

## Engineering Development Model

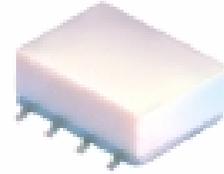
# Power Splitter/Combiner

### 4 Way-0°

# AD4PS-ED7705B/1

### Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability. At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.



Please click "Back", and then click "Contact Us" for Applications support.

**CASE STYLE : CJ725**

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency		1		600	MHz
Isolation	1 - 10 MHz		35		dB
	10 - 300 MHz		28		dB
	300 - 600 MHz		27		dB
Insertion Loss Above 6.0 dB	1 - 10 MHz		0.52		dB
	10 - 300 MHz		0.70		dB
	300 - 600 MHz		1.20		dB
Phase Unbalance	1 - 10 MHz		0.05		deg.
	10 - 300 MHz		0.55		deg.
	300 - 600 MHz		1.20		deg.
Amplitude Unbalance	1 - 10 MHz		0.01		dB
	10 - 300 MHz		0.06		dB
	300 - 600 MHz		0.55		dB
VSWR	SUM Port		1.17		(:1)
	OUT Ports		1.15		(:1)

MAXIMUM RATINGS	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

PIN CONNECTIONS	
SUM PORT	2
PORT 1	8
PORT 2	7
PORT 3	6
PORT 4	5
GND EXT	1,3,4

### Functional Diagram



# 4 Way-0° Power Splitter/Combiner

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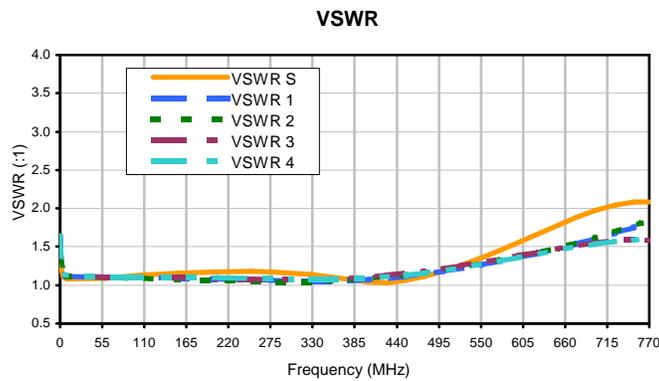
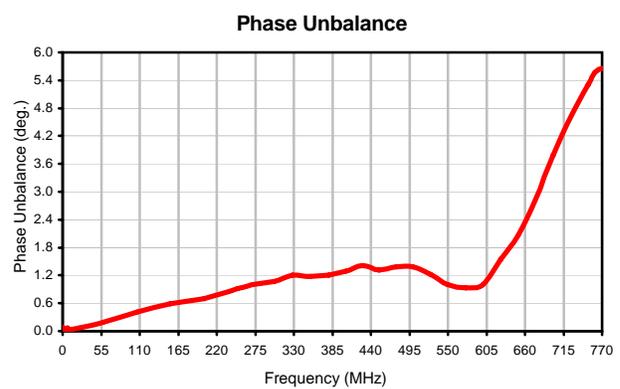
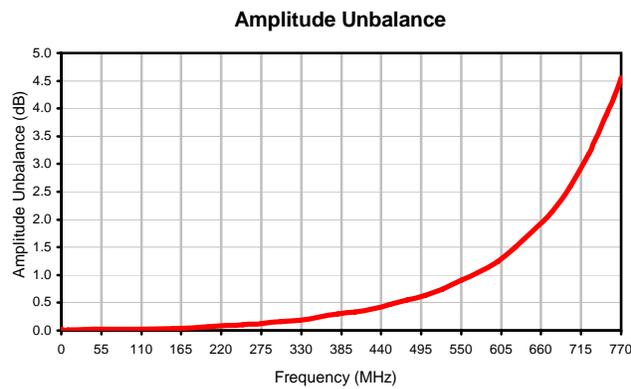
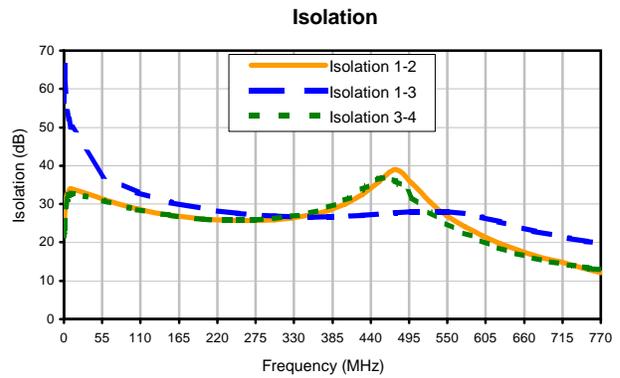
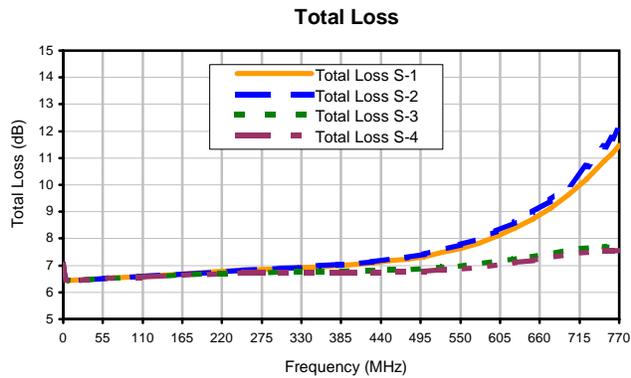
## Typical Performance Data

