

Engineering Development Model

Power Splitter/Combiner

ADP-ED12390/1

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.

Please click "Back", and then click "Contact Us" for Applications support.



CASE STYLE : 99-01-716

ELECTRICAL SPECIFICATIONS 75Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency		5		1000	MHz
Isolation	5 - 50 MHz		26		dB
	50 - 500 MHz		26		dB
	500 - 1000 MHz		29		dB
Insertion Loss Above 3.0 dB	5 - 50 MHz		0.30		dB
	50 - 500 MHz		0.40		dB
	500 - 1000 MHz		0.70		dB
Phase Unbalance	5 - 50 MHz		0.008		deg.
	50 - 500 MHz		0.128		deg.
	500 - 1000 MHz		0.790		deg.
Amplitude Unbalance	5 - 50 MHz		0.021		dB
	50 - 500 MHz		0.015		dB
	500 - 1000 MHz		0.012		dB
VSWR	SUM Port		1.10		(:1)
	OUT Ports		1.11		(:1)

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

PIN CONNECTIONS	
SUM PORT	6
PORT 1	4
PORT 2	3
GND EXT	1
NOT USED	2, 5

Functional Diagram



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Typical Performance Data

FREQ. (MHz)	TOTAL LOSS ¹ (dB)		AMP. UNBAL. (dB)	ISOLATION (dB)	PHASE UNBAL. (deg.)	FREQ. (MHz)	VSWR (:1)		
	S-1	S-2					S	1	2
1.00	3.54	3.52	0.02	18.83	0.04	1.00	1.24	1.46	1.48
5.00	3.36	3.34	0.02	25.45	0.02	5.00	1.12	1.16	1.17
10.00	3.34	3.32	0.02	26.60	0.00	10.00	1.09	1.11	1.12
15.00	3.35	3.33	0.02	26.72	0.01	15.00	1.09	1.10	1.11
20.00	3.35	3.33	0.02	26.62	0.01	20.00	1.08	1.09	1.10
25.00	3.36	3.34	0.02	26.55	0.01	25.00	1.08	1.09	1.10
30.00	3.36	3.34	0.02	26.48	0.01	30.00	1.08	1.09	1.10
35.00	3.37	3.34	0.02	26.45	0.01	35.00	1.08	1.09	1.10
40.00	3.37	3.35	0.02	26.38	0.00	40.00	1.08	1.09	1.10
45.00	3.38	3.35	0.03	26.38	0.01	45.00	1.08	1.09	1.10
50.00	3.38	3.36	0.02	26.38	0.00	50.00	1.08	1.09	1.10
55.00	3.38	3.36	0.02	26.37	0.00	55.00	1.08	1.09	1.10
60.00	3.39	3.36	0.02	26.40	0.01	60.00	1.08	1.09	1.10
70.00	3.39	3.37	0.02	26.40	0.01	70.00	1.08	1.09	1.10
80.00	3.40	3.38	0.02	26.39	0.00	80.00	1.08	1.09	1.10
90.00	3.40	3.38	0.02	26.41	0.03	90.00	1.08	1.09	1.10
100.00	3.41	3.39	0.02	26.43	0.02	100.00	1.08	1.09	1.10
200.00	3.46	3.45	0.01	26.42	0.13	200.00	1.08	1.09	1.09
300.00	3.54	3.54	0.00	26.53	0.28	300.00	1.08	1.08	1.09
400.00	3.70	3.71	0.01	28.58	0.40	400.00	1.07	1.11	1.12
500.00	3.68	3.68	0.01	29.55	0.53	500.00	1.06	1.12	1.12
600.00	3.70	3.71	0.01	28.73	0.62	600.00	1.07	1.11	1.11
700.00	3.74	3.75	0.01	28.36	0.76	700.00	1.08	1.11	1.11
800.00	3.85	3.86	0.01	28.91	0.80	800.00	1.08	1.13	1.12
900.00	3.97	3.99	0.02	29.94	0.90	900.00	1.10	1.15	1.14
925.00	4.00	4.01	0.01	30.23	0.88	925.00	1.11	1.16	1.14
950.00	4.04	4.05	0.01	30.53	0.86	950.00	1.11	1.17	1.14
975.00	4.07	4.09	0.02	31.00	0.89	975.00	1.12	1.17	1.15
1000.00	4.11	4.12	0.01	31.40	0.87	1000.00	1.13	1.17	1.15
1025.00	4.14	4.16	0.01	31.55	0.84	1025.00	1.14	1.18	1.16
1050.00	4.19	4.20	0.01	31.54	0.88	1050.00	1.15	1.19	1.16
1075.00	4.23	4.24	0.01	31.31	0.85	1075.00	1.16	1.20	1.17
1100.00	4.28	4.30	0.02	30.66	0.84	1100.00	1.18	1.20	1.18
1150.00	4.40	4.41	0.01	28.45	0.78	1150.00	1.22	1.22	1.19
1200.00	4.54	4.56	0.02	25.83	0.78	1200.00	1.26	1.22	1.21
1250.00	4.74	4.76	0.02	23.34	0.67	1250.00	1.32	1.25	1.24
1300.00	4.97	5.00	0.03	20.97	0.59	1300.00	1.39	1.25	1.27
1425.00	5.84	5.88	0.04	16.02	0.35	1425.00	1.67	1.32	1.39
1550.00	7.10	7.17	0.07	12.35	0.01	1550.00	2.11	1.39	1.55
1675.00	8.95	9.07	0.12	9.70	0.56	1675.00	2.77	1.52	1.73
1800.00	11.68	11.88	0.20	7.89	1.18	1800.00	3.67	1.72	1.89

