outline Dimensions (inch / mm)

A	B	C	D	E	Wt.
--	**.71**	**--**	**2.11**	**.718**	grams
--	18.03	--	53.59	18.24	72.5

Note: Please refer to case style drawing for details

Functional Schematic



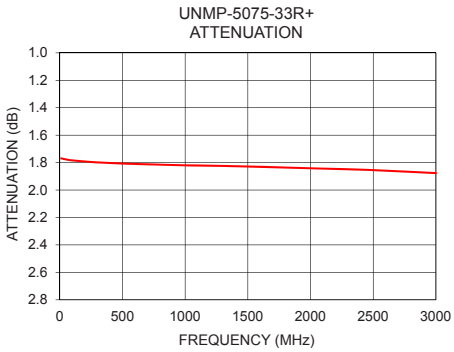
Electrical Specifications at 25°C

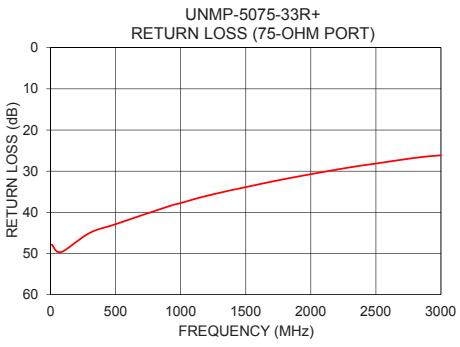
Parameter		Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range			DC	--	3000	MHz
Attenuation	Nominal	DC-3000	--	1.7	--	dB
	Flatness[1]	DC-3000	--	--	±0.2	
75 Ω Return Loss		DC-1500	26.5	40	--	dB
		1500-3000	17.7	23	--	
50 Ω Return Loss		DC-3000	--	9	--	dB
Input Power		DC-3000	--	--	1	W

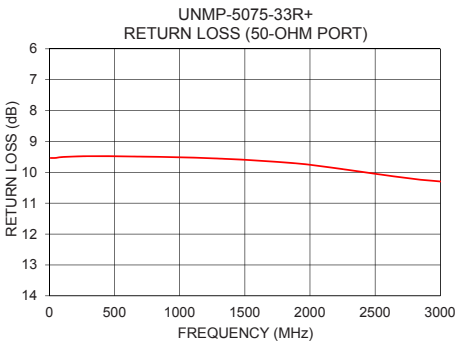
1. Flatness= variation over band divided by 2

Typical Performance Data at 25°C

Frequency (MHz)	Attenuation (dB)	Return Loss (dB)	
		75 Ω	**50 Ω**
10	1.77	47.82	9.53
50	1.78	49.54	9.53
100	1.78	49.40	9.50
300	1.80	45.00	9.48
500	1.81	42.87	9.48
800	1.82	39.66	9.50
950	1.82	38.12	9.51
1000	1.82	37.73	9.51
1200	1.82	35.98	9.54
1500	1.83	33.85	9.59
1800	1.84	31.90	9.68
2000	1.84	30.73	9.76
2300	1.85	29.07	9.93
2500	1.85	28.15	10.05
2800	1.87	26.76	10.22
3000	1.88	26.13	10.30







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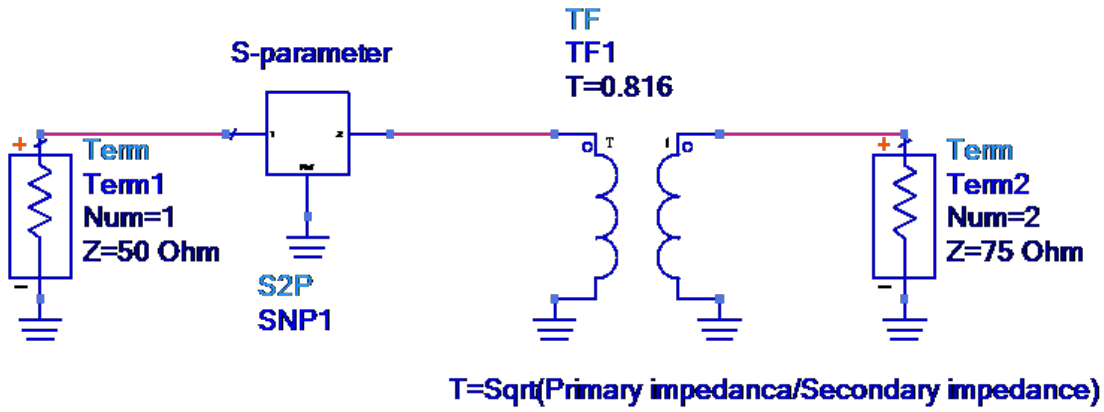
S2P usage notes:

The S-Parameter file is normalized to 50 Ω
However as the DUT is a matching pad between 50 and 75 Ω, the actual schematic of the DUT would as shown below.