FREQ. (MHz)	TOTAL LOSS <sup>1</sup>				AMP. UNBAL. (dB)	ISOLATION			PHASE UNBAL. (deg.)	FREQ. (MHz)	VSWR				
	(dB)					(dB)					(:1)				
	S-1	S-2	S-3	S-4		1-2	1-3	3-4		S	1	2	3	4	
0.4	7.02	7.03	7.02	7.01	0.01	23.46	56.72	21.79	0.08	0.4	1.40	1.59	1.59	1.64	1.64
0.7	6.85	6.86	6.85	6.84	0.01	25.40	68.06	23.86	0.04	0.7	1.29	1.42	1.42	1.46	1.46
1.0	6.75	6.75	6.75	6.74	0.01	26.57	63.69	25.14	0.07	1.0	1.24	1.35	1.35	1.38	1.38
4.0	6.47	6.47	6.47	6.47	0.00	31.79	55.94	30.55	0.03	4.0	1.11	1.16	1.16	1.17	1.17
7.0	6.44	6.44	6.44	6.44	0.00	33.46	52.10	32.22	0.07	7.0	1.09	1.13	1.13	1.14	1.14
10.0	6.44	6.43	6.43	6.43	0.01	33.99	49.94	32.84	0.03	10.0	1.08	1.12	1.11	1.12	1.12
58.0	6.52	6.51	6.51	6.51	0.02	31.12	37.33	30.93	0.19	58.0	1.09	1.10	1.10	1.10	1.11
106.0	6.59	6.59	6.57	6.57	0.02	28.64	32.95	28.59	0.41	106.0	1.13	1.10	1.09	1.10	1.10
154.0	6.67	6.67	6.63	6.63	0.04	26.98	30.35	27.00	0.59	154.0	1.16	1.09	1.08	1.09	1.10
202.0	6.75	6.73	6.68	6.67	0.07	26.00	28.67	26.11	0.70	202.0	1.17	1.08	1.06	1.09	1.10
250.0	6.82	6.82	6.73	6.72	0.10	25.64	27.57	25.83	0.92	250.0	1.18	1.07	1.05	1.08	1.09
276.0	6.84	6.85	6.74	6.72	0.13	25.68	27.14	25.92	1.02	276.0	1.17	1.06	1.04	1.08	1.09
302.0	6.88	6.89	6.75	6.73	0.16	25.94	26.86	26.25	1.07	302.0	1.16	1.06	1.04	1.07	1.08
328.0	6.92	6.93	6.77	6.74	0.18	26.44	26.70	26.88	1.20	328.0	1.14	1.05	1.04	1.07	1.08
354.0	6.95	6.98	6.78	6.74	0.24	27.21	26.60	27.75	1.18	354.0	1.11	1.05	1.05	1.08	1.08
380.0	6.98	7.03	6.78	6.73	0.30	28.40	26.66	29.17	1.20	380.0	1.07	1.06	1.07	1.09	1.08
