

Engineering Development Model

Power Splitter/Combiner

SCPA-ED9773/1

5 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 : 99-01-785

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency		0.2		380	MHz
Isolation	0.2 - 2 MHz		40		dB
	2 - 190 MHz		26		dB
	190 - 380 MHz		22		dB
Insertion Loss Above 7.0 dB	0.2 - 2 MHz		0.20		dB
	2 - 190 MHz		0.45		dB
	190 - 380 MHz		1.00		dB
Phase Unbalance	0.2 - 2 MHz		0.098		deg.
	2 - 190 MHz		1.092		deg.
	190 - 380 MHz		6.063		deg.
Amplitude Unbalance	0.2 - 2 MHz		0.040		dB
	2 - 190 MHz		0.036		dB
	190 - 380 MHz		0.080		dB
VSWR	SUM Port		1.45		(:1)
	OUT Ports		1.15		(:1)

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

PIN CONNECTIONS	
SUM PORT	1
PORT 1	4
PORT 2	8
PORT 3	12
PORT 4	15
PORT 5	16
GND EXT	2, 5, 13, 14
NOT USED	3, 9

Functional Diagram



5 Way-0° Power Splitter/Combiner

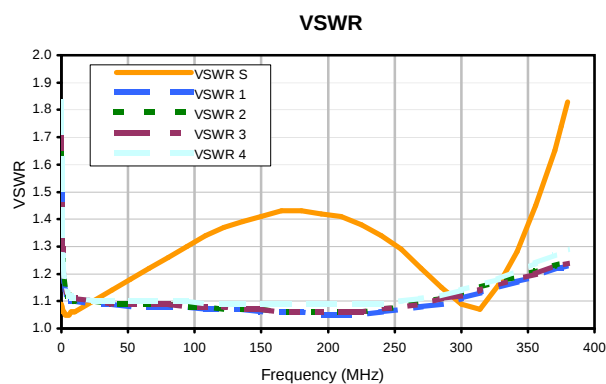
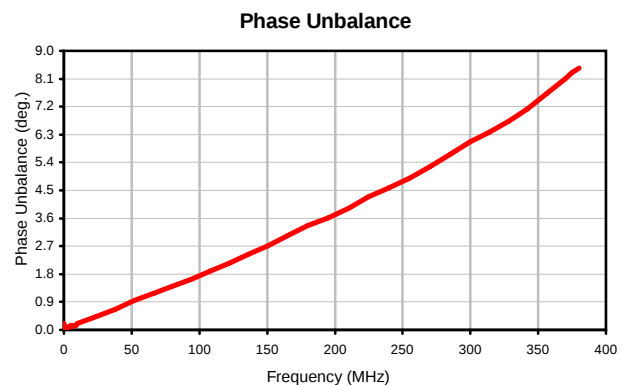
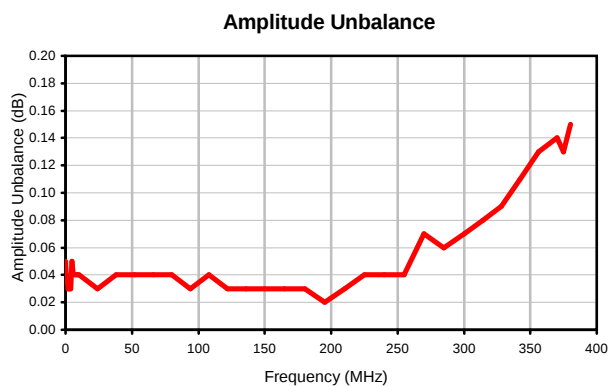
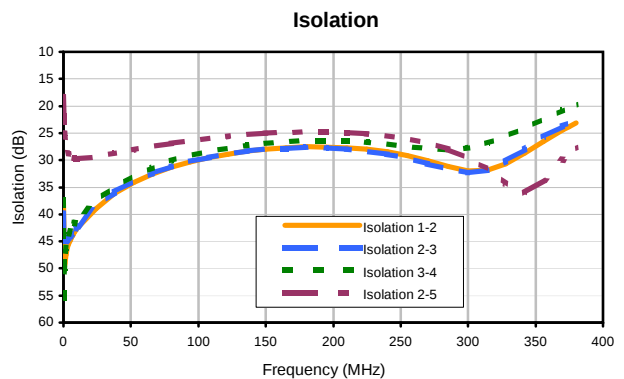
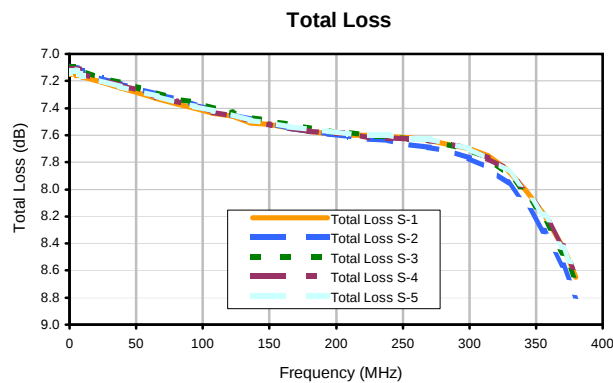
SCPA-ED9773/1