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Matching Pad 50Ω/75Ω, N-Type UNMP-5075-33R+

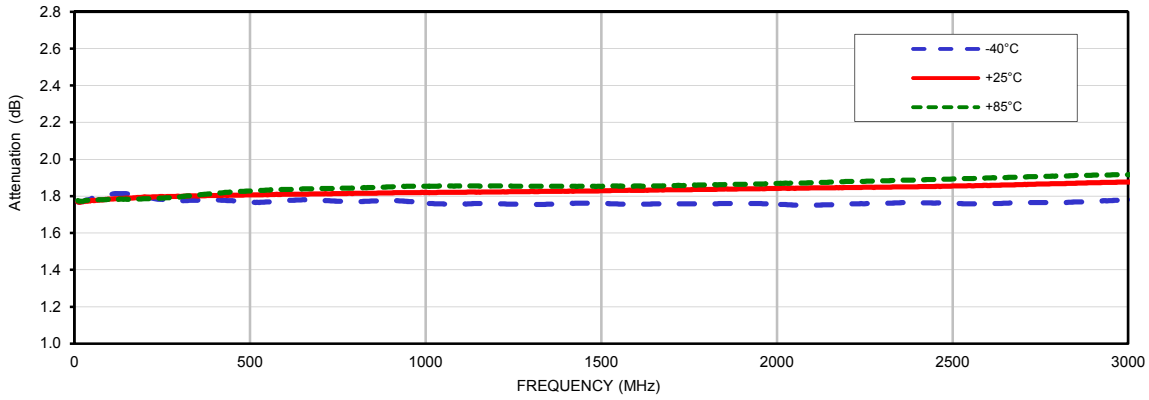
Typical Performance Data

TEST CONDITIONS: INPUT POWER = 0dBm

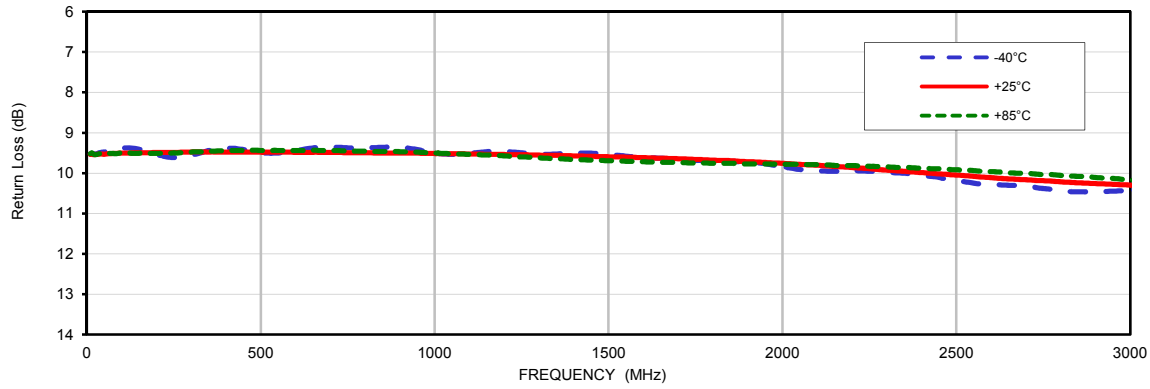
FREQ.	ATTENUATION			75Ω RETURN LOSS			50Ω RETURN LOSS		
(MHz)	(dB)			(dB)			(dB)		
	@-40°C	@+25°C	@+85°C	@-40°C	@+25°C	@+85°C	@-40°C	@+25°C	@+85°C
10	1.77	1.77	1.78	43.15	43.15	38.10	9.53	9.53	9.52
50	1.79	1.78	1.78	44.35	44.35	45.45	9.48	9.53	9.53
100	1.81	1.78	1.78	46.07	46.07	44.96	9.37	9.50	9.50
150	1.81	1.79	1.78	41.29	41.29	45.90	9.41	9.50	9.51
200	1.80	1.80	1.79	35.57	35.57	52.29	9.54	9.49	9.51
250	1.78	1.80	1.79	33.95	33.95	46.67	9.61	9.48	9.50
300	1.77	1.80	1.80	35.94	35.94	41.01	9.56	9.48	9.48
350	1.78	1.80	1.80	39.66	39.66	39.24	9.44	9.48	9.46
400	1.78	1.80	1.81	42.81	42.81	38.55	9.38	9.48	9.44
450	1.78	1.81	1.82	46.27	46.27	38.02	9.42	9.48	9.44
500	1.77	1.81	1.83	42.99	42.99	38.79	9.49	9.48	9.44
550	1.77	1.81	1.83	40.53	40.53	38.82	9.50	9.48	9.44
600	1.78	1.81	1.84	41.45	41.45	38.83	9.45	9.48	9.44
650	1.78	1.81	1.84	43.27	43.27	38.96	9.38	9.48	9.44
700	1.78	1.81	1.84	44.35	44.35	38.26	9.36	9.49	9.44
750	1.77	1.81	1.84	45.81	45.81	38.39	9.37	9.49	9.45
800	1.77	1.82	1.84	44.17	44.17	37.94	9.37	9.50	9.46
850	1.77	1.82	1.85	41.92	41.92	37.22	9.36	9.50	9.47
900	1.77	1.82	1.85	40.75	40.75	36.99	9.36	9.50	9.47
950	1.77	1.82	1.85	38.87	38.87	36.43	9.42	9.51	9.48
1000	1.76	1.82	1.85	37.61	37.61	36.33	9.50	9.51	9.50
1050	1.76	1.82	1.85	36.88	36.88	36.21	9.54	9.52	9.52
1100	1.76	1.82	1.85	36.77	36.77	35.57	9.51	9.52	9.53
1150	1.76	1.82	1.86	37.83	37.83	35.81	9.47	9.53	9.55
1200	1.76	1.82	1.86	37.51	37.51	35.41	9.46	9.54	9.57
1250	1.76	1.82	1.85	36.43	36.43	35.02	9.50	9.55	9.60
1300	1.75	1.83	1.85	35.55	35.55	34.75	9.53	9.55	9.62
