

## Engineering Development Model

# Power Splitter/Combiner

# ADP-ED9774/2

2 Way-0°

### Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability. At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.



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CASE STYLE : CD636

ELECTRICAL SPECIFICATIONS 75Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency		5		1400	MHz
Isolation	5 - 50 MHz		25		dB
	50 - 700 MHz		30		dB
	700 - 1400 MHz		26		dB
Total Loss Above 3.0 dB	5 - 50 MHz		0.20		dB
	50 - 700 MHz		0.40		dB
	700 - 1400 MHz		0.70		dB
Phase Unbalance	5 - 50 MHz		0.041		deg.
	50 - 700 MHz		0.698		deg.
	700 - 1400 MHz		1.628		deg.
Amplitude Unbalance	5 - 50 MHz		0.003		dB
	50 - 700 MHz		0.008		dB
	700 - 1400 MHz		0.135		dB
VSWR	SUM Port		1.10		(:1)
	OUT Ports		1.15		(:1)

**Note:** Denotes 75 ohm model.

MAXIMUM RATINGS	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

PIN CONNECTIONS	
SUM PORT	1
PORT 1	3
PORT 2	4
GND EXT	2,5,6

### Functional Diagram



**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-Circuit's 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-Circuit's website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)



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## Typical Performance Data

FREQ. (MHz)	TOTAL LOSS <sup>1</sup> (dB)		AMP. UNBAL. (dB)	ISOLATION (dB) 1-2	PHASE UNBAL. (deg.)	FREQ. (MHz)	VSWR (:1)		
	S-1	S-2					S	1	2
0.3	3.33	3.33	0.00	10.30	0.01	0.3	1.34	2.32	2.32
0.6	3.30	3.30	0.00	11.76	0.01	0.6	1.20	1.95	1.95
0.8	3.30	3.30	0.00	12.96	0.00	0.8	1.16	1.76	1.76
1.0	3.30	3.30	0.01	13.96	0.01	1.0	1.14	1.65	1.65
5.0	3.21	3.21	0.00	22.12	0.03	5.0	1.07	1.21	1.21
10.8	3.20	3.20	0.00	26.18	0.00	10.8	1.06	1.12	1.12
16.7	3.19	3.20	0.01	27.77	0.02	16.7	1.06	1.10	1.10
22.5	3.21	3.21	0.00	28.44	0.05	22.5	1.06	1.09	1.09
28.3	3.21	3.21	0.00	28.68	0.02	28.3	1.06	1.09	1.09
34.2	3.21	3.21	0.00	28.81	0.08	34.2	1.06	1.09	1.09
40.0	3.22	3.22	0.01	28.84	0.09	40.0	1.06	1.09	1.09
109.2	3.25	3.25	0.00	29.19	0.24	109.2	1.06	1.09	1.08
178.3	3.28	3.28	0.00	29.68	0.30	178.3	1.06	1.09	1.08
247.5	3.30	3.29	0.01	30.28	0.46	247.5	1.07	1.09	1.07
316.7	3.32	3.32	0.00	31.21	0.56	316.7	1.08	1.10	1.07
385.8	3.34	3.33	0.00	32.25	0.74	385.8	1.09	1.11	1.07
455.0	3.37	3.36	0.01	33.49	0.84	455.0	1.10	1.11	1.07
524.2	3.40	3.38	0.02	34.84	0.91	524.2	1.11	1.12	1.07
593.3	3.43	3.42	0.01	35.82	1.05	593.3	1.11	1.12	1.08
662.5	3.46	3.44	0.02	36.48	1.18	662.5	1.12	1.13	1.09
731.7	3.51	3.49	0.02	36.37	1.20	731.7	1.12	1.13	1.09
800.8	3.56	3.52	0.04	35.77	1.28	800.8	1.12	1.13	1.10
870.0	3.62	3.55	0.06	35.00	1.39	870.0	1.12	1.13	1.12
907.9	3.64	3.59	0.06	34.55	1.45	907.9	1.12	1.13	1.13
945.7	3.66	3.59	0.07	34.08	1.44	945.7	1.12	1.13	1.13
983.6	3.71	3.64	0.08	33.58	1.49	983.6	1.12	1.14	1.15
1021.4	3.74	3.65	0.09	33.06	1.49	1021.4	1.12	1.14	1.16
1059.3	3.79	3.69	0.10	32.43	1.54	1059.3	1.12	1.14	1.17
1097.1	3.84	3.72	0.12	31.71	1.61	1097.1	1.12	1.14	1.18
1135.0	3.88	3.75	0.13	30.85	1.53	1135.0	1.12	1.15	1.19
1172.9	3.94	3.79	0.15	29.79	1.70	1172.9	1.13	1.15	1.21
1210.7	4.01	3.83	0.18	28.55	1.71	1210.7	1.13	1.16	1.22
1248.6	4.07	3.87	0.20	27.19	1.76	1248.6	1.14	1.16	1.24
1286.4	4.17	3.96	0.21	25.77	1.91	1286.4	1.16	1.17	1.26
1324.3	4.24	4.00	0.24	24.27	1.85	1324.3	1.17	1.18	1.28
1362.1	4.36	4.09	0.27	22.75	2.17	1362.1	1.20	1.19	1.30
1400.0	4.49	4.21	0.28	21.29	2.16	1400.0	1.24	1.20	1.32