404.0	7.04	7.07	6.79	6.74	0.33	30.05	26.82	31.06	1.29	404.0	1.04	1.07	1.09	1.11	1.09
428.0	7.09	7.14	6.81	6.74	0.39	32.45	27.05	33.77	1.41	428.0	1.03	1.09	1.11	1.13	1.11
452.0	7.17	7.23	6.83	6.76	0.47	35.90	27.35	36.74	1.31	452.0	1.06	1.12	1.14	1.15	1.13
476.0	7.23	7.31	6.84	6.76	0.55	38.93	27.69	36.04	1.38	476.0	1.12	1.15	1.17	1.18	1.16
500.0	7.33	7.41	6.87	6.78	0.63	35.40	28.01	31.80	1.38	500.0	1.18	1.18	1.20	1.22	1.19
525.0	7.48	7.59	6.94	6.84	0.75	30.60	28.01	27.91	1.22	525.0	1.26	1.22	1.24	1.25	1.23
550.0	7.63	7.77	6.97	6.86	0.91	26.87	28.06	24.81	1.00	550.0	1.35	1.26	1.28	1.29	1.27
575.0	7.82	7.98	7.05	6.93	1.05	24.03	27.50	22.36	0.93	575.0	1.45	1.31	1.33	1.34	1.31
600.0	8.08	8.26	7.15	7.02	1.24	21.74	26.60	20.34	1.00	600.0	1.56	1.36	1.38	1.38	1.36
625.0	8.39	8.60	7.25	7.11	1.50	19.82	25.43	18.63	1.55	625.0	1.67	1.42	1.43	1.43	1.41
650.0	8.71	8.98	7.33	7.17	1.81	18.14	24.16	17.14	2.06	650.0	1.78	1.48	1.49	1.47	1.46
675.0	9.12	9.44	7.45	7.30	2.15	16.67	22.95	15.92	2.85	675.0	1.88	1.54	1.55	1.52	1.50
700.0	9.64	10.00	7.58	7.41	2.59	15.38	21.90	14.90	3.78	700.0	1.97	1.61	1.62	1.55	1.54
725.0	10.22	10.68	7.66	7.49	3.18	14.19	21.00	14.04	4.61	725.0	2.04	1.68	1.69	1.58	1.57
750.0	10.89	11.42	7.69	7.54	3.89	13.06	20.26	13.36	5.30	750.0	2.08	1.76	1.78	1.59	1.59
760.0	11.15	11.74	7.68	7.53	4.21	12.60	20.00	13.13	5.58	760.0	2.08	1.79	1.81	1.59	1.59
770.0	11.47	12.10	7.71	7.55	4.55	12.16	19.79	12.97	5.66	770.0	2.08	1.83	1.85	1.58	1.59