1350	1.76	1.83	1.85	34.49	34.49	34.10	9.53	9.56	9.64
1400	1.76	1.83	1.85	34.54	34.54	34.08	9.51	9.57	9.66
1450	1.76	1.83	1.85	34.41	34.41	33.67	9.51	9.58	9.68
1500	1.76	1.83	1.85	33.43	33.43	33.17	9.54	9.59	9.69
1550	1.76	1.83	1.85	33.22	33.22	33.65	9.58	9.60	9.71
1600	1.76	1.83	1.85	32.44	32.44	33.20	9.61	9.62	9.72
1650	1.76	1.83	1.86	31.64	31.64	32.88	9.63	9.63	9.74
1700	1.76	1.83	1.86	31.88	31.88	33.13	9.65	9.64	9.74
1750	1.76	1.84	1.86	31.22	31.22	32.41	9.68	9.66	9.75
1800	1.76	1.84	1.86	30.95	30.95	32.48	9.71	9.68	9.76
1850	1.76	1.84	1.86	30.95	30.95	32.48	9.71	9.69	9.76
1900	1.76	1.84	1.86	30.18	30.18	31.87	9.73	9.71	9.77
1950	1.76	1.84	1.87	30.25	30.25	32.26	9.76	9.73	9.77
2000	1.75	1.84	1.87	29.62	29.62	31.83	9.84	9.76	9.78
2050	1.75	1.84	1.87	28.98	28.98	31.65	9.91	9.78	9.78
2100	1.75	1.84	1.87	29.06	29.06	31.92	9.94	9.81	9.79
2150	1.75	1.85	1.88	28.48	28.48	31.17	9.96	9.84	9.81
2200	1.76	1.85	1.88	28.65	28.65	31.39	9.94	9.86	9.81
2250	1.76	1.85	1.88	28.49	28.49	31.00	9.95	9.89	9.83
2300	1.76	1.85	1.88	27.77	27.77	30.33	9.98	9.93	9.84
2350	1.76	1.85	1.89	27.89	27.89	30.56	10.00	9.95	9.86
2400	1.76	1.85	1.89	27.43	27.43	29.85	10.05	9.99	9.88
2500	1.76	1.85	1.89	27.32	27.32	29.64	10.19	10.05	9.92
2550	1.76	1.86	1.90	26.78	26.78	28.97	10.25	10.08	9.94
2600	1.76	1.86	1.90	26.65	26.65	28.82	10.28	10.11	9.96
2650	1.76	1.86	1.90	26.44	26.44	28.52	10.30	10.14	9.99
2700	1.76	1.86	1.90	25.91	25.91	27.94	10.32	10.16	10.01
2750	1.76	1.87	1.91	25.68	25.68	27.79	10.38	10.19	10.03
2800	1.77	1.87	1.91	25.27	25.27	27.40	10.44	10.22	10.06
2850	1.77	1.87	1.91	25.08	25.08	27.15	10.47	10.24	10.08
2900	1.77	1.87	1.91	25.31	25.31	27.17	10.47	10.26	10.11
2950	1.78	1.87	1.91	25.30	25.30	26.77	10.45	10.28	10.13
3000	1.78	1.88	1.92	25.35	25.35	26.49	10.42	10.30	10.17

