Coaxial

Adapter *SMA-MRP to SMA-M* SMRP-SM50+

50Ω DC to 12 GHz

CASE STYLE: DJ951

The Big Deal

- Wideband, DC-12 GHz
- Flat response
- Low insertion loss, 0.3 dB typ.
- Excellent VSWR, 1.2:1 typ.

Product Overview

Mini-Circuits' SMRP-SM50+ is a 50Ω coaxial SMA-Male Reverse Polarity to SMA-Male adapter supporting a wide range of applications from DC to 12 GHz. This model provides excellent VSWR, low insertion loss, and flat response versus frequency. The SMRP-SM50+ features rugged, passivated stainless steel construction and measures only 0.87" (l) x 0.36" (dia.).

Key Features

Feature	Advantages
Wideband, DC to 12 GHz	Wide frequency range provides application flexibility and makes this model ideal for broadband and multi-band use
Excellent VSWR, 1.2:1 typ.	Provides good matching for 50Ω systems and minimizes signal reflections across wide frequency range.
Low insertion loss, 0.3 dB typ.	Provides excellent signal power transmission from input to output.
Rugged, passivated stainless steel construction.	Stands up to wear and tear in demanding environments and provides excellent reliability.
Very wide operating temperature range, -55 to +100˚C	Withstands extreme operating conditions and is suitable for use near high power componentry where heat rise is common.

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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Adapter *SMA-MRP to SMA-M*

50Ω DC to 12 GHz

SMRP-SM50+

CASE STYLE: DJ951

Connectors		Model
Conn1	Conn2	
SMA-MRP	**SMA-M**	SMRP-SM50+

+RoHS Compliant

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

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.

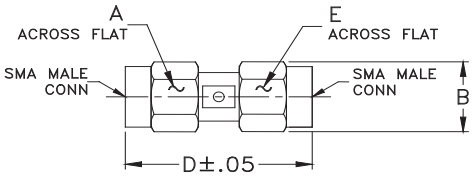
Features

- Flat response
- Excellent VSWR, 1.2:1 typ. up to 12 GHz
- Rugged stainless steel body

Applications

- Connector saver
- Cable extender

Outline Drawing



Outline Dimensions (inch / mm)

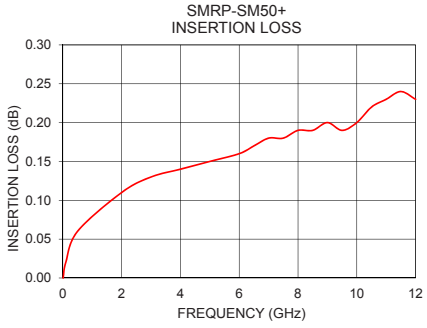
A	B	C	D	E	Wt.
.312	**.36**	**--**	**.87**	**.312**	grams
7.92	9.14	--	22.10	7.92	4.8

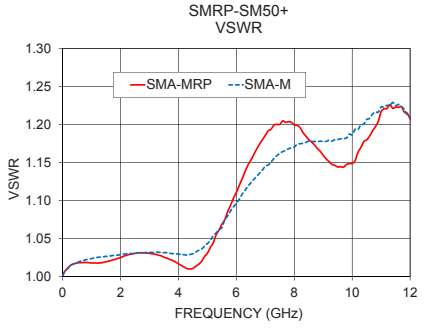
Electrical Specifications at 25°C

Parameter	Condition (GHz)	Min.	Typ.	Max.	Units
Frequency Range	DC-12	-	-	-	GHz
Insertion Loss	DC-12	-	0.3	0.6	dB
VSWR	DC-5	-	1.05	1.15	:1
	5-12	-	1.22	1.40	

Typical Performance Data

Frequency (GHz)	Insertion Loss (dB)	VSWR (:1)	
		SMA-MRP	SMA-M
0.01	0.00	1.00	1.00
0.10	0.02	1.01	1.01
0.50	0.06	1.02	1.02
2.00	0.11	1.02	1.03
3.00	0.13	1.03	1.03
4.00	0.14	1.02	1.03
5.00	0.15	1.03	1.04
6.00	0.16	1.11	1.10
6.50	0.17	1.15	1.12
7.00	0.18	1.19	1.15
7.50	0.18	1.20	1.16
8.00	0.19	1.20	1.17
8.50	0.19	1.18	1.18
9.00	0.20	1.16	1.18
9.50	0.19	1.14	1.18
10.00	0.20	1.15	1.19
10.50	0.22	1.18	1.21
11.00	0.23	1.22	1.22
11.50	0.24	1.22	1.22
12.00	0.23	1.21	1.21





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Coaxial Adapter SMA-MRP to SMA-M