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-3	S-4	S-5		1-2	2-3	3-4	2-5			S	1	2	3	4
0.2	7.15	7.11	7.10	7.12	7.14	0.05	37.90	39.76	37.41	18.23	0.20	0.2	1.09	1.74	1.76	1.77	1.83
0.4	7.15	7.12	7.11	7.12	7.14	0.04	44.58	45.04	57.30	21.84	0.10	0.4	1.08	1.41	1.42	1.43	1.45
0.6	7.15	7.12	7.11	7.12	7.14	0.04	47.39	44.90	51.83	23.39	0.09	0.6	1.07	1.32	1.33	1.34	1.35
0.8	7.15	7.12	7.10	7.12	7.13	0.04	49.00	44.92	49.91	24.34	0.10	0.8	1.07	1.27	1.29	1.29	1.30
1.0	7.14	7.10	7.10	7.11	7.13	0.04	49.36	44.94	49.31	25.04	0.06	1.0	1.06	1.24	1.26	1.26	1.27
2.0	7.13	7.10	7.10	7.11	7.13	0.03	47.48	45.01	46.13	27.31	0.04	2.0	1.06	1.17	1.18	1.18	1.19
3.0	7.14	7.11	7.10	7.11	7.13	0.03	46.20	44.74	44.58	28.38	0.06	3.0	1.05	1.14	1.15	1.15	1.16
4.0	7.13	7.11	7.10	7.11	7.13	0.03	45.41	44.44	43.63	28.94	0.11	4.0	1.05	1.12	1.13	1.13	1.14
5.0	7.16	7.12	7.11	7.12	7.14	0.05	44.71	44.09	42.96	29.27	0.15	5.0	1.05	1.11	1.12	1.12	1.13
6.0	7.14	7.11	7.10	7.12	7.13	0.04	44.16	43.70	42.47	29.44	0.10	6.0	1.05	1.11	1.12	1.12	1.12
7.0	7.16	7.12	7.12	7.12	7.15	0.04	43.77	43.38	42.08	29.58	0.15	7.0	1.06	1.10	1.11	1.11	1.12
8.0	7.16	7.13	7.12	7.13	7.15	0.04	43.38	43.06	41.67	29.65	0.15	8.0	1.06	1.10	1.11	1.11	1.11
9.0	7.17	7.13	7.13	7.14	7.16	0.04	43.01	42.63	41.35	29.69	0.15	9.0	1.06	1.10	1.11	1.11	1.11
10.0	7.17	7.14	7.13	7.15	7.16	0.04	42.66	42.25	41.00	29.73	0.20	10.0	1.06	1.10	1.10	1.11	1.11
24.0	7.21	7.18	7.18	7.19	7.20	0.03	38.94	38.41	37.42	29.40	0.43	24.0	1.10	1.09	1.10	1.10	1.10
38.0	7.25	7.22	7.21	7.23	7.24	0.04	36.12	35.83	34.85	28.73	0.67	38.0	1.14	1.09	1.09	1.09	1.10
52.0	7.29	7.26	7.25	7.27	7.28	0.04	34.09	33.85	32.90	28.09	0.95	52.0	1.18	1.08	1.09	1.09	1.10
66.0	7.33	7.30	7.29	7.32	7.31	0.04	32.55	32.40	31.39	27.51	1.17	66.0	1.22	1.08	1.09	1.09	1.10
80.0	7.37	7.33	7.33	7.35	7.36	0.04	31.30	31.19	30.14	26.92	1.40	80.0	1.26	1.08	1.09	1.09	1.10
94.0	7.40	7.38	7.36	7.38	7.39	0.03	30.32	30.24	29.18	26.44	1.63	94.0	1.30	1.08	1.08	1.08	1.10
108.0	7.44	7.41	7.40	7.43	7.42	0.04	29.52	29.48	28.39	26.00	1.89	108.0	1.34	1.07	1.08	1.08	1.09
