



**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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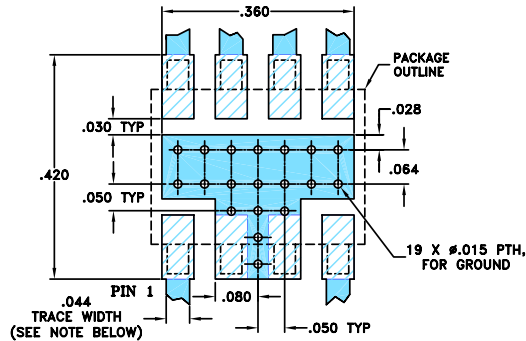
5 Way-0° 50Ω 1 to 400 MHz

### 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

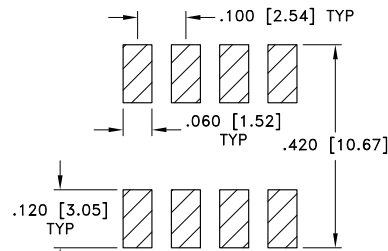
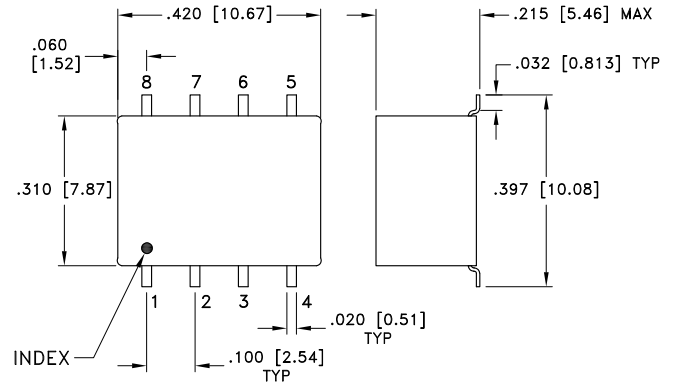
DEMO BOARD MCL P/N: TB-82  
SUGGESTED PCB LAYOUT (PL-088)



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



SURFACE MOUNT

# Power Splitter/Combiner

## AD5PS-1+

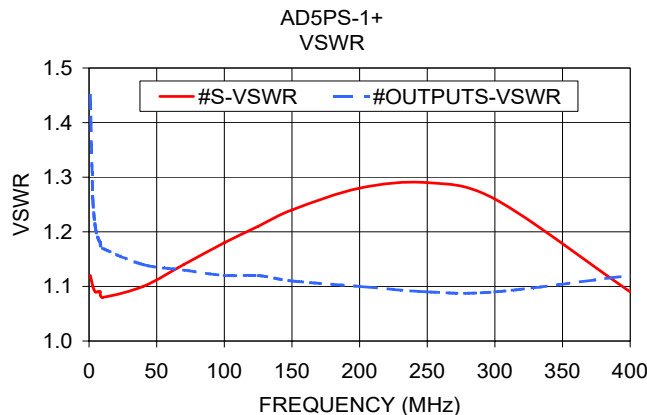
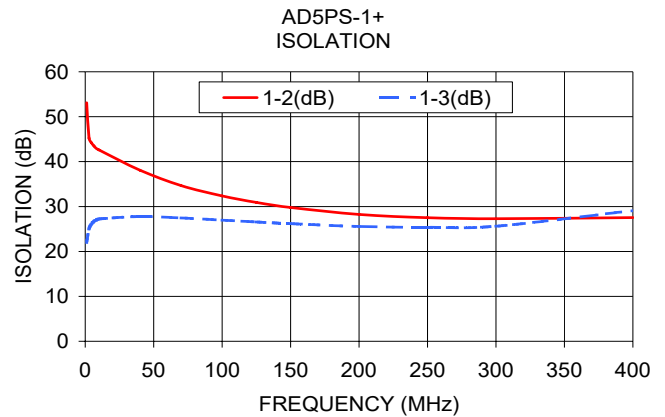
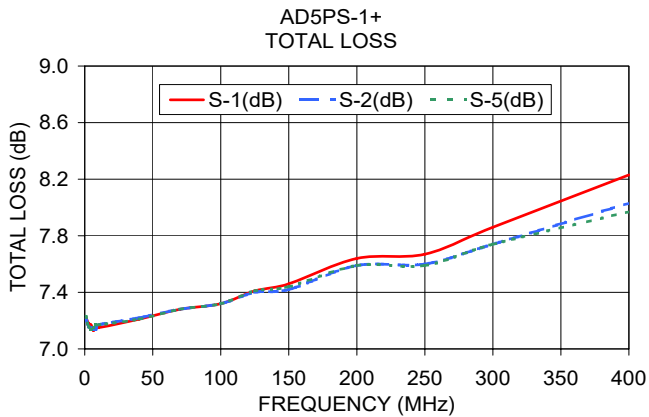
Mini-Circuits

