



**SURFACE MOUNT**

# Power Splitter/Combiner

## AD5PS-1+

Mini-Circuits

5 Way-0° 50Ω 1 to 400 MHz

### FEATURES

- Wideband, 1 to 400 MHz
- High Isolation, 27 dB typ.
- Good input port matching VSWR, 1.22 typ.
- Good output port matching VSWR, 1.12 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	—	400	MHz
Insertion Loss above 7.0 dB	1 - 10	—	0.15	0.5	dB
	10 - 200	—	0.3	1.0	
	200 - 400	—	0.8	1.8	
Isolation	1 - 10	18	35	—	dB
	10 - 200	20	25	—	
	200 - 400	20	27	—	
Phase Unbalance	1 - 10	—	—	1	Degree
	10 - 200	—	—	6	
	200 - 400	—	—	9	
Amplitude Unbalance	1 - 10	—	—	0.3	dB
	10 - 200	—	—	0.4	
	200 - 400	—	—	0.6	

### 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	0.4W Max.

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

### ELECTRICAL SCHEMATIC



REV. K  
ECO-019621  
AD5PS-1+  
MCL NY  
231012





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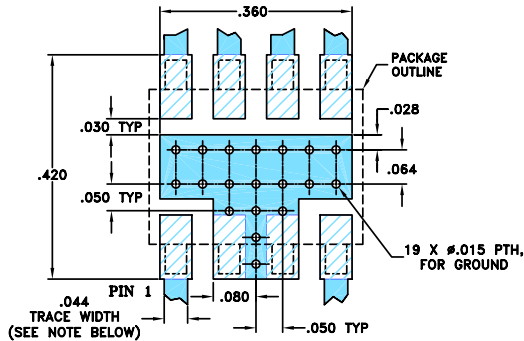
5 Way-0° 50Ω 1 to 400 MHz

### PIN CONNECTIONS

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

**PRODUCT MARKING:** N/A

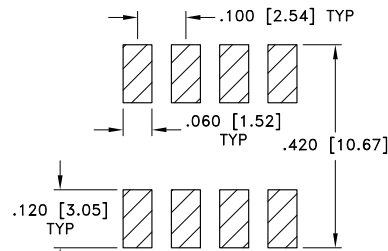
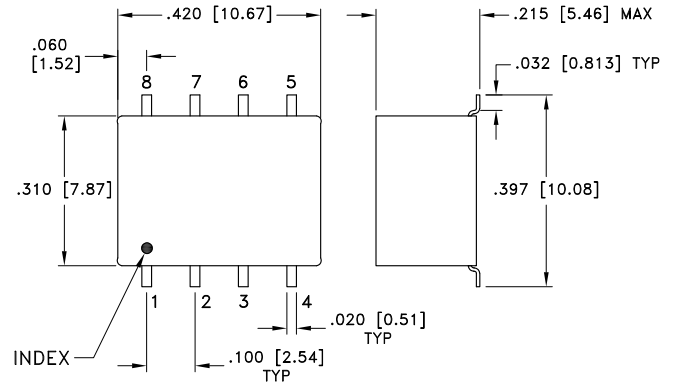
**DEMO BOARD MCL P/N:** TB-82  
**SUGGESTED PCB LAYOUT (PL-088)**



NOTE: TRACE WIDTH IS SHOWN FOR ROGERS R04350 WITH DIELECTRIC THICKNESS 0.020" ± 0.0015", COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

- DENOTES PCB COPPER LAYOUT
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

