

Power Splitter/Combiner

2 Way-0° 75Ω 5 to 1000 MHz

TCP-2-10-75+



Generic photo used for illustration purposes only

CASE STYLE: DB714

+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, 500
13"	1000, 2000

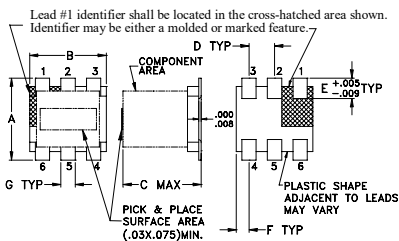
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	0.5W max.
Permanent damage may occur if any of these limits are exceeded.	

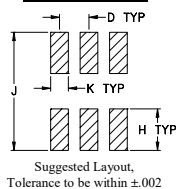
Pin Connections

SUM PORT	6
PORT 1	3
PORT 2	4
GROUND	1
CONNECT	2,5
EXT. RESISTOR 150Ω	3,4
EXT. CAPACITOR 1.5pF	2 OR 5 TO GND

Outline Drawing



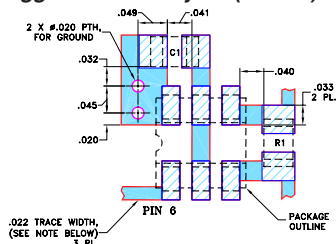
PCB Land Pattern



Outline Dimensions (inch/mm)

A	B	C	D	E	F
.160	.150	.160	.050	.040	.025
4.06	3.81	4.06	1.27	1.02	0.64
G	H	J	K		wt
.028	.065	.190	.030		grams
0.71	1.65	4.83	0.76		0.15

Demo Board MCL P/N: TB-124 Suggested PCB Layout (PL-002)



RESISTOR R1: 150 Ohm, 0805 SIZE
CAPACITOR C1: 1.5 pF, 0805 SIZE

NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002"; COPPER: 1 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

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

Features

- low insertion, 0.3 dB typ.
- excellent amplitude unbalance, 0.2 dB typ.
- very good phase unbalance, 1.0 deg. typ.
- external resistor & capacitor required
- aqueous washable
- leads for excellent solderability
- low cost

Applications

- CATV
- cellular

Electrical Specifications

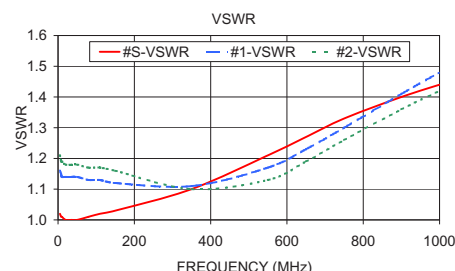
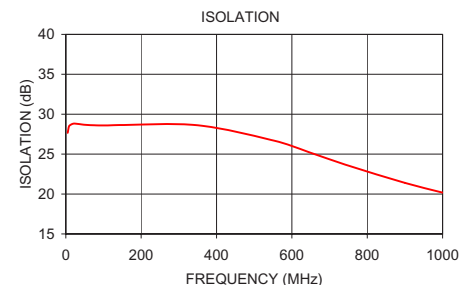
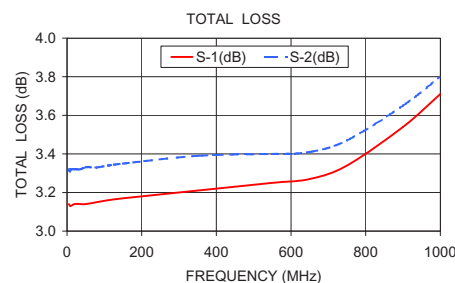
FREQ. RANGE (MHz)	ISOLATION (dB)						INSERTION LOSS (dB) ABOVE 3.0 dB						PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)		
	L		M		U		L		M		U		L		M		U	
	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Max.	Max.	Max.	Max.	Max.	Max.
f _L -f _U																		
5-1000	24	14	29	19	30	16	0.3	1.4	0.3	0.9	0.6	1.3	6.0	4.0	3.0	1.2	0.6	0.5

L = low range [f_L to 10 f_L] M = mid range [10 f_L to f_U/2] U = upper range [f_U/2 to f_U]

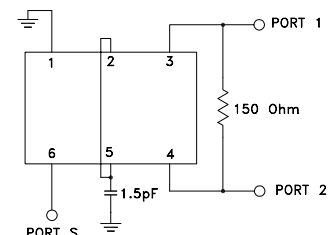
Typical Performance Data

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	3.14	3.32	0.19	27.67	0.39	1.02	1.16	1.21
8.00	3.13	3.31	0.18	28.39	0.22	1.01	1.15	1.19
10.00	3.13	3.32	0.18	28.59	0.14	1.01	1.14	1.19
20.00	3.14	3.32	0.18	28.82	0.06	1.00	1.14	1.18
35.00	3.14	3.32	0.19	28.77	0.04	1.00	1.14	1.18
50.00	3.14	3.33	0.18	28.68	0.01	1.00	1.14	1.18
80.00	3.15	3.33	0.18	28.61	0.08	1.01	1.13	1.17
110.00	3.16	3.34	0.18	28.60	0.16	1.02	1.13	1.17
150.00	3.17	3.35	0.18	28.65	0.12	1.03	1.12	1.16
350.00	3.21	3.39	0.18	28.62	0.20	1.10	1.11	1.10
550.00	3.25	3.40	0.15	26.72	0.34	1.21	1.17	1.13
650.00	3.27	3.41	0.14	25.16	0.31	1.27	1.23	1.19
750.00	3.34	3.47	0.13	23.56	0.39	1.33	1.30	1.26
900.00	3.54	3.65	0.11	21.40	0.55	1.40	1.41	1.36
1000.00	3.71	3.80	0.09	20.18	0.68	1.44	1.48	1.42

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



electrical schematic



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