5 Way-0° 50Ω 1 to 400 MHz

### 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)



# 5 Way-0° Power Splitter/Combiner

# AD5PS-1+

## Typical Performance Data

TEST CONDITIONS: INPUT POWER = 0dBm @Temperature = +25°C

FREQ. (MHz)	TOTAL LOSS <sup>1</sup> (dB)					AMP. UNBAL (dB)	PHASE UNBAL (deg.)	ISOLATION (dB)					VSWR (:1)					
	S-1	S-2	S-3	S-4	S-5			1-2	1-3	2-3	3-5	4-5	S	1	2	3	4	5
1	7.20	7.20	7.21	7.21	7.21	0.02	0.20	22.08	47.23	21.44	45.89	20.22	1.11	1.39	1.45	1.38	1.50	1.56
5	7.16	7.17	7.18	7.17	7.18	0.01	0.11	26.40	45.55	25.94	47.15	25.14	1.09	1.19	1.21	1.19	1.22	1.24
10	7.17	7.17	7.18	7.17	7.17	0.01	0.13	28.00	44.13	27.73	45.38	27.25	1.08	1.15	1.16	1.15	1.16	1.17
20	7.19	7.19	7.20	7.20	7.19	0.01	0.20	28.22	42.05	28.09	42.34	27.79	1.09	1.13	1.14	1.13	1.14	1.15
40	7.23	7.24	7.24	7.23	7.23	0.01	0.44	27.75	38.68	27.73	38.33	27.50	1.11	1.13	1.13	1.13	1.13	1.14
50	7.26	7.25	7.25	7.25	7.26	0.01	0.55	27.46	37.35	27.48	36.86	27.26	1.12	1.13	1.13	1.13	1.13	1.13
60	7.28	7.28	7.28	7.27	7.28	0.00	0.65	27.14	36.18	27.23	35.60	27.01	1.14	1.12	1.13	1.12	1.13	1.13
80	7.32	7.32	7.31	7.31	7.31	0.01	0.87	26.52	34.29	26.71	33.61	26.48	1.17	1.12	1.12	1.12	1.12	1.12
100	7.36	7.36	7.35	7.35	7.35	0.02	1.06	25.87	32.79	26.17	32.05	25.91	1.20	1.11	1.11	1.11	1.11	1.12
120	7.41	7.39	7.39	7.38	7.38	0.03	1.31	25.27	31.55	25.65	30.76	25.37	1.24	1.11	1.11	1.11	1.11	1.11
140	7.45	7.43	7.43	7.42	7.42	0.04	1.53	24.72	30.57	25.17	29.74	24.86	1.27	1.11	1.10	1.10	1.10	1.10
150	7.48	7.46	7.45	7.44	7.44	0.04	1.64	24.46	30.14	24.94	29.30	24.62	1.28	1.10	1.10	1.10	1.10	1.10
160	7.50	7.48	7.46	7.46	7.45	0.04	1.77	24.21	29.76	24.73	28.89	24.39	1.30	1.10	1.09	1.10	1.09	1.10
180	7.55	7.52	7.50	7.49	7.49	0.06	1.99	23.75	29.07	24.33	28.17	23.95	1.33	1.10	1.09	1.09	1.09	1.09
200	7.60	7.56	7.53	7.52	7.52	0.08	2.24	23.37	28.53	23.99	27.57	23.58	1.35	1.09	1.08	1.09	1.08	1.08
220	7.66	7.60	7.57	7.57	7.56	0.10	2.50	23.04	28.10	23.70	27.08	23.24	1.37	1.09	1.08	1.08	1.07	1.08
240	7.70	7.64	7.61	7.59	7.59	0.11	2.77	22.77	27.75	23.46	26.68	22.95	1.39	1.08	1.08	1.08	1.07	1.07
250	7.73	7.66	7.62	7.61	7.60	0.12	2.84	22.64	27.63	23.37	26.52	22.84	1.40	1.08	1.07	1.07	1.07	1.07
260	7.76	7.68	7.64	7.63	7.62	0.14	3.00	22.55	27.54	23.30	26.38	22.73	1.40	1.08	1.07	1.07	1.06	1.06
280	7.81	7.71	7.67	7.65	7.64	0.16	3.28	22.41	27.41	23.19	26.17	22.56	1.41	1.08	1.08	1.07	1.06	1.06
300	7.85	7.75	7.69	7.68	7.67	0.18	3.54	22.32	27.38	23.15	26.03	22.43	1.41	1.07	1.08	1.07	1.06	1.06
320	7.91	7.78	7.72	7.70	7.70	0.21	3.85	22.31	27.47	23.18	26.00	22.37	1.41	1.07	1.09	1.07	1.07	1.06
340	7.95	7.82	7.74	7.72	7.71	0.24	4.13	22.36	27.67	23.29	26.05	22.37	1.40	1.08	1.09	1.07	1.07	1.07
350	7.97	7.83	7.75	7.73	7.71	0.26	4.30	22.42	27.84	23.39	26.11	22.40	1.39	1.08	1.10	1.07	1.08	1.07
360	7.99	7.84	7.76	7.74	7.72	0.27	4.47	22.51	28.02	23.50	26.21	22.45	1.38	1.08	1.11	1.08	1.08	1.07
380	8.04	7.87	7.77	7.75	7.74	0.30	4.79	22.72	28.56	23.81	26.52	22.60	1.35	1.09	1.12	1.09	1.09	1.09
400	8.09	7.91	7.79	7.78	7.75	0.34	5.16	23.03	29.30	24.25	26.95	22.85	1.32	1.10	1.13	1.10	1.10	1.10
420	8.13	7.94	7.80	7.79	7.76	0.37	5.48	23.42	30.32	24.85	27.59	23.22	1.27	1.12	1.15	1.11	1.12	1.11
440	8.18	7.97	7.83	7.82	7.77	0.41	5.88	23.89	31.65	25.62	28.44	23.72	1.23	1.13	1.16	1.13	1.13	1.13
450	8.21	7.99	7.84	7.83	7.79	0.42	6.09	24.15	32.48	26.09	28.97	24.02	1.20	1.14	1.17	1.14	1.14	1.14
460	8.24	8.01	7.85	7.84	7.80	0.45	6.25	24.42	33.39	26.63	29.59	24.37	1.17	1.15	1.18	1.15	1.15	1.15
480	8.31	8.07	7.89	7.88	7.84	0.47	6.70	24.93	35.19	27.86	31.11	25.23	1.11	1.17	1.20	1.17	1.16	1.17
500	8.40	8.13	7.94	7.94	7.88	0.52	7.12	25.26	35.77	29.29	33.02	26.32	1.08	1.19	1.21	1.19	1.18	1.18
550	8.73	8.43	8.19	8.21	8.13	0.61	8.36	24.12	29.38	29.93	33.77	29.74	1.25	1.24	1.25	1.24	1.21	1.23
600	9.33	9.00	8.70	8.75	8.63	0.70	10.41	20.68	23.59	24.44	26.73	28.04	1.66	1.29	1.27	1.29	1.23	1.26
650	10.33	9.98	9.63	9.72	9.56	0.77	13.23	17.40	19.79	19.99	21.92	22.83	2.32	1.32	1.25	1.31	1.23	1.26
700	11.78	11.43	11.03	11.17	10.96	0.82	16.68	15.05	17.36	17.15	18.94	19.26	3.32	1.31	1.22	1.30	1.20	1.24

