



**THE DATASHEET OF  
AD4PS-1+**





**SURFACE MOUNT**

# Power Splitter/Combiner

## AD4PS-1+

Mini-Circuits

4 Way-0° 50Ω 1 to 500 MHz

### FEATURES

- Wideband, 1 to 500 MHz
- High Isolation, 30 dB typ.
- Good input port matching VSWR, 1.12 typ.
- Good output port matching VSWR, 1.10 typ.
- Small size



Generic photo used for illustration purposes only

CASE STYLE: CJ725

**+RoHS Compliant**

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

### APPLICATIONS

- VHF-TV
- Aircraft Communications

### ELECTRICAL SPECIFICATIONS

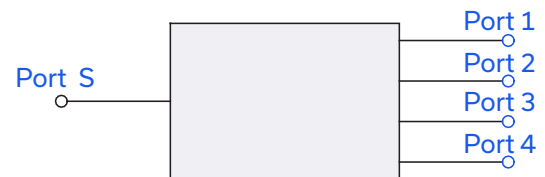
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range	—	1	—	500	MHz
Insertion Loss, above 6.0 dB	1 - 10	—	0.4	1.2	dB
	10 - 250	—	0.5	1.2	
	250 - 500	—	0.8	1.8	
Isolation	1 - 10	18	32	—	dB
	10 - 250	20	30	—	
	250 - 500	18	25	—	
Phase Unbalance	1 - 10	—	—	2	Degree
	10 - 250	—	—	5	
	250 - 500	—	—	7	
Amplitude Unbalance	1 - 10	—	—	0.4	dB
	10 - 250	—	—	0.5	
	250 - 500	—	—	0.8	

### ABSOLUTE MAXIMUM RATINGS

Parameter	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.

### ELECTRICAL SCHEMATIC



REV. K  
ECO-019621  
AD4PS-1+  
MCL NY  
231031





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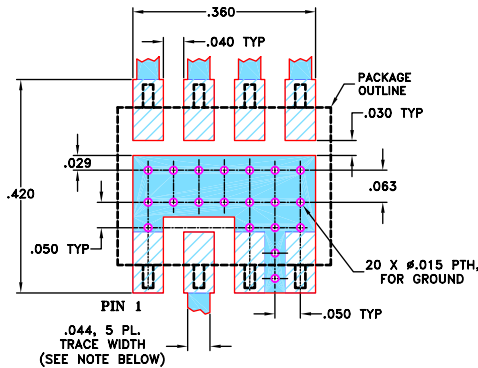
4 Way-0° 50Ω 1 to 500 MHz

### PIN CONNECTIONS

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

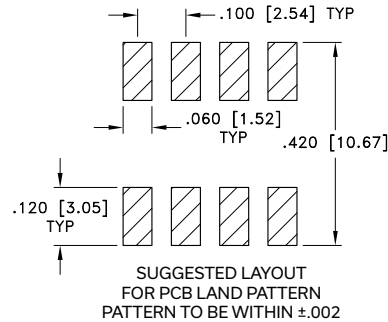
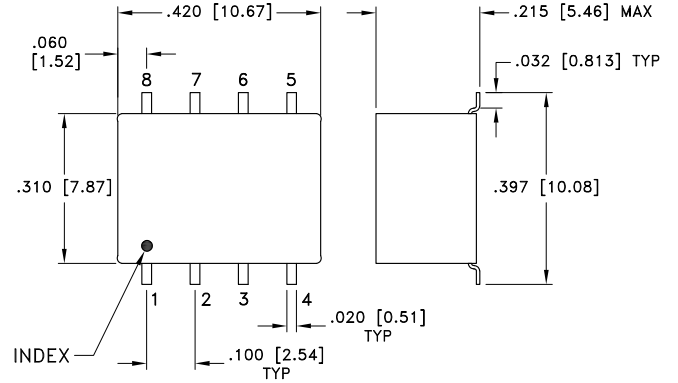
PRODUCT MARKING: N/A

DEMO BOARD MCL P/N: TB-81  
SUGGESTED PCB LAYOUT (PL-072)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B 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

### OUTLINE DRAWING



Weight: .40 gram  
Dimensions are in inches [mm]. Tolerances: 2 Pl. ±.01; 3Pl. ±.005 Inch

- Notes:
- Case material: Plastic.
  - Termination Finish: Tin plate over Nickel plate.

### TAPE & REEL INFORMATION: F10





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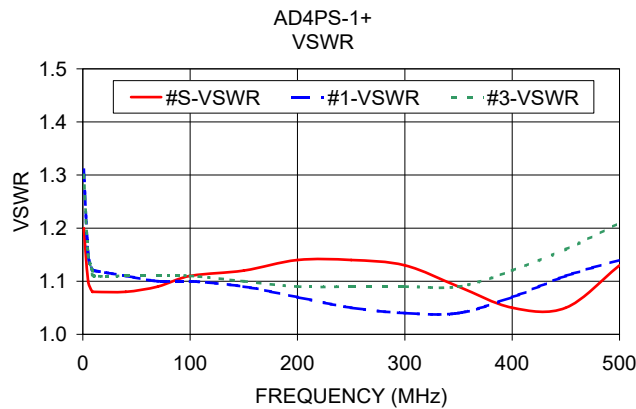
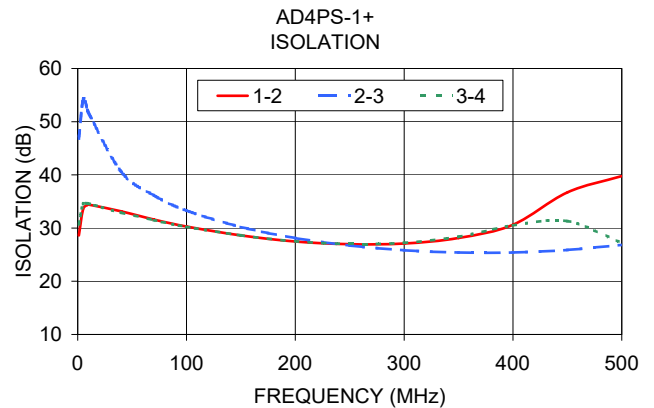
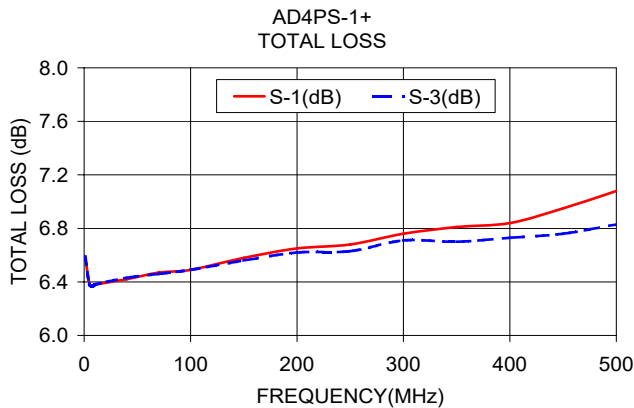
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### TYPICAL PERFORMANCE DATA

Frequency (MHz)	Total Loss <sup>1</sup> (dB)				Amplitude Unbalance (dB)	Isolation (dB)			Phase Unbalance (deg.)	VSWR (:1)				
	S-1	S-2	S-3	S-3		1-2	2-3	3-4		S	1	2	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.




- 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/terms/viewterm.html](http://www.minicircuits.com/terms/viewterm.html)



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