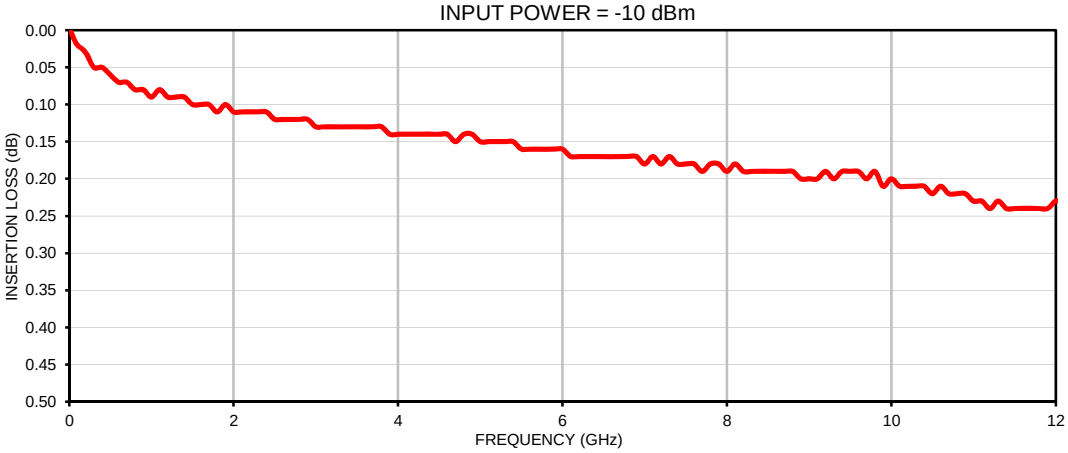
SMRP-SM50+

Typical Performance Data

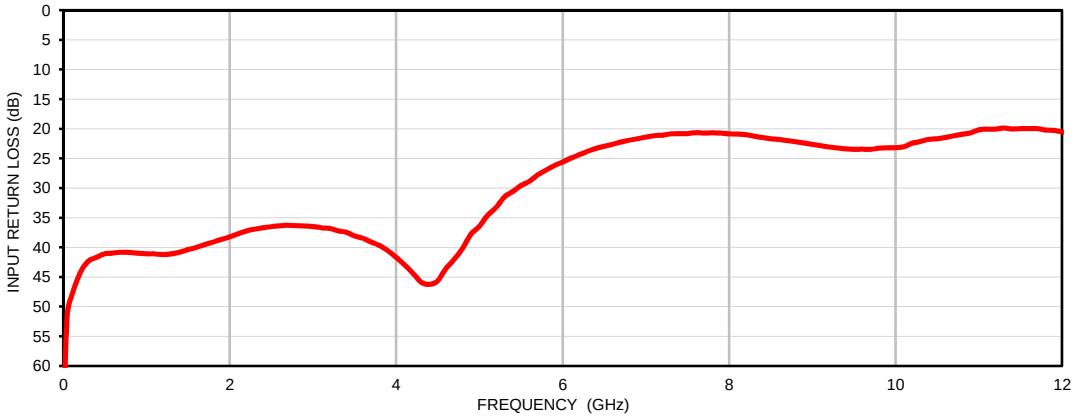
FREQ.	INSERTION LOSS	SMA-MALE REVERSE POLARITY RETURN LOSS	SMA-MALE RETURN LOSS
(GHz)	(dB)	(dB)	(dB)
0.01	0.00	65.54	61.99
0.05	0.01	51.22	52.38
0.10	0.02	48.26	48.37
0.20	0.03	44.44	45.03
0.30	0.05	42.37	42.73
0.40	0.05	41.69	41.54
0.50	0.06	41.09	40.89
0.60	0.07	40.98	40.16
0.70	0.07	40.87	39.76
0.80	0.08	40.83	39.33
0.90	0.08	40.98	38.94
1.00	0.09	41.11	38.72
1.10	0.08	41.10	38.36
1.20	0.09	41.25	38.15
1.30	0.09	41.06	38.02
1.40	0.09	40.86	37.89
1.50	0.10	40.37	37.70
1.60	0.10	40.03	37.62
1.70	0.10	39.52	37.40
1.80	0.11	39.14	37.28
1.90	0.10	38.65	37.21
2.00	0.11	38.28	36.93
2.20	0.11	37.27	36.68
2.40	0.11	36.70	36.59
2.60	0.12	36.39	36.37
2.80	0.12	36.37	36.27
3.00	0.13	36.50	36.11
3.20	0.13	36.81	36.10
3.40	0.13	37.46	36.18
3.60	0.13	38.47	36.29
3.80	0.13	39.68	36.64
4.00	0.14	41.67	36.81
4.20	0.14	44.35	37.03
4.40	0.14	46.25	36.90
4.60	0.14	43.54	36.03
4.80	0.14	40.14	35.02
5.00	0.15	36.44	33.49
5.20	0.15	33.29	31.65
5.40	0.15	30.59	30.50
5.60	0.16	28.88	28.92
5.80	0.16	26.99	27.67
6.00	0.16	25.61	26.77
6.20	0.17	24.38	25.79
6.40	0.17	23.31	25.03
6.60	0.17	22.60	24.45
6.80	0.17	21.94	23.94
7.00	0.18	21.42	23.40
7.20	0.18	21.08	23.09
7.40	0.18	20.83	22.67
7.60	0.18	20.65	22.40
7.80	0.18	20.69	22.22
8.00	0.19	20.86	22.12
8.50	0.19	21.67	21.75
9.00	0.20	22.65	21.77
9.50	0.19	23.46	21.66
10.00	0.20	23.20	21.39
10.50	0.22	21.68	20.58
11.00	0.23	20.19	19.97
11.50	0.24	19.98	19.91
12.00	0.23	20.54	20.44