<sup>1</sup>Total Loss = Insertion Loss + 7dB Splitter Loss



# 5 Way-0° Power Splitter/Combiner

# AD5PS-1+

## Typical Performance Data

TEST CONDITIONS: INPUT POWER = 0dBm @Temperature = -40°C

FREQ. (MHz)	TOTAL LOSS <sup>1</sup> (dB)					AMP. UNBAL (dB)	PHASE UNBAL (deg.)	ISOLATION (dB)					VSWR (:1)					
	S-1	S-2	S-3	S-4	S-5			1-2	1-3	2-3	3-5	4-5	S	1	2	3	4	5
1	7.29	7.29	7.30	7.29	7.29	0.01	0.07	19.38	44.43	18.84	41.51	18.60	1.15	1.65	1.76	1.68	1.70	1.80
5	7.19	7.20	7.20	7.20	7.20	0.01	0.06	24.03	46.50	23.57	44.54	23.25	1.11	1.30	1.33	1.31	1.32	1.35
10	7.16	7.16	7.16	7.16	7.16	0.00	0.06	27.08	44.63	26.68	44.19	26.32	1.09	1.18	1.20	1.19	1.19	1.21
20	7.16	7.16	7.16	7.15	7.16	0.01	0.20	29.05	41.67	28.80	42.05	28.46	1.09	1.13	1.14	1.13	1.13	1.14
40	7.19	7.19	7.19	7.19	7.19	0.00	0.36	29.27	38.56	29.23	38.50	28.96	1.11	1.10	1.10	1.10	1.10	1.11
50	7.21	7.20	7.21	7.20	7.21	0.01	0.51	28.99	37.31	29.04	37.05	28.77	1.12	1.10	1.10	1.10	1.10	1.10
60	7.22	7.22	7.22	7.22	7.22	0.01	0.62	28.62	36.20	28.78	35.80	28.50	1.14	1.09	1.09	1.09	1.09	1.10
80	7.26	7.25	7.25	7.25	7.24	0.01	0.84	27.84	34.37	28.14	33.79	27.84	1.17	1.09	1.09	1.09	1.09	1.09
100	7.30	7.30	7.29	7.28	7.28	0.02	1.02	26.99	32.86	27.43	32.19	27.11	1.21	1.09	1.09	1.09	1.09	1.09
120	7.34	7.33	7.32	7.31	7.31	0.03	1.24	26.23	31.61	26.74	30.86	26.40	1.24	1.09	1.08	1.09	1.08	1.09
140	7.38	7.36	7.35	7.34	7.34	0.04	1.46	25.51	30.59	26.10	29.79	25.73	1.27	1.08	1.08	1.08	1.07	1.08
150	7.40	7.38	7.37	7.37	7.36	0.04	1.55	25.18	30.15	25.81	29.32	25.43	1.29	1.08	1.07	1.08	1.07	1.07
160	7.42	7.40	7.38	7.38	7.37	0.05	1.69	24.88	29.74	25.53	28.90	25.12	1.31	1.08	1.07	1.07	1.06	1.07
180	7.47	7.44	7.42	7.41	7.40	0.07	1.92	24.30	29.04	25.01	28.13	24.58	1.34	1.07	1.06	1.07	1.06	1.06
200	7.52	7.48	7.45	7.44	7.44	0.08	2.15	23.83	28.48	24.58	27.53	24.10	1.37	1.07	1.06	1.06	1.05	1.06
220	7.57	7.52	7.48	7.48	7.47	0.10	2.39	23.43	28.03	24.22	27.01	23.69	1.39	1.07	1.05	1.06	1.05	1.05
240	7.61	7.55	7.51	7.50	7.49	0.11	2.63	23.11	27.68	23.93	26.60	23.34	1.41	1.06	1.05	1.06	1.04	1.05
250	7.63	7.57	7.52	7.52	7.50	0.13	2.75	22.97	27.57	23.82	26.44	23.20	1.42	1.06	1.05	1.05	1.04	1.04
260	7.65	7.59	7.54	7.53	7.52	0.14	2.87	22.86	27.46	23.72	26.30	23.08	1.42	1.06	1.06	1.05	1.04	1.04
280	7.70	7.62	7.56	7.56	7.53	0.16	3.17	22.68	27.35	23.58	26.08	22.87	1.43	1.06	1.06	1.05	1.04	1.04
300	7.74	7.65	7.59	7.58	7.56	0.18	3.39	22.58	27.32	23.52	25.95	22.71	1.43	1.05	1.07	1.05	1.05	1.04
320	7.78	7.68	7.61	7.60	7.58	0.20	3.70	22.54	27.42	23.54	25.91	22.63	1.43	1.06	1.07	1.05	1.05	1.05
340	7.82	7.71	7.62	7.61	7.58	0.24	3.98	22.57	27.62	23.64	25.96	22.62	1.42	1.06	1.09	1.05	1.06	1.06
350	7.84	7.72	7.62	7.61	7.59	0.25	4.10	22.62	27.78	23.72	26.02	22.64	1.41	1.06	1.09	1.06	1.07	1.06
360	7.85	7.73	7.63	7.62	7.59	0.26	4.28	22.70	27.98	23.83	26.12	22.69	1.40	1.07	1.10	1.06	1.07	1.07
380	7.89	7.75	7.64	7.63	7.60	0.29	4.62	22.90	28.51	24.15	26.41	22.84	1.37	1.08	1.11	1.07	1.09	1.08
400	7.93	7.78	7.65	7.64	7.61	0.32	4.94	23.18	29.25	24.58	26.83	23.08	1.33	1.09	1.13	1.09	1.10	1.10
420	7.97	7.80	7.66	7.65	7.62	0.35	5.28	23.55	30.27	25.17	27.44	23.44	1.29	1.10	1.14	1.10	1.11	1.12
440	8.01	7.83	7.67	7.67	7.62	0.39	5.64	23.98	31.65	25.95	28.27	23.93	1.24	1.12	1.16	1.12	1.13	1.13
450	8.04	7.84	7.68	7.68	7.63	0.41	5.82	24.23	32.53	26.42	28.81	24.23	1.21	1.13	1.17	1.13	1.14	1.14
460	8.07	7.86	7.69	7.69	7.64	0.43	6.03	24.47	33.50	26.95	29.40	24.59	1.18	1.14	1.17	1.14	1.14	1.15
480	8.12	7.91	7.72	7.72	7.66	0.46	6.46	24.92	35.61	28.16	30.92	25.44	1.12	1.16	1.19	1.16	1.16	1.17
500	8.19	7.96	7.76	7.77	7.70	0.49	6.91	25.16	36.63	29.48	32.86	26.52	1.08	1.18	1.21	1.18	1.18	1.19
550	8.49	8.22	7.97	8.00	7.91	0.58	8.01	23.80	29.73	29.35	33.99	29.66	1.25	1.24	1.25	1.23	1.21	1.23
600	9.05	8.75	8.45	8.50	8.38	0.67	9.96	20.32	23.64	23.86	26.71	27.33	1.66	1.29	1.26	1.28	1.23	1.26
650	10.01	9.69	9.34	9.42	9.27	0.75	12.71	17.05	19.73	19.54	21.77	22.24	2.36	1.32	1.25	1.30	1.22	1.26
700	11.43	11.11	10.71	10.83	10.63	0.80	16.07	14.72	17.22	16.75	18.72	18.77	3.44	1.31	1.21	1.29	1.19	1.24

