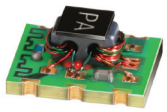
Surface Mount

Power Splitter/Combiner CDP-2-13-75+

2 Way-0° 75Ω 5 to 1000 MHz

The Big Deal

- High performance at a very low cost
- Very small form size (0.250” x 0.310” x 0.133” high)



CASE STYLE: TT1491-1

Product Overview

The CDP-2-13-75+ is a 2-way power splitter featuring a flat, laser-marked, “Top-Hat” cover for faster pick and place manufacturing throughput. Installed as a single component with a small footprint (0.255” x 0.310”) and low height (0.133”), it utilizes square-core, all-welded construction to handle up to 1W RF power. The open-style case is aqueous washable and RoHS compliant.

Feature	Advantages
Wide bandwidth at a low cost	5-1000 MHz bandwidth accomodates forward & return CATV transmission bands
Low insertion loss, Excellent return loss	Excellent VSWR (1.01-1.23 in/1.10-1.25 out) for low-loss performance in both directions
Very good isolation	20-25 dB for consistent performance under changing loads
Very good amplitude and phase unbalance	0.2 dB typ. amplitude unbalance and 3.0° typ. phase unbalance help reduce unwanted noise and harmonics

Surface Mount

Power Splitter/Combiner

top hat®

CDP-2-13-75+

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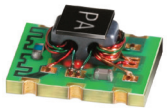


CASE STYLE: TT1491-1

+RoHS Compliant

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

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.
Internal Dissipation	0.125W max.

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

Pin Connections

SUM PORT	1
PORT 1	3
PORT 2	4
GROUND	6
NOT USED	2,5

Features

- wideband, 5 to 1000 MHz
- low insertion loss, 0.6 dB typ.
- excellent matching return loss, 20 dB typ.
- aqueous washable

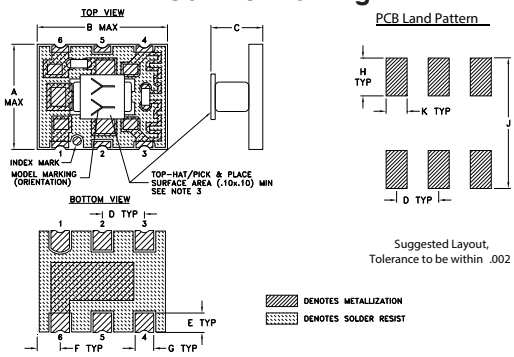
Applications

- cellular
- VHF/UHF
- communication systems
- CATV

Available Tape and Reel at no extra cost

Reel Size	Devices/Reel
7"	20, 50, 100, 200
13"	500, 1000

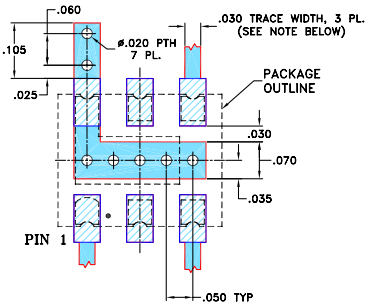
Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J	K	wt.
.255	.310	.133	.100	.050	.055	.044	.090	.310	.050	grams
6.48	7.87	3.38	2.54	1.27	1.40	1.12	2.29	7.87	1.27	0.35

Demo Board MCL P/N: TB-565+
Suggested PCB Layout (PL-327)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002". 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.

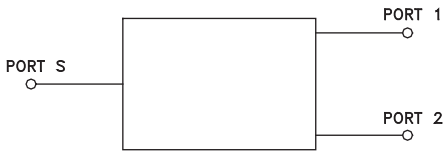
DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		5		1000	MHz
Insertion Loss Above 3.0 dB	5-50	—	0.2	0.5	dB
	50-500	—	0.6	0.7	
	500-1000	—	0.8	1.1	
Isolation	5-50	20	24	—	dB
	50-500	20	25	—	
	500-1000	18	20	—	
Phase Unbalance	5-50	—	—	2.0	Degree
	50-500	—	—	3.0	
	500-1000	—	—	5.0	
Amplitude Unbalance	5-50	—	—	0.3	dB
	50-500	—	—	0.3	
	500-1000	—	—	0.3	
VSWR (Port S)	5-50	—	1.05	1.2	:1
	50-500	—	1.10	1.3	
	500-1000	—	1.25	1.4	
VSWR (Port 1-2)	5-50	—	1.20	1.5	:1
	50-500	—	1.15	1.3	
	500-1000	—	1.10	1.3	