Typical Performance Curves

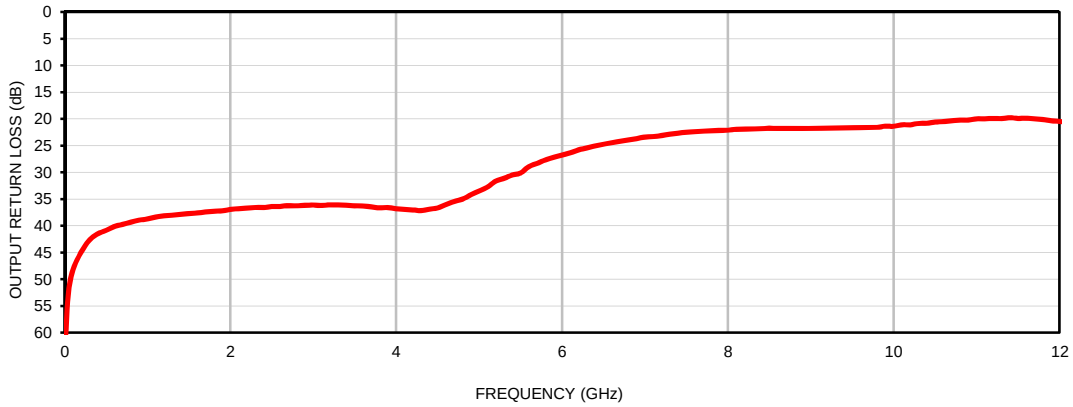
INSERTION LOSS
INPUT POWER = -10 dBm



SMA-MALE REVERSE POLARITY RETURN LOSS
INPUT POWER = -10 dBm



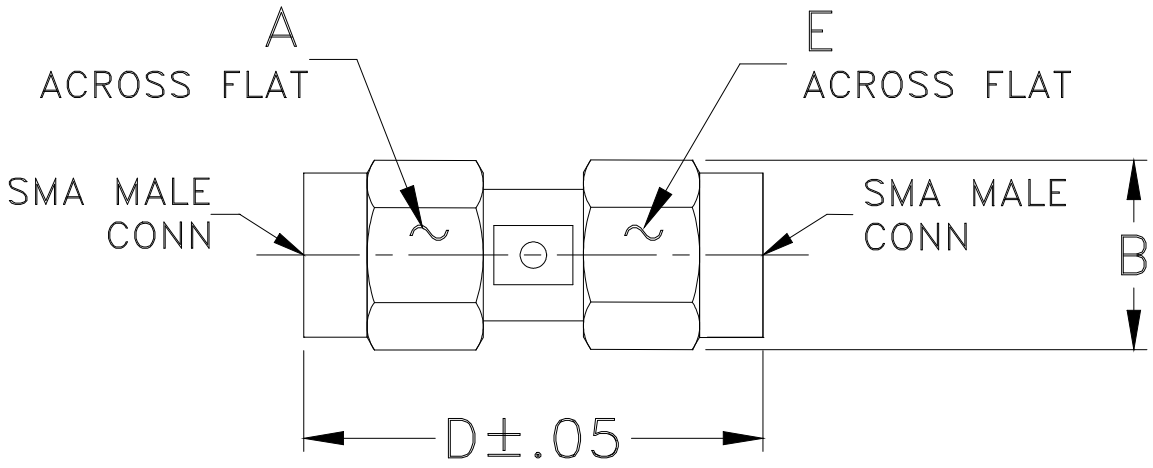
SMA-MALE RETURN LOSS
INPUT POWER = -10 dBm



Case Style DJ

DJ951

Outline Dimensions



CASE#	A	B	C	D	E	WT. GRAM
DJ951	.312 (7.92)	.36 (9.14)	-- --	.87 (22.10)	.312 (7.92)	4.8

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

Notes:

1. Case material: Stainless steel.
2. Finish: Passivation.
3. For polarity of connector refer individual model data sheet.

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Mini-Circuits

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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