122.0	7.46	7.45	7.43	7.46	7.45	0.03	28.87	28.85	27.74	25.62	2.15	122.0	1.37	1.07	1.07	1.08	1.09
136.0	7.51	7.48	7.47	7.49	7.49	0.03	28.34	28.38	27.23	25.30	2.43	136.0	1.39	1.07	1.07	1.07	1.09
150.0	7.52	7.51	7.49	7.52	7.51	0.03	27.97	28.02	26.86	25.05	2.71	150.0	1.41	1.06	1.07	1.07	1.09
165.0	7.55	7.55	7.52	7.55	7.54	0.03	27.70	27.80	26.60	24.88	3.04	165.0	1.43	1.06	1.06	1.06	1.09
180.0	7.57	7.57	7.55	7.57	7.56	0.03	27.54	27.67	26.40	24.76	3.36	180.0	1.43	1.06	1.06	1.06	1.09
195.0	7.59	7.59	7.57	7.58	7.57	0.02	27.56	27.73	26.40	24.77	3.61	195.0	1.42	1.05	1.06	1.06	1.09
210.0	7.60	7.61	7.58	7.59	7.59	0.03	27.70	27.92	26.51	24.88	3.93	210.0	1.41	1.05	1.06	1.06	1.09
225.0	7.60	7.63	7.60	7.62	7.60	0.04	27.99	28.29	26.70	25.08	4.29	225.0	1.38	1.05	1.06	1.06	1.09
240.0	7.61	7.64	7.61	7.62	7.60	0.04	28.48	28.86	27.05	25.46	4.58	240.0	1.34	1.06	1.07	1.07	1.09
255.0	7.62	7.67	7.63	7.63	7.63	0.04	29.17	29.62	27.47	26.02	4.89	255.0	1.29	1.07	1.08	1.08	1.10
270.0	7.64	7.69	7.64	7.64	7.63	0.07	30.10	30.64	27.84	26.81	5.27	270.0	1.22	1.08	1.10	1.09	1.11
285.0	7.67	7.72	7.67	7.66	7.66	0.06	31.11	31.68	28.03	27.95	5.65	285.0	1.15	1.09	1.11	1.11	1.12
300.0	7.70	7.77	7.71	7.70	7.70	0.07	31.93	32.35	27.75	29.57	6.06	300.0	1.09	1.11	1.13	1.12	1.14
314.0	7.75	7.84	7.77	7.77	7.77	0.08	31.88	31.81	26.93	31.65	6.37	314.0	1.07	1.13	1.15	1.14	1.16
328.0	7.85	7.95	7.88	7.85	7.86	0.09	30.67	30.17	25.63	34.30	6.73	328.0	1.16	1.15	1.17	1.16	1.18
342.0	8.00	8.10	8.03	8.00	8.01	0.11	28.68	27.97	24.04	35.97	7.13	342.0	1.28	1.17	1.19	1.18	1.21
356.0	8.18	8.31	8.22	8.18	8.19	0.13	26.52	25.77	22.40	33.61	7.62	356.0	1.45	1.19	1.21	1.20	1.24
370.0	8.43	8.56	8.47	8.42	8.43	0.14	24.47	23.75	20.80	29.92	8.09	370.0	1.65	1.22	1.23	1.23	1.27
375.0	8.53	8.66	8.57	8.53	8.53	0.13	23.81	23.10	20.27	28.73	8.29	375.0	1.74	1.22	1.24	1.23	1.28
380.0	8.65	8.79	8.69	8.64	8.65	0.15	23.16	22.47	19.75	27.63	8.44	380.0	1.83	1.23	1.24	1.24	1.29

¹ Total Loss = Insertion Loss + 7dB Splitter Loss

Typical Performance Curves





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