

Surface Mount Power Splitter/Combiner

SBTC-2-10-75LX+

2 Way-0° 75Ω

10 to 1000 MHz



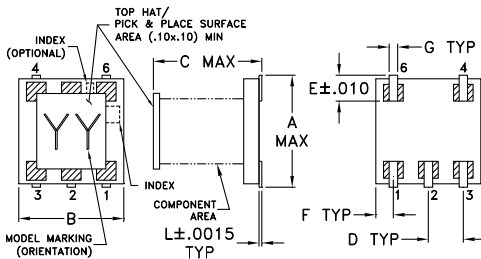
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	0.5W max.
Internal Dissipation	0.125W max.

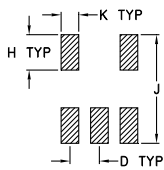
Pin Connections

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

Outline Drawing



PCB Land Pattern

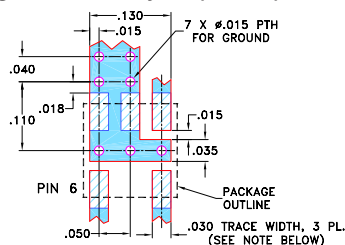


Suggested Layout, Tolerance to be within .002



Outline Dimensions (inch/mm)

A	B	C	D	E	F
.166	.150	.155	.050	.037	.025
4.22	3.81	3.94	1.27	0.94	0.64
G	H	J	K	K	wt
.012	.060	.184	.030	.004	grams
0.30	1.52	4.67	0.76	0.10	0.10

Demo Board MCL P/N: TB-277 Suggested PCB Layout (PL-153)



NOTE: 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. 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-Circuit's 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-Circuit's website at www.minicircuits.com/MCLStore/terms.jsp

Features

- low insertion loss, 0.8 dB typ.
- excellent amplitude unbalance, 0.15 dB typ.
- very good phase unbalance, 1.0 deg. typ.
- small size, 0.166"x0.150"x0.155"
- temperature stable LTCC base
- small size
- low cost
- aqueous washable
- protected by US patent 6,963,255

Applications

- UHF/VHF receivers/transmitters
- cellular

Electrical Specifications

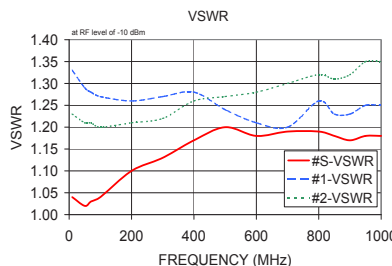
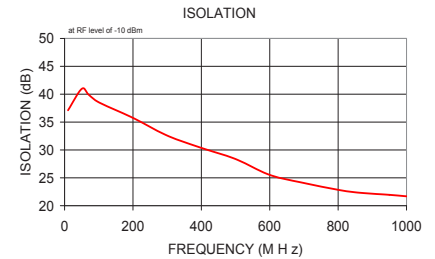
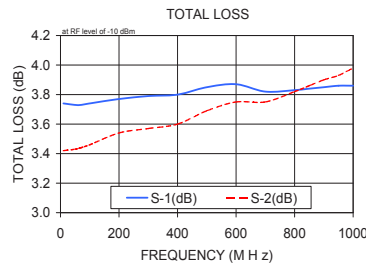
FREQ. RANGE (MHz)	ISOLATION (dB)			INSERTION LOSS (dB) ABOVE 3.0 dB			PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)								
	L	M	U	L	M	U	L	M	U	L	M	U						
f_L - f_U	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Max.	Typ. Max.	Typ. Max.	Max.	Max.	Max.	Max.	Max.	Max.						
10-1000	35	20	28	20	21	17	0.7	1.2	0.6	1.2	0.7	1.4	3	3	5	0.7	0.6	0.6

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) S-1	Total Loss ¹ (dB) S-2	Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
10.00	3.74	3.42	0.31	37.11	0.66	1.04	1.33	1.23
50.00	3.73	3.43	0.30	40.95	0.14	1.02	1.29	1.21
70.00	3.73	3.44	0.29	39.94	0.14	1.03	1.28	1.21
100.00	3.74	3.46	0.29	38.55	0.13	1.04	1.27	1.20
200.00	3.77	3.54	0.22	35.75	0.09	1.10	1.26	1.21
300.00	3.79	3.57	0.22	32.58	0.54	1.13	1.27	1.22
400.00	3.80	3.60	0.20	30.37	0.60	1.17	1.28	1.26
500.00	3.85	3.69	0.16	28.37	0.64	1.20	1.24	1.27
600.00	3.87	3.75	0.12	25.52	0.74	1.18	1.21	1.28
700.00	3.82	3.75	0.07	24.07	0.75	1.19	1.20	1.30
800.00	3.83	3.82	0.03	22.85	0.77	1.19	1.26	1.32
850.00	3.84	3.86	0.03	22.40	0.73	1.18	1.23	1.31
900.00	3.85	3.90	0.06	22.15	0.69	1.17	1.23	1.32
950.00	3.86	3.93	0.08	21.95	0.64	1.18	1.25	1.35
1000.00	3.86	3.98	0.11	21.68	0.58	1.18	1.25	1.35

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



electrical schematic



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