

# Surface Mount Power Splitter/Combiner

4 Way-0° 50Ω 1 to 500 MHz

## AD4PS-1+



Generic photo used for illustration purposes only

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

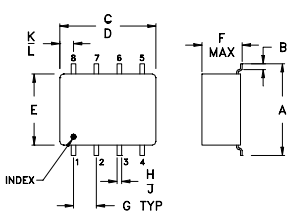
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	0.5W max.
Internal Dissipation	0.25W max.

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

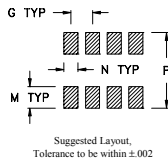
### Pin Connections

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

### Outline Drawing



#### PCB Land Pattern

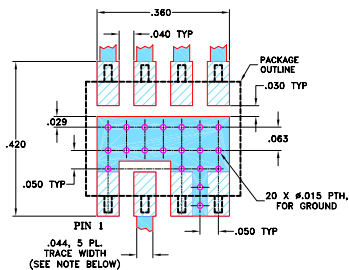


Suggested Layout  
Tolerance to be within ±.002

### 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:
- 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.
  - 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-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](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

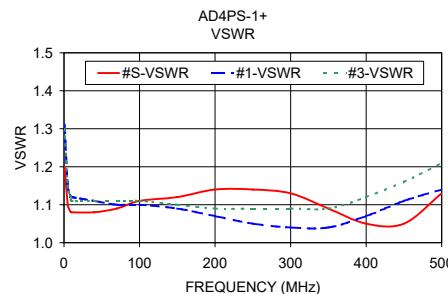
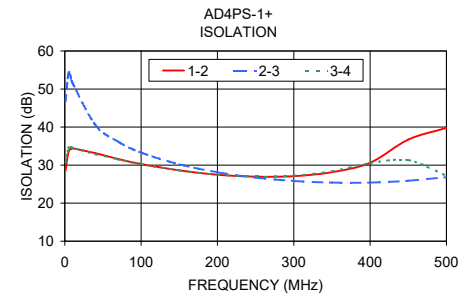
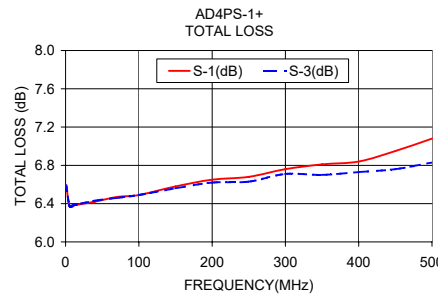
FREQ. RANGE (MHz)	ISOLATION (dB)						INSERTION LOSS (dB) ABOVE 6.0 dB						PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)		
	L		M		U		L		M		U		L	M	U	L	M	U
	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Max.	Max.	Max.	Max.	Max.	Max.
f <sub>L</sub> -f <sub>U</sub>																		
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



**Mini-Circuits**

[www.minicircuits.com](http://www.minicircuits.com) P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. J  
M151107  
ED-7705/1  
AD4PS-1+  
HY/TD/CP/AM  
200407  
Page 1 of 1