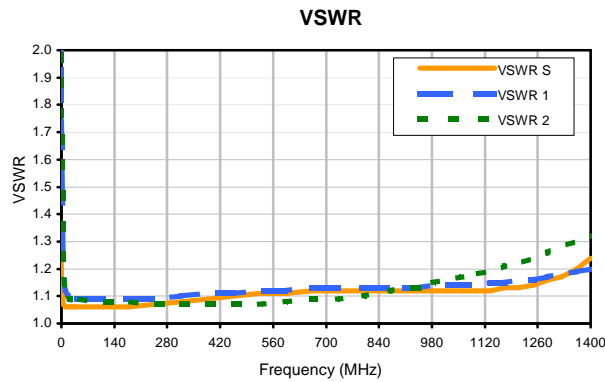
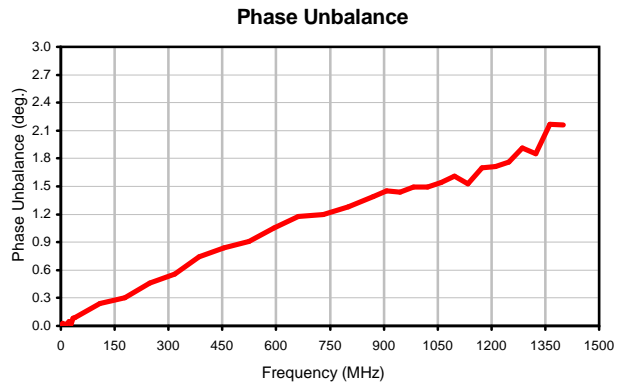
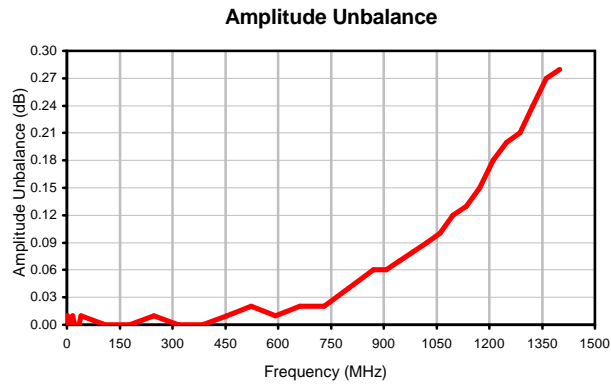
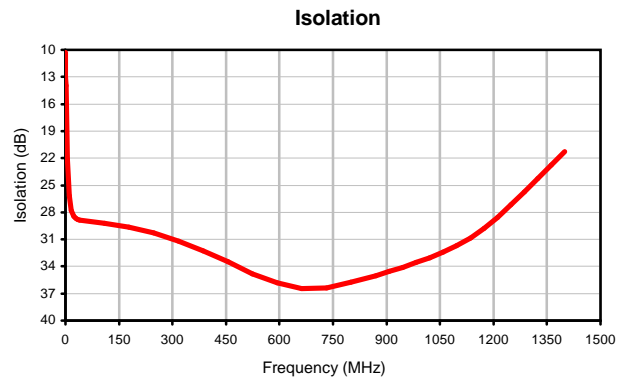
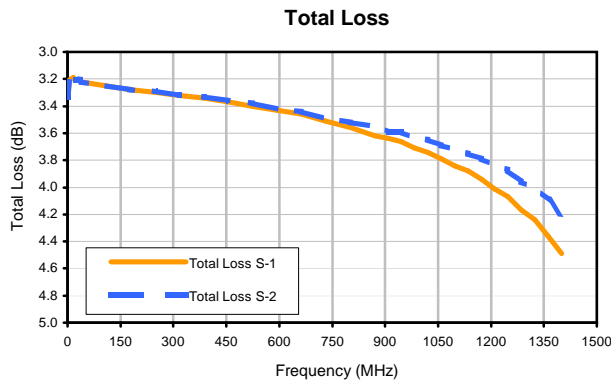
<sup>1</sup>Total Loss = Insertion Loss + 3dB Splitter Loss



