

Power Splitter/Combiner

2 Way-0° 50/75Ω

50 to 1000 MHz

SBTC-2-10-5075+



Generic photo used for illustration purposes only

CASE STYLE: AT790

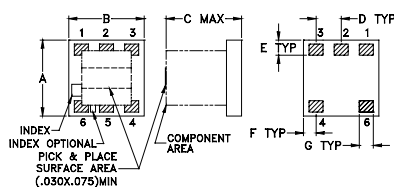
Maximum Ratings

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.

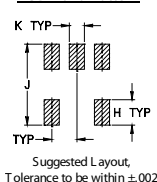
Pin Connections

SUM PORT	6 (50 ohms)
PORT 1	3 (75 ohms)
PORT 2	4 (75 ohms)
GROUND	1,2
NOT USED	5

Outline Drawing



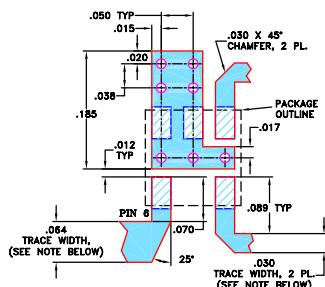