<sup>1</sup>Total Loss = Insertion Loss + 6dB Splitter Loss



## Typical Performance Curves

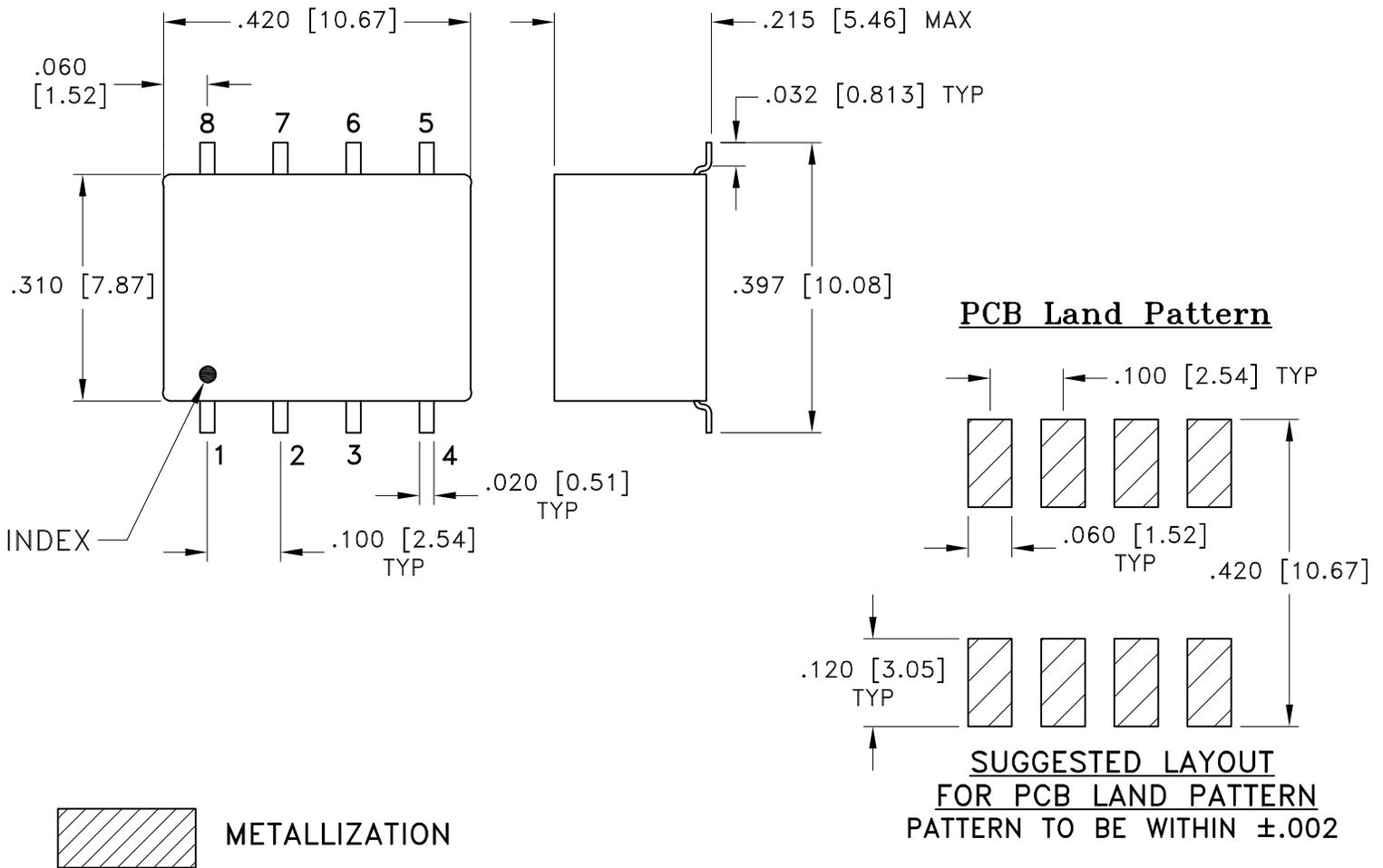


# Case Style

# 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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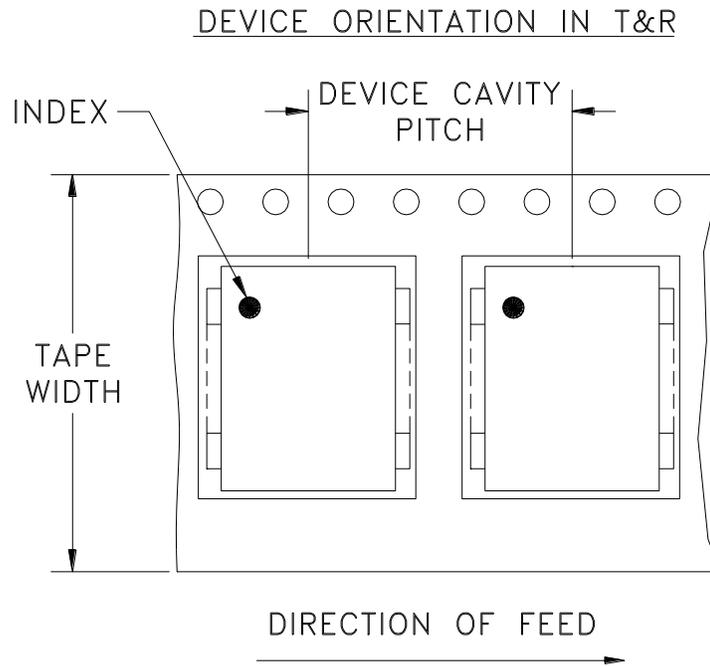
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# Tape & Reel Packaging TR-F10



