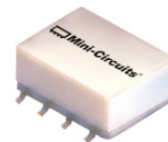


# Surface Mount Power Splitter/Combiner

## AD4PS-1+

4 Way-0° 50Ω 1 to 500 MHz



CASE STYLE: CJ725

**+RoHS Compliant**

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



Available Tape and Reel at no extra cost

Reel Size	Devices/Reel
7"	10, 20, 50, 100, 200
13"	500

### Maximum Ratings

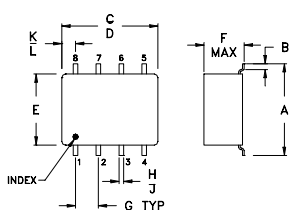
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	0.5W max.
Internal Dissipation	0.25W max.

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

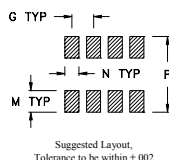
### Pin Connections

SUM PORT	2
PORT 1	8
PORT 2	7
PORT 3	6
PORT 4	5
GROUND	1,3,4

### Outline Drawing



#### PCB Land Pattern

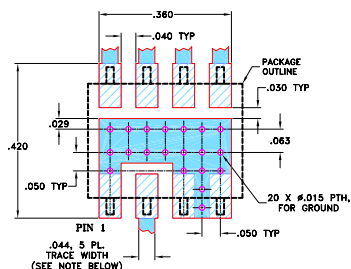


Suggested Layout, Tolerance to be within ±.002

### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	
.397	.032	.385	.435	.310	.215	.100	
10.08	0.81	9.78	11.05	7.87	5.46	2.54	
H	J	K	L	M	N	P	wt
.015	.025	.035	.075	.120	.060	.420	grams
0.38	0.64	0.89	1.91	3.05	1.52	10.67	0.45

### Demo Board MCL P/N: TB-81 Suggested PCB Layout (PL-072)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.020" ± 0.0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

#### 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)

### Features

- wideband, 1-500 MHz
- high isolation, 30 dB typ.
- good input port matching VSWR, 1.12 typ.
- good output port matching VSWR, 1.10 typ.
- small surface mount package

### Applications

- VHF-TV
- aircraft communications

### Electrical Specifications

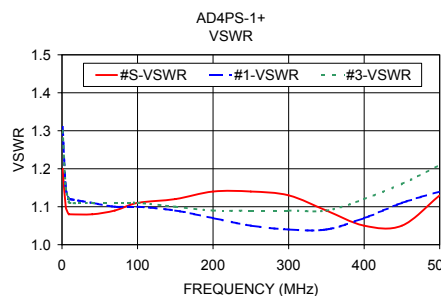
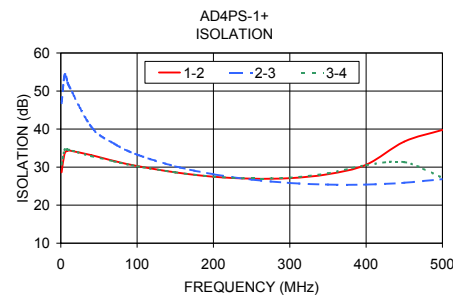
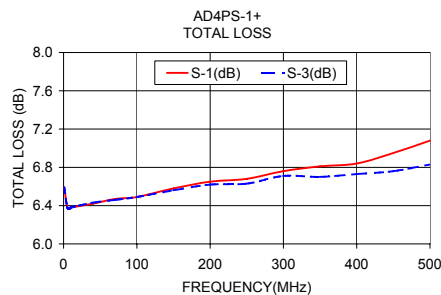
FREQ. RANGE (MHz)	ISOLATION (dB)						INSERTION LOSS (dB) ABOVE 6.0 dB						PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)		
	L		M		U		L		M		U		L	M	U	L	M	U
	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Max.	Max.	Max.	Max.	Max.	Max.
f <sub>c</sub> -f <sub>u</sub>																		
1-500	32	18	30	20	25	18	0.4	1.2	0.5	1.2	0.8	1.8	2	5	7	0.4	0.5	0.8

L = 1-10MHz M = 10-250MHz U = 250-500MHz

### Typical Performance Data

Freq. (MHz)	Total Loss <sup>1</sup> (dB)				Amp. Unbal. (dB)	Isolation (dB)			Phase Unbal. (deg.)	VSWR S	VSWR 1	VSWR 2	VSWR 3	VSWR 4
	S-1	S-2	S-3	S-4		1-2	2-3	3-4						
1.00	6.59	6.59	6.59	6.59	0.01	28.61	46.82	30.70	0.02	1.20	1.31	1.31	1.30	1.28
5.00	6.38	6.42	6.38	6.38	0.04	33.63	54.15	34.52	0.05	1.10	1.15	1.15	1.15	1.13
9.00	6.37	6.42	6.37	6.37	0.05	34.35	52.09	34.63	0.08	1.08	1.12	1.12	1.12	1.10
10.00	6.38	6.42	6.38	6.38	0.04	34.41	51.62	34.60	0.09	1.08	1.12	1.12	1.11	1.10
40.00	6.42	6.47	6.43	6.43	0.04	33.14	40.57	32.89	0.28	1.08	1.11	1.11	1.11	1.09
70.00	6.47	6.50	6.46	6.46	0.04	31.60	36.15	31.47	0.52	1.09	1.10	1.11	1.11	1.09
100.00	6.49	6.53	6.49	6.49	0.04	30.28	33.28	30.23	0.71	1.11	1.10	1.10	1.11	1.09
150.00	6.58	6.61	6.56	6.56	0.05	28.63	30.21	28.64	1.04	1.12	1.09	1.10	1.10	1.08
200.00	6.65	6.68	6.62	6.62	0.05	27.48	28.12	27.52	1.47	1.14	1.07	1.08	1.09	1.07
250.00	6.68	6.71	6.63	6.62	0.09	26.98	26.73	27.02	1.66	1.14	1.05	1.07	1.09	1.06
300.00	6.76	6.80	6.71	6.70	0.10	27.10	25.83	27.23	1.99	1.13	1.04	1.06	1.09	1.06
350.00	6.81	6.83	6.70	6.68	0.15	28.13	25.41	28.36	2.08	1.09	1.04	1.06	1.09	1.06
400.00	6.84	6.90	6.73	6.68	0.21	30.62	25.41	30.49	2.21	1.05	1.07	1.08	1.12	1.09
450.00	6.95	6.98	6.76	6.73	0.26	36.71	25.89	31.30	2.54	1.05	1.11	1.11	1.16	1.12
500.00	7.08	7.15	6.83	6.77	0.38	39.78	26.85	27.20	3.34	1.13	1.14	1.15	1.21	1.17

1. Total Loss = Insertion Loss + 6dB splitter loss.



### electrical schematic