Electrical Schematic



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

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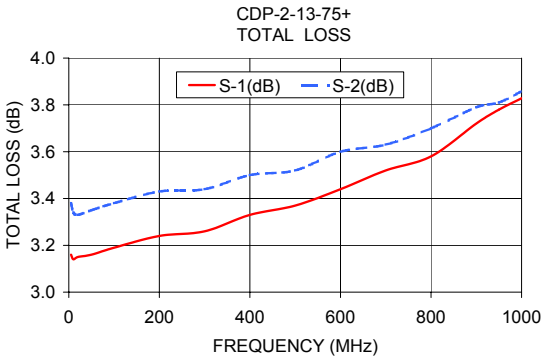
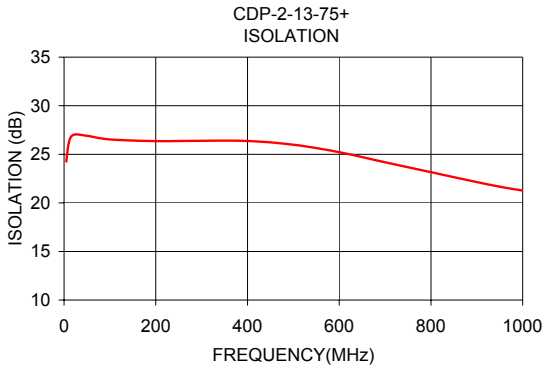
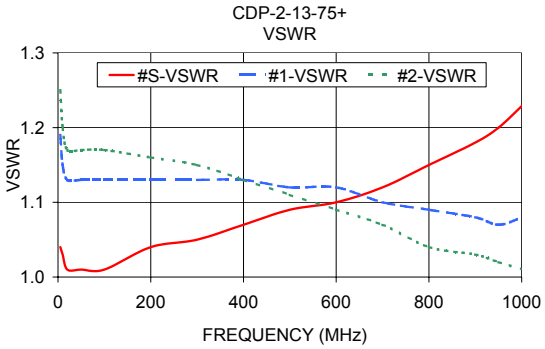
Typical Performance Data

Frequency (MHz)	Total Loss[1] (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
5.00	3.16	3.38	0.22	24.25	0.59	1.04	1.19	1.25
10.00	3.14	3.34	0.20	26.11	0.36	1.03	1.15	1.20
20.00	3.15	3.33	0.18	27.00	0.15	1.01	1.13	1.17
50.00	3.16	3.35	0.18	26.91	0.05	1.01	1.13	1.17
100.00	3.19	3.38	0.19	26.53	0.20	1.01	1.13	1.17
200.00	3.24	3.43	0.19	26.36	0.40	1.04	1.13	1.16
300.00	3.26	3.44	0.18	26.39	0.51	1.05	1.13	1.15
400.00	3.33	3.50	0.18	26.37	0.77	1.07	1.13	1.13
500.00	3.37	3.52	0.15	25.99	0.75	1.09	1.12	1.11
600.00	3.44	3.60	0.16	25.22	0.88	1.10	1.12	1.09
700.00	3.52	3.63	0.11	24.18	0.96	1.12	1.10	1.07
800.00	3.58	3.70	0.12	23.16	0.71	1.15	1.09	1.04
900.00	3.72	3.79	0.07	22.14	0.84	1.18	1.08	1.03
950.00	3.78	3.81	0.03	21.67	0.51	1.20	1.07	1.02
1002.00	3.83	3.86	0.03	21.25	0.17	1.23	1.08	1.01

1. Total Loss = Insertion Loss + 3dB splitter loss.







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