### OUTLINE DRAWING



SUGGESTED LAYOUT FOR PCB LAND PATTERN PATTERN TO BE WITHIN ±.002



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

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

**TAPE & REEL INFORMATION: F10**



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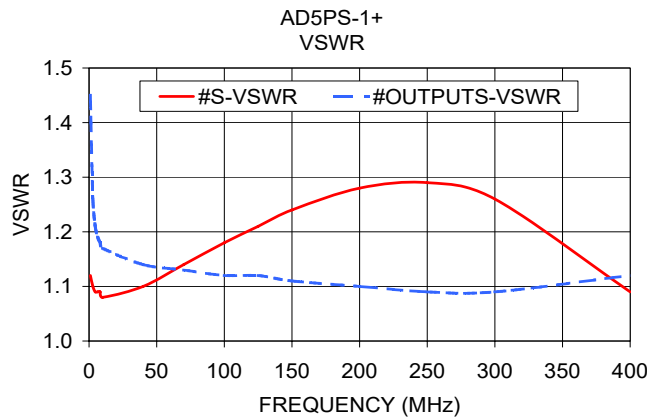
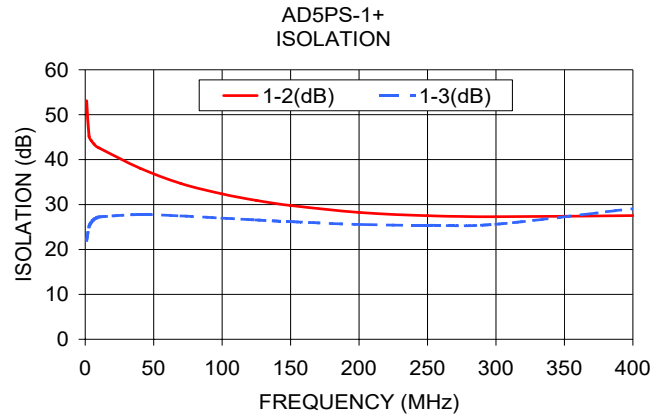
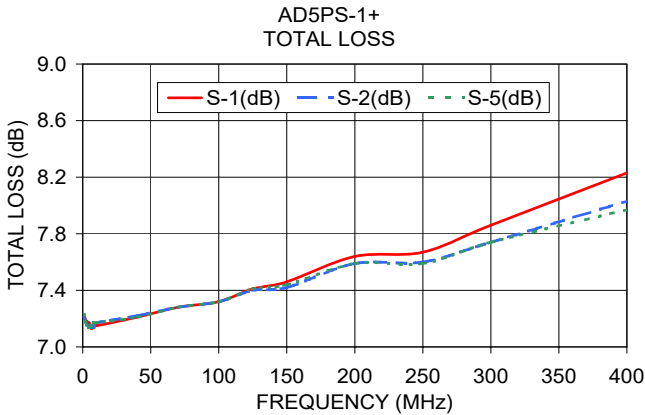
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### TYPICAL PERFORMANCE DATA

Frequency (MHz)	Total Loss <sup>1</sup> (dB)					Amplitude Unbalance (dB)	Isolation (dB)					Phase Unbalance (deg.)	VSWR S	VSWR OUTPUTS
	S-1	S-2	S-3	S-4	S-5		1-2	1-3	2-3	3-5	4-5			
1.00	7.22	7.21	7.23	7.21	7.23	0.02	53.10	21.98	39.65	21.51	33.16	0.22	1.12	1.45
2.80	7.18	7.16	7.15	7.16	7.16	0.03	45.24	25.05	43.27	24.73	38.07	0.13	1.10	1.26
4.60	7.17	7.15	7.14	7.16	7.14	0.03	44.17	26.12	44.25	25.93	40.51	0.26	1.09	1.21
6.40	7.13	7.14	7.14	7.16	7.15	0.03	43.48	26.69	44.52	26.55	41.81	0.24	1.09	1.19
8.20	7.16	7.14	7.17	7.16	7.17	0.03	42.90	27.02	44.57	26.94	42.66	0.24	1.09	1.18
10.00	7.15	7.17	7.14	7.16	7.17	0.03	42.60	27.25	44.11	27.17	43.01	0.17	1.08	1.17
40.00	7.21	7.22	7.22	7.19	7.21	0.03	38.08	27.77	38.44	27.75	37.68	0.85	1.10	1.14
70.00	7.28	7.28	7.29	7.29	7.28	0.01	34.66	27.46	34.77	27.36	33.71	1.42	1.14	1.13
100.00	7.32	7.32	7.30	7.31	7.32	0.02	32.37	26.97	32.32	26.77	31.14	2.12	1.18	1.12
125.00	7.41	7.40	7.40	7.41	7.41	0.02	30.92	26.57	30.86	26.33	29.64	2.27	1.21	1.12
150.00	7.46	7.42	7.40	7.41	7.44	0.07	29.80	26.19	29.75	25.89	28.46	2.89	1.24	1.11
200.00	7.64	7.59	7.56	7.55	7.59	0.09	28.24	25.57	28.17	25.17	26.79	3.75	1.28	1.10
300.00	7.86	7.74	7.69	7.69	7.74	0.18	27.29	25.61	27.29	25.03	25.56	5.14	1.2	61.09
400.00	8.23	8.03	7.90	7.88	7.97	0.34	27.54	29.08	27.87	27.64	25.67	6.12	1.09	1.12

1. Total Loss = Insertion Loss + 7dB 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)