<sup>1</sup>Total Loss = Insertion Loss + 7dB Splitter Loss



# 5 Way-0° Power Splitter/Combiner

# AD5PS-1+

## Typical Performance Data

TEST CONDITIONS: INPUT POWER = 0dBm @Temperature = +85°C

FREQ. (MHz)	TOTAL LOSS <sup>1</sup> (dB)					AMP. UNBAL (dB)	PHASE UNBAL (deg.)	ISOLATION (dB)					VSWR (:1)					
	S-1	S-2	S-3	S-4	S-5			1-2	1-3	2-3	3-5	4-5	S	1	2	3	4	5
1	7.28	7.28	7.29	7.28	7.29	0.01	0.06	21.66	55.75	21.32	53.22	21.25	1.13	1.43	1.48	1.43	1.46	1.47
5	7.22	7.23	7.24	7.23	7.24	0.02	0.08	24.97	49.59	24.70	49.13	24.72	1.10	1.24	1.26	1.24	1.25	1.26
10	7.22	7.23	7.24	7.24	7.23	0.02	0.13	26.09	46.25	25.88	46.48	25.92	1.09	1.20	1.21	1.20	1.20	1.20
20	7.25	7.25	7.26	7.25	7.25	0.01	0.22	26.18	43.04	26.00	43.17	26.04	1.10	1.19	1.20	1.19	1.19	1.19
40	7.30	7.30	7.31	7.30	7.30	0.01	0.42	25.86	38.82	25.74	38.49	25.77	1.12	1.19	1.19	1.19	1.18	1.19
50	7.33	7.32	7.33	7.32	7.32	0.01	0.53	25.65	37.30	25.57	36.83	25.59	1.13	1.18	1.19	1.18	1.18	1.19
60	7.35	7.35	7.36	7.34	7.34	0.01	0.64	25.42	36.06	25.40	35.52	25.42	1.14	1.18	1.19	1.18	1.18	1.19
80	7.40	7.39	7.39	7.38	7.38	0.02	0.85	24.97	34.10	25.03	33.48	25.03	1.17	1.17	1.18	1.17	1.17	1.18
100	7.45	7.44	7.44	7.43	7.42	0.03	1.05	24.49	32.58	24.65	31.90	24.62	1.20	1.16	1.17	1.16	1.16	1.16
120	7.50	7.48	7.48	7.46	7.47	0.04	1.33	24.06	31.37	24.28	30.63	24.23	1.23	1.16	1.16	1.15	1.15	1.15
140	7.56	7.52	7.52	7.50	7.51	0.05	1.48	23.64	30.41	23.93	29.64	23.86	1.26	1.15	1.15	1.15	1.14	1.15
150	7.58	7.55	7.54	7.53	7.52	0.06	1.65	23.46	29.99	23.78	29.21	23.69	1.28	1.15	1.15	1.15	1.14	1.14
160	7.61	7.57	7.56	7.54	7.54	0.06	1.71	23.27	29.62	23.62	28.81	23.52	1.29	1.15	1.14	1.14	1.13	1.14
180	7.67	7.61	7.60	7.58	7.59	0.09	1.97	22.92	28.95	23.33	28.10	23.19	1.31	1.14	1.13	1.14	1.13	1.13
200	7.72	7.65	7.64	7.61	7.62	0.11	2.17	22.62	28.43	23.07	27.53	22.89	1.34	1.14	1.13	1.13	1.12	1.12
220	7.78	7.70	7.69	7.66	7.66	0.12	2.43	22.36	28.00	22.85	27.05	22.63	1.35	1.13	1.12	1.12	1.11	1.11
240	7.83	7.74	7.72	7.69	7.69	0.14	2.70	22.13	27.66	22.67	26.66	22.39	1.37	1.12	1.11	1.11	1.10	1.10
250	7.86	7.77	7.74	7.71	7.71	0.15	2.81	22.04	27.55	22.60	26.50	22.30	1.38	1.12	1.11	1.11	1.10	1.10
260	7.90	7.79	7.77	7.73	7.73	0.17	2.94	21.96	27.46	22.54	26.36	22.21	1.38	1.11	1.11	1.11	1.09	1.09
280	7.95	7.84	7.80	7.76	7.76	0.19	3.23	21.85	27.32	22.46	26.15	22.06	1.39	1.11	1.10	1.10	1.09	1.09
300	8.01	7.87	7.83	7.79	7.79	0.22	3.49	21.79	27.29	22.44	26.03	21.96	1.39	1.11	1.10	1.10	1.09	1.08
320	8.07	7.91	7.87	7.82	7.82	0.26	3.78	21.80	27.38	22.47	26.00	21.92	1.39	1.11	1.10	1.10	1.08	1.08
340	8.12	7.95	7.89	7.84	7.84	0.28	4.08	21.86	27.57	22.58	26.04	21.92	1.38	1.11	1.11	1.10	1.09	1.08
350	8.15	7.97	7.90	7.85	7.85	0.30	4.24	21.93	27.72	22.66	26.11	21.95	1.37	1.11	1.11	1.10	1.09	1.08
360	8.17	7.98	7.91	7.86	7.86	0.31	4.37	22.03	27.93	22.77	26.21	22.00	1.36	1.11	1.12	1.10	1.09	1.08
380	8.23	8.02	7.94	7.89	7.88	0.35	4.74	22.27	28.45	23.07	26.52	22.16	1.33	1.11	1.12	1.10	1.10	1.09
400	8.29	8.06	7.96	7.92	7.90	0.38	5.07	22.60	29.19	23.49	26.96	22.40	1.30	1.12	1.13	1.11	1.11	1.10
420	8.35	8.10	7.99	7.94	7.92	0.42	5.43	23.03	30.20	24.06	27.60	22.75	1.26	1.13	1.15	1.12	1.12	1.11
440	8.41	8.14	8.02	7.97	7.95	0.47	5.79	23.57	31.52	24.80	28.46	23.23	1.21	1.14	1.16	1.14	1.13	1.13
450	8.44	8.17	8.03	7.99	7.96	0.48	6.00	23.88	32.36	25.26	29.01	23.53	1.19	1.15	1.17	1.15	1.14	1.14
460	8.49	8.19	8.05	8.01	7.98	0.51	6.21	24.20	33.26	25.78	29.65	23.87	1.16	1.16	1.18	1.16	1.15	1.14
480	8.57	8.26	8.11	8.06	8.03	0.54	6.62	24.90	35.18	27.03	31.22	24.70	1.11	1.18	1.20	1.18	1.16	1.16
500	8.67	8.34	8.17	8.13	8.08	0.58	7.02	25.52	36.05	28.62	33.29	25.79	1.09	1.20	1.22	1.20	1.18	1.18
550	9.04	8.67	8.45	8.43	8.35	0.69	8.24	25.16	29.83	31.57	34.78	29.72	1.26	1.25	1.25	1.25	1.21	1.23
600	9.69	9.28	9.00	9.01	8.89	0.80	10.47	21.71	23.96	26.00	27.28	29.64	1.65	1.30	1.27	1.30	1.24	1.26
650	10.73	10.30	9.96	10.01	9.84	0.90	13.31	18.21	20.14	21.01	22.35	23.96	2.25	1.33	1.27	1.33	1.24	1.27
700	12.21	11.77	11.37	11.48	11.24	0.96	16.80	15.73	17.70	17.91	19.33	20.08	3.14	1.33	1.24	1.32	1.22	1.25