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

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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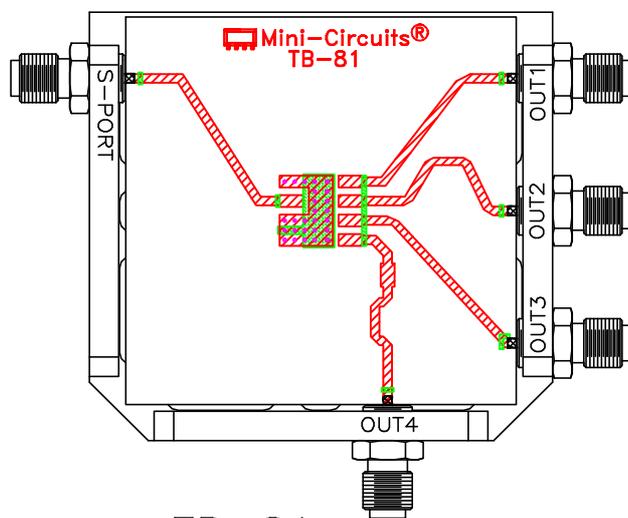
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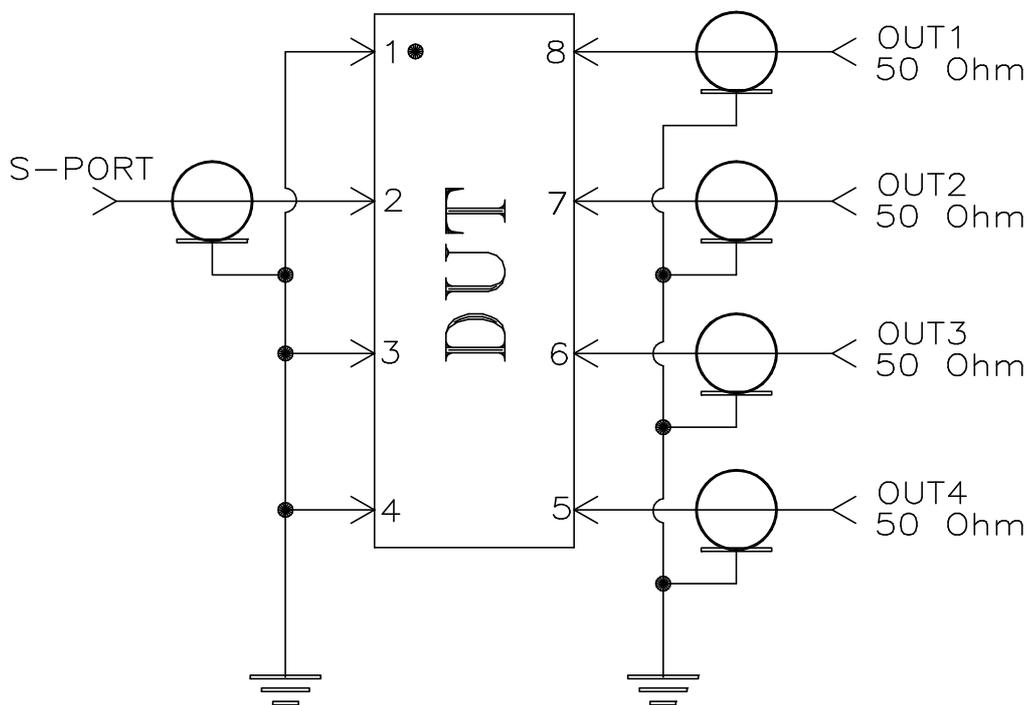
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# Evaluation Board and Circuit



TB-81



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