# 2 Way-0° Power Splitter/Combiner

# ADP-ED9774/2

## Typical Performance Curves



REV. X2  
ADP-ED9774/2  
100707  
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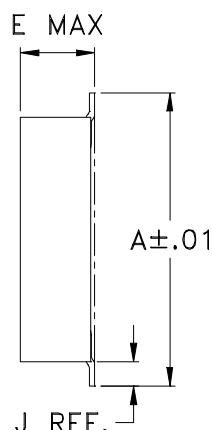


# Case Style

# CD

CD541  
CD542  
CD636  
CD637

## Outline Dimensions



## PCB Land Pattern



Suggested Layout,  
Tolerance to be within  $\pm .002$

CASE#	A	B	C	D	E	F	G	H	J	K	L	WT, GRAM
CD541					.082 (2.08)							.15
CD542	.272 (6.91)	.310 (7.87)	.220 (5.58)	.100 (2.54)	.112 (2.84)	.055 (1.40)	.100 (2.54)	.030 (0.76)	.026 (0.66)	.065 (1.65)	.300 (7.62)	.20
CD636					.162 (4.11)							.25
CD637					.206 (5.23)							.40

Dimensions are in inches (mm). Tolerances: 2 Pl.  $\pm .01$ ; 3 Pl.  $\pm .005$

### Notes:

- Case material: Plastic.
- Termination finish:
  - For RoHS Case Styles: Tin plate over Nickel plate. All models, (+) suffix.
  - For RoHS-5 Case Styles: Tin-Lead plate. All models, no (+) suffix.

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# Tape & Reel Packaging TR-F34



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel see note	
16	12	7	Small quantity standard (see note)	20
				50
				100
				200
		13	Standard	500
				1000

Note: Availability of small reel quantity varies by model.  
Refer to pricing and availability on individual model dashboard.

Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.

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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	-40° to 85°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Humidity	90 to 95% RH, 240 hours, 50°C	MIL-STD-202, Method 103, Condition A, Except 50°C and end-point electrical test done within 12 hours
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
Solder Reflow Heat	Sn-Pb Eutetic Process: 225°C peak Pb-Free Process 245° - 250°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, 95% Coverage
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	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C	MIL-STD-202, Method 215