<sup>1</sup>Total Loss = Insertion Loss + 7dB Splitter Loss

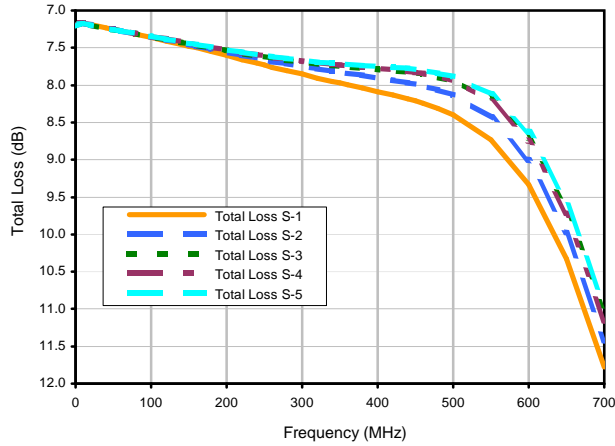


# 5 Way-0° Power Splitter/Combiner

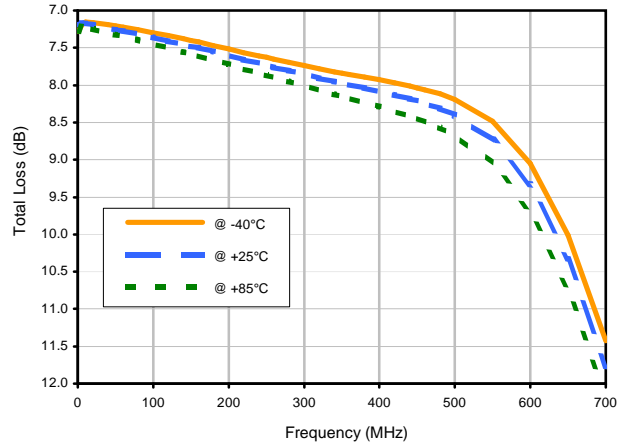
# AD5PS-1+

## Typical Performance Curves

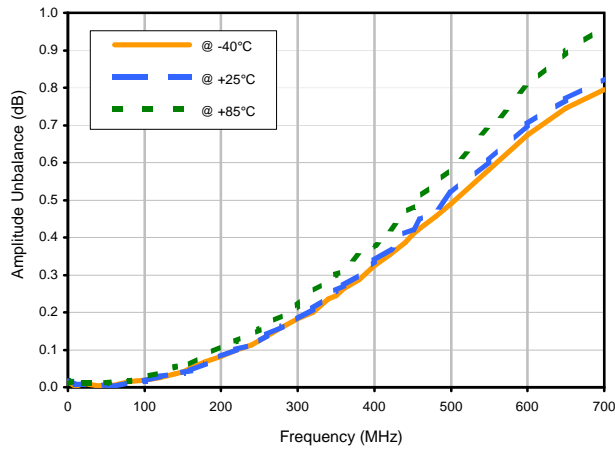
**Total Loss**



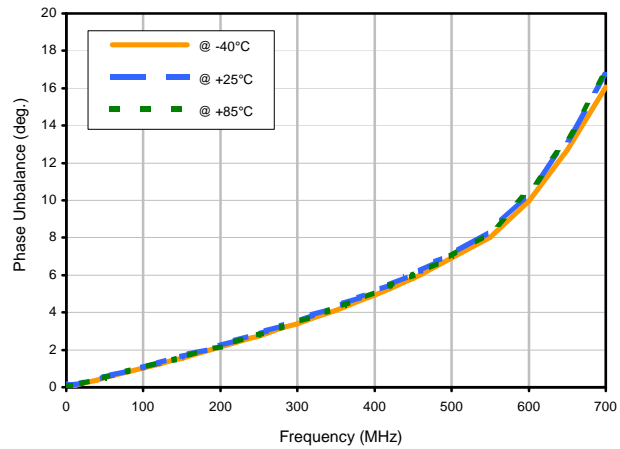
**Total Loss S-1 vs. TEMPERATURE**



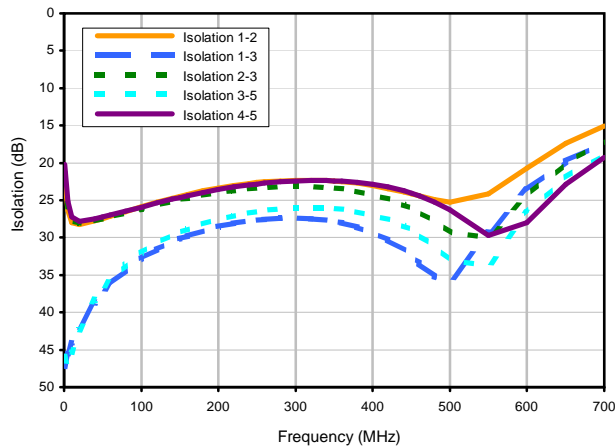
