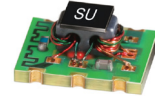


Surface Mount  **Power Splitter/Combiner** **CDP-2-122-75+**

2 Way-0° 75Ω 5 to 1200 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: TT1491-2

### Product Overview

The CDP-2-122-75+ 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 (0.250" 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	5-1200 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

**Notes**

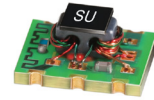
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.  
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 C. The parts covered by this specification document are 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](http://www.minicircuits.com/MCLStore/terms.jsp)



Surface Mount **top hat**  
**Power Splitter/Combiner**

**CDP-2-122-75+**

2 Way-0° 75Ω 5 to 1200 MHz



CASE STYLE: TT1491-2

**Maximum Ratings**

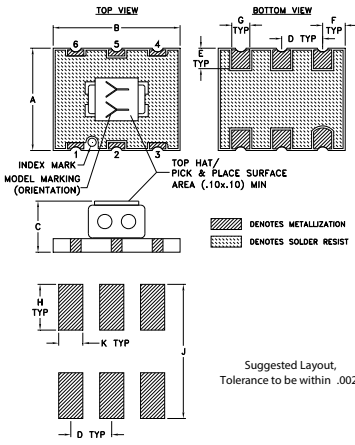
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.
Internal Dissipation	0.125W max.

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

**Pin Connections**

SUM PORT	6
PORT 1	3
PORT 2	4
GROUND	1
NOT USED	2,5
EXT. RESISTOR 165Ω	3,4

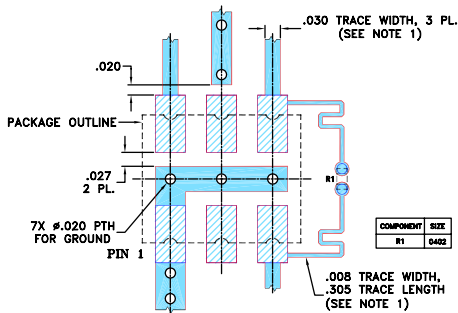
**Outline Drawing**



**Outline Dimensions (inch mm)**

A	B	C	D	E	F	G	H	J	K	wt.
.250	.310	.133	.100	.050	.055	.044	.112	.328	.059	grams
6.35	7.87	3.38	2.54	1.27	1.40	1.12	2.84	8.33	1.50	0.35

**Demo Board MCL P/N: TB-698+  
Suggested PCB Layout (PL-385)**



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002"; COPPER: 1/2 OZ., EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.  
 2. CHIP COMPONENT FOOT PRINT SHOWN FOR REFERENCE. FOR COMPONENT VALUES REFER TO TB-698+.  
 3. 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.

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**Features**

- wideband, 5 to 1200 MHz
- low insertion loss, 0.8 dB typ.
- excellent matching return loss, 20 dB typ.
- aqueous washable

**Applications**

- DOCSIS® 3.1 Systems
- cellular
- VHF/UHF
- communication systems
- CATV

**+RoHS Compliant**

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

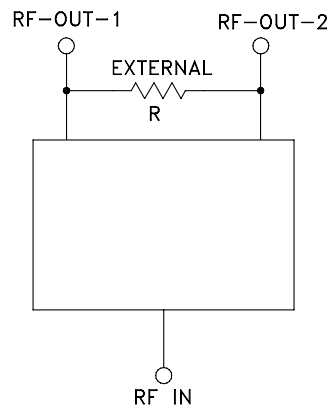
Available Tape and Reel at no extra cost