Typical Performance Curves

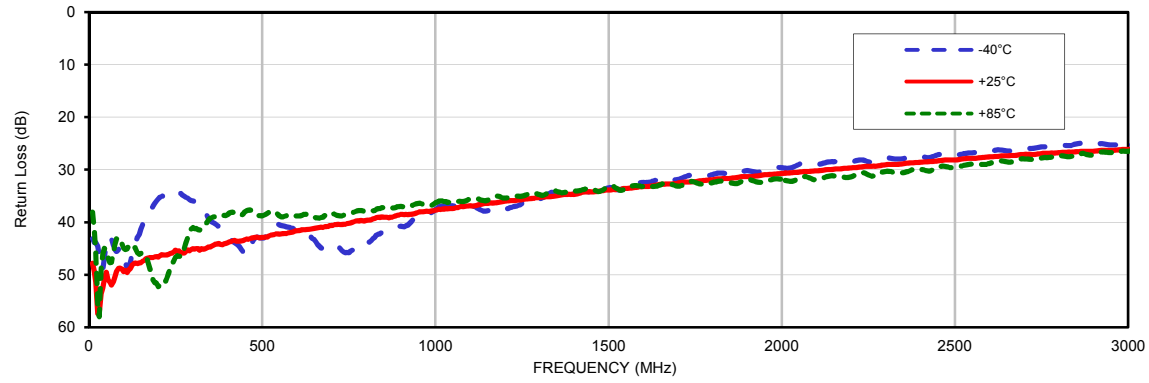
Attenuation Vs. Frequency & Temperature
INPUT POWER = 0 dBm



50-Ohm Return Loss Vs. Frequency & Temperature
INPUT POWER = 0 dBm



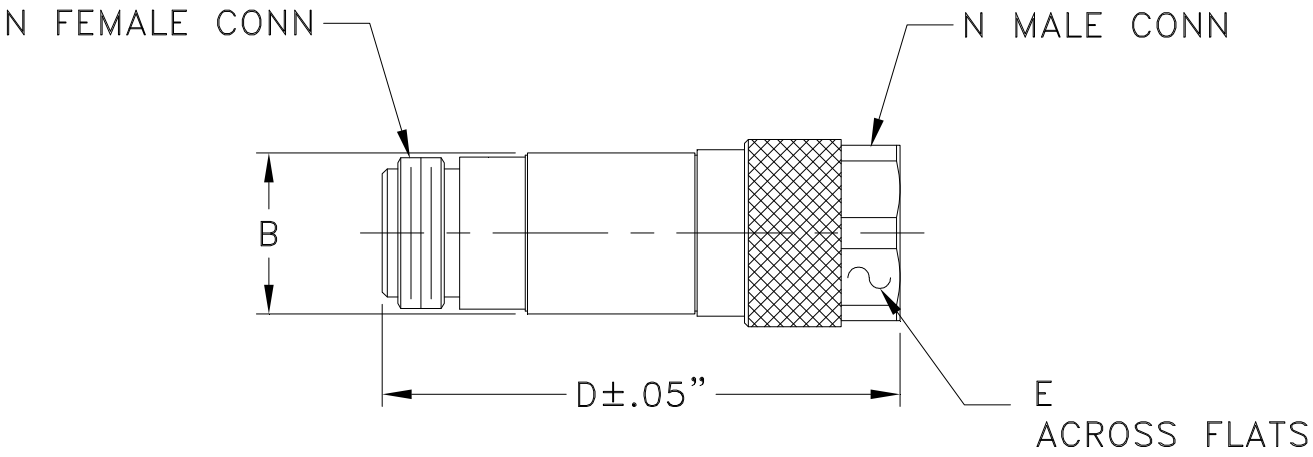
75-Ohm Return Loss Vs. Frequency & Temperature
INPUT POWER = 0 dBm



Case Style FF

Outline Dimensions

FF779



CASE #.	A	B	C	D	E	WT GRAMS
FF779	-- --	.71 (18.03)	-- --	2.11 (53.59)	.718 (18.24)	72.5

Dimensions are in inches (mm). Tolerances: 2Pl. +.05/-.04; 3Pl. ± .030

Notes:

1. Case material: Brass.
2. Case finish: Nickel plate.

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Mini-Circuits

Environmental Specifications **ENV28T5**

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	-40° to 85°C	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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