**Amplitude Unbalance vs. TEMPERATURE**



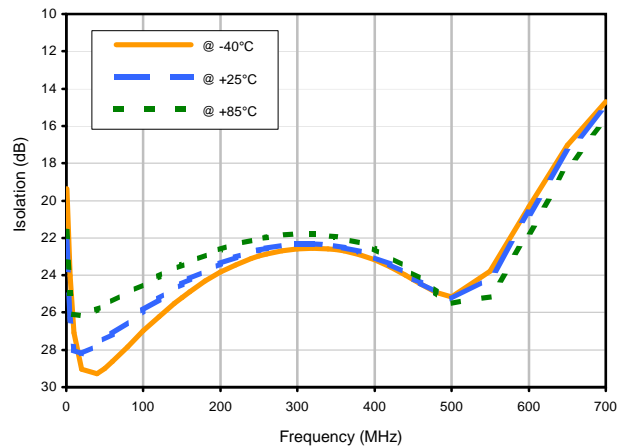
**Phase Unbalance vs. TEMPERATURE**



**Isolation**



**Isolation 1-2 vs. TEMPERATURE**



REV. X2  
AD5PS-1+  
100623  
Page 1 of 2



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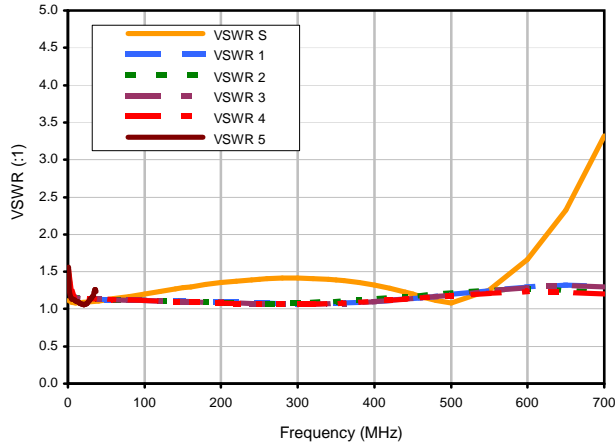


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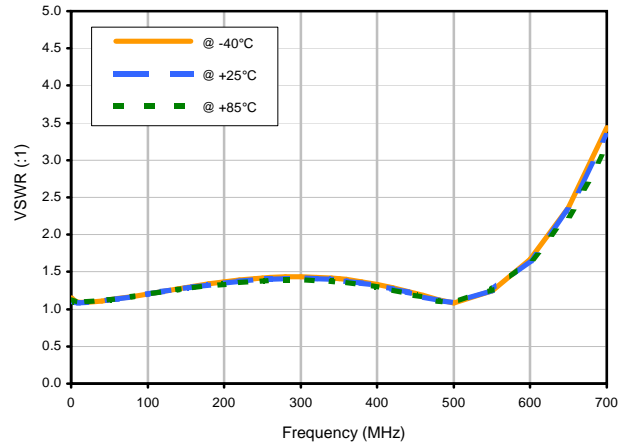