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

**Electrical Specifications at 25°C**

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		5		1200	MHz
Insertion Loss Above 3.0 dB	5-50	—	0.4	0.8	
	50-600	—	0.6	1.0	dB
	600-1200	—	1.0	1.8	
Isolation	5-50	20	24	—	
	50-600	20	25	—	dB
	600-1000	17	20	—	
	1000-1200	15	18	—	
Phase Unbalance	5-50	—	1.0	3.0	
	50-600	—	1.0	3.0	Degree
	600-1200	—	2.0	5.0	
Amplitude Unbalance	5-50	—	0.2	0.5	
	50-600	—	0.2	0.4	dB
	600-1200	—	0.2	0.6	
VSWR (Port S)	5-50	—	1.05	1.2	
	50-600	—	1.10	1.2	:1
	600-1200	—	1.25	1.3	
VSWR (Port 1-2)	5-50	—	1.20	1.5	
	50-600	—	1.15	1.3	:1
	600-1200	—	1.10	1.45	

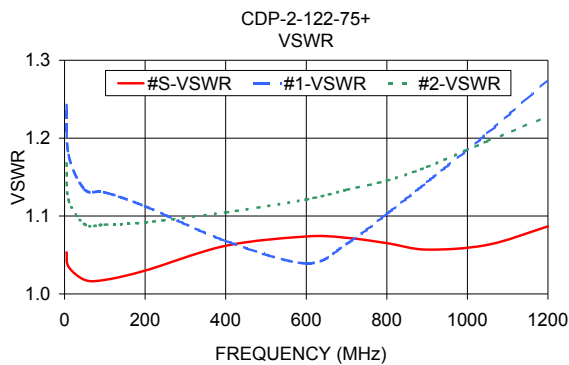
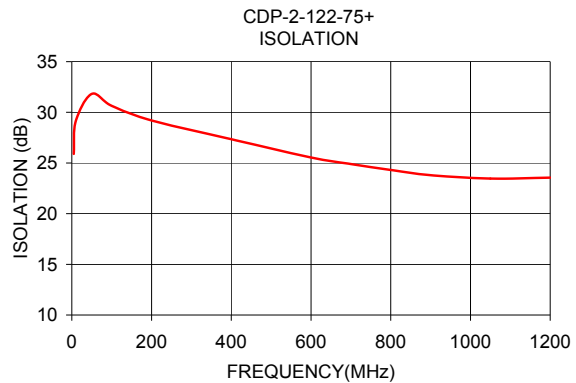
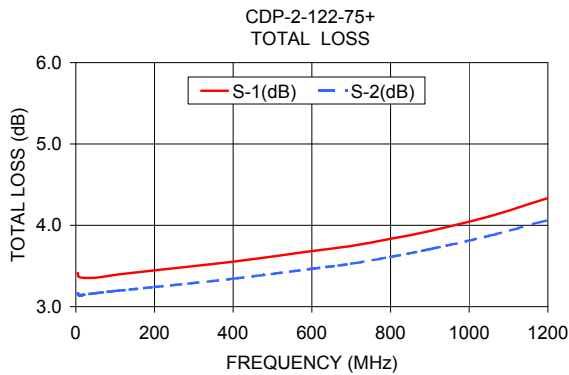
**Electrical Schematic**



## Typical Performance Data

Frequency (MHz)	Total Loss <sup>1</sup> (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
5.00	3.41	3.16	0.25	25.89	0.86	1.05	1.24	1.17
10.00	3.36	3.14	0.22	29.14	0.49	1.03	1.18	1.12
50.00	3.36	3.17	0.19	31.82	0.01	1.02	1.13	1.09
100.00	3.39	3.19	0.20	30.64	0.14	1.02	1.13	1.09
200.00	3.45	3.24	0.21	29.20	0.27	1.03	1.11	1.09
400.00	3.55	3.34	0.21	27.35	0.40	1.06	1.07	1.10
600.00	3.68	3.47	0.22	25.55	0.41	1.07	1.04	1.12
700.00	3.75	3.53	0.22	24.90	0.35	1.07	1.06	1.13
800.00	3.83	3.61	0.22	24.31	0.26	1.07	1.10	1.15
900.00	3.93	3.71	0.22	23.80	0.08	1.06	1.14	1.16
1050.00	4.11	3.87	0.24	23.46	0.30	1.06	1.21	1.20
1200.00	4.34	4.06	0.27	23.56	0.84	1.09	1.28	1.23

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



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