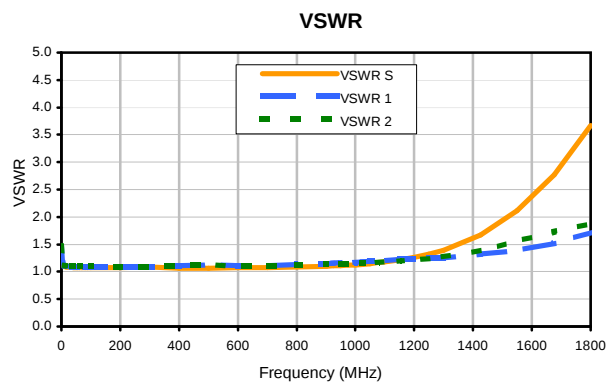
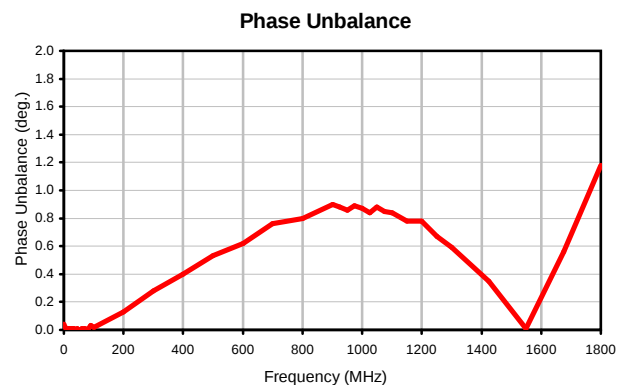
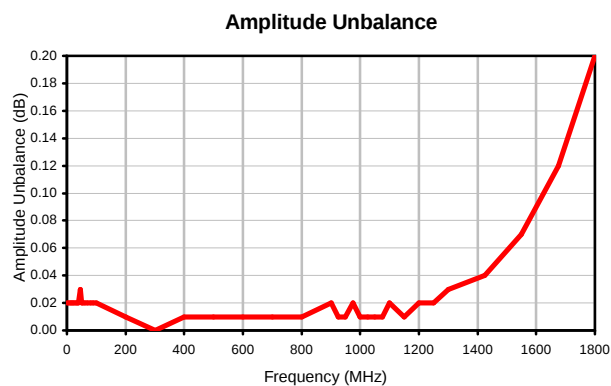
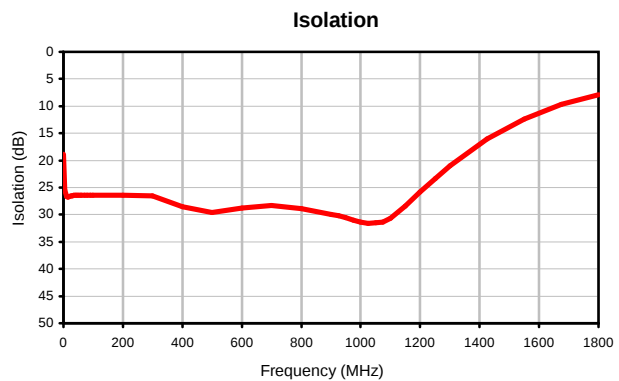
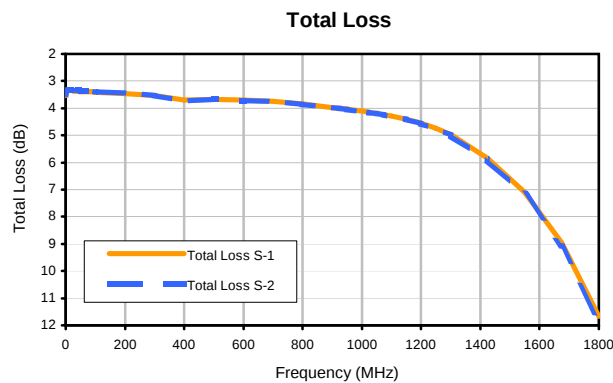
¹ Total Loss = Insertion Loss + 3dB Splitter Loss

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Typical Performance Curves



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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