## Typical Performance Curves

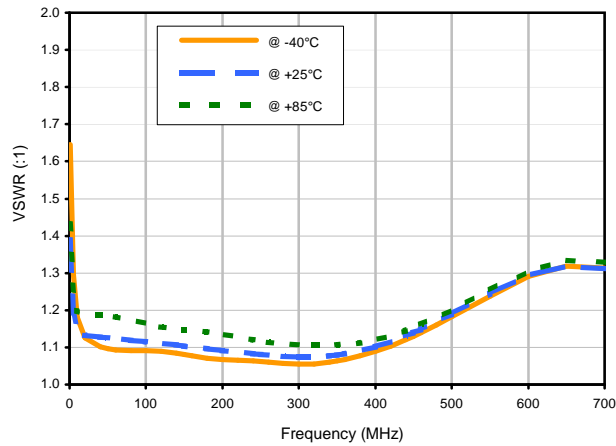
VSWR



VSWR SUM vs. TEMPERATURE



VSWR OUT1 vs. TEMPERATURE



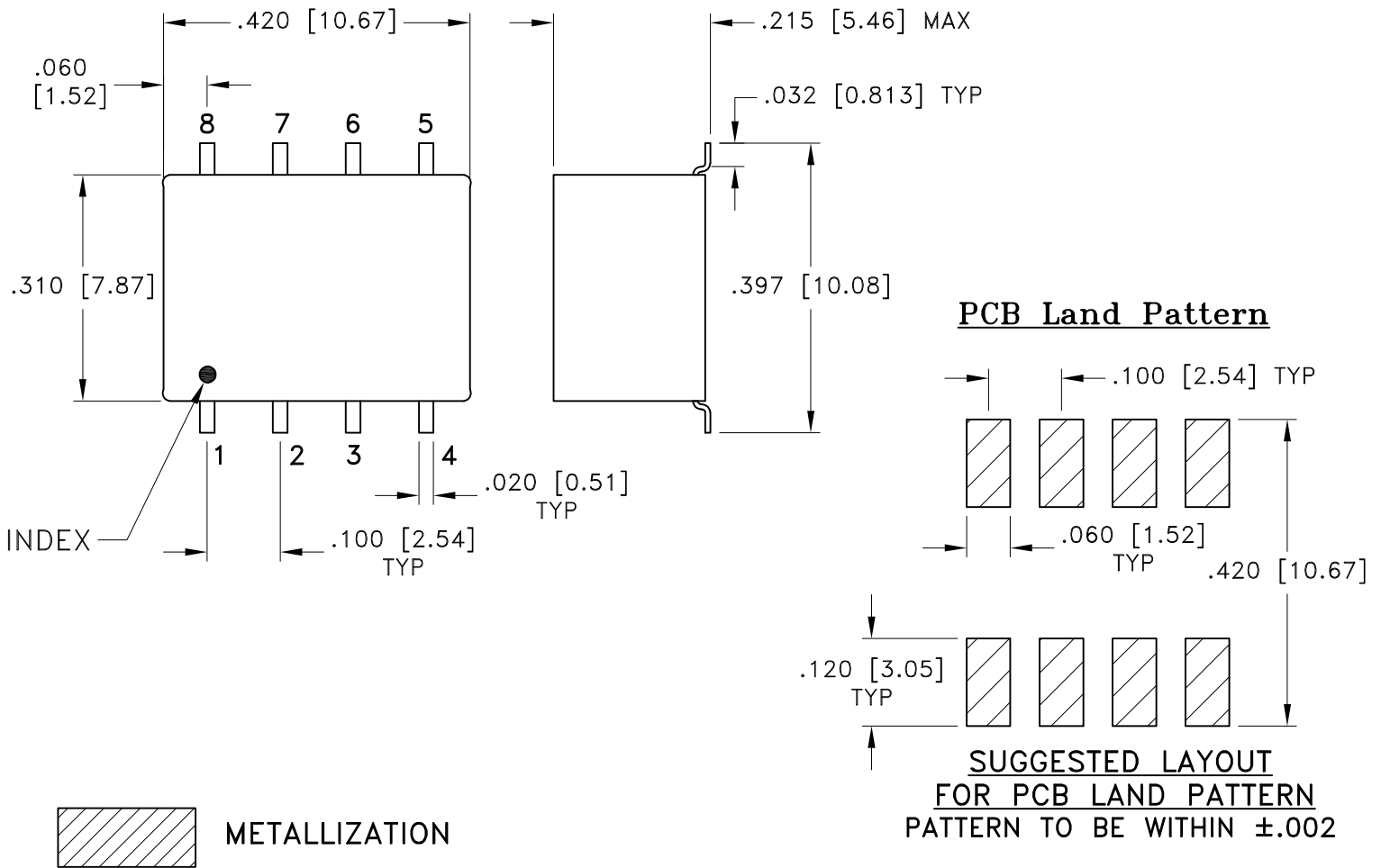


# Case Style

# CJ

## Outline Dimensions

## CJ725



Weight: .40 gram

Dimensions are in inches [mm]. Tolerances: 2 Pl.  $\pm 0.01$ ; 3 Pl.  $\pm 0.005$  Inch

### Notes:

1. Case material: Plastic.
2. Termination finish:  
Tin plate over Nickel plate.

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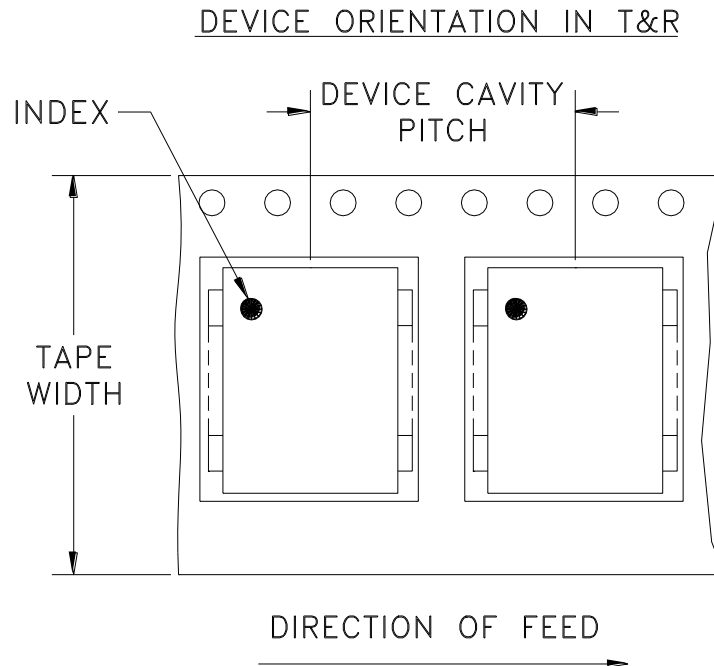
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Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel
24	16	7	10,20,50,100,200
		13	500

Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.

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Note: Please consult individual model data sheet to determine device per reel availability.



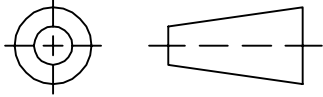
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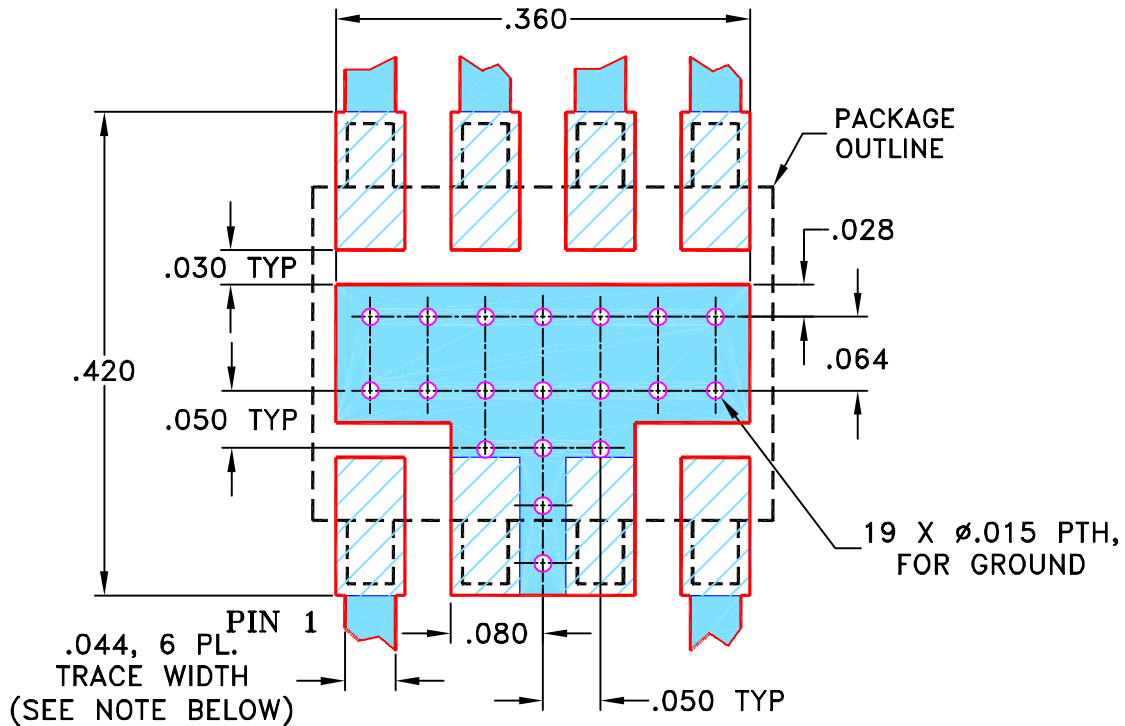
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M82272	NEW RELEASE	08/05/02	GF	DJ
A	M102713	UPDATED NOTES, ADDED "...WITH SMOBC"	01/16/06	GT	IL

SUGGESTED MOUNTING CONFIGURATION FOR CJ725 CASE STYLE, "mb" PIN CONNECTION



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

UNLESS OTHERWISE SPECIFIED	INITIALS	DATE
DIMENSIONS ARE IN INCHES	DRAWN GF	07/22/02
TOLERANCES ON:	CHECKED HY	08/01/02
2 PL DECIMALS ±	APPROVED DJ	08/05/02
3 PL DECIMALS ± .005		
ANGLES ±		
FRACTIONS ±		



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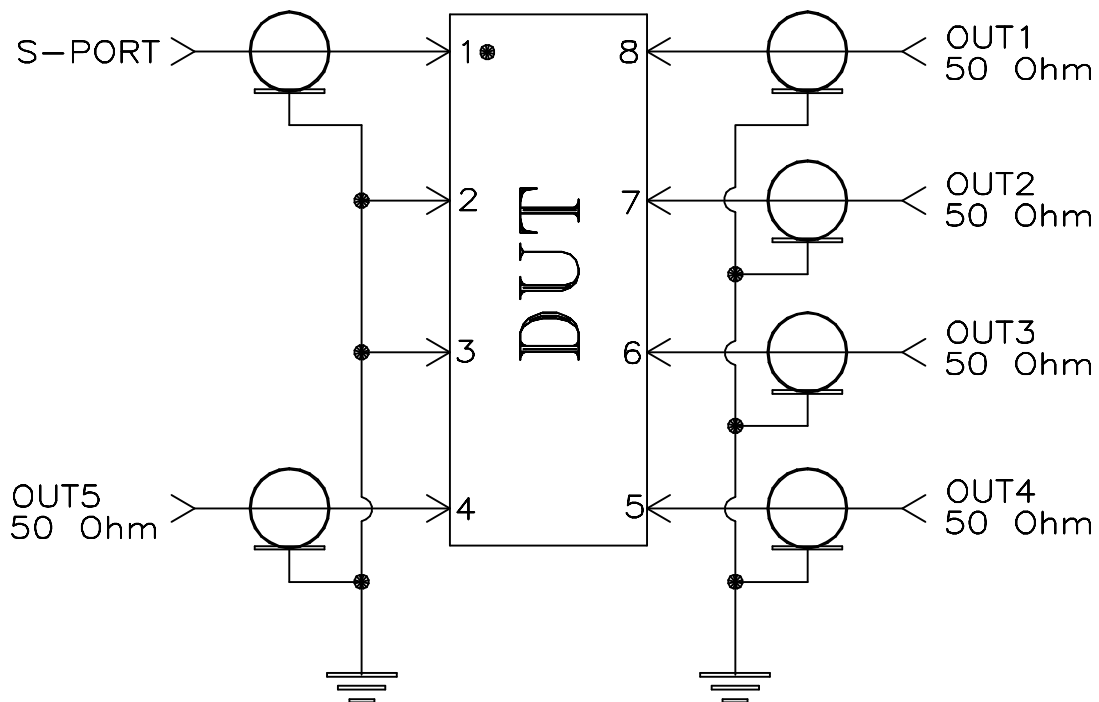
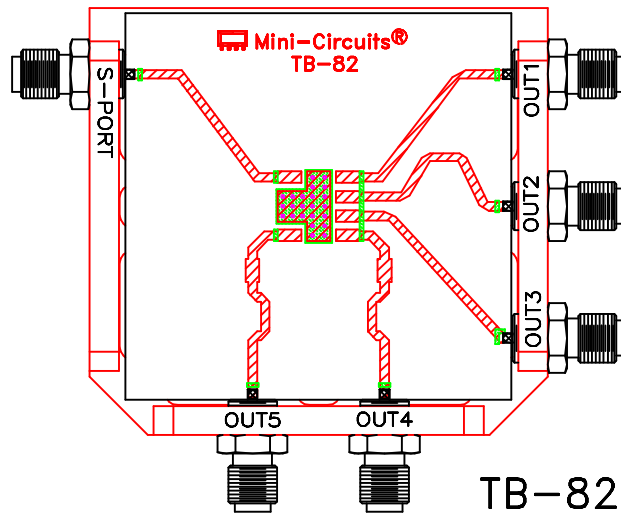
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PL, mb, CJ725, AD5PS, TB-82

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SIZE A	CODE IDENT 15542	DRAWING NO: 98-PL-088	REV: A
FILE: 98PL088	SCALE: 6:1	SHEET: 1 OF 1	


# Evaluation Board and Circuit



Schematic Diagram

## Notes:

1. SMA Female connectors.
2. PCB Material: Rogers R04350 or equivalent,  
Dielectric Constant=3.5, Thickness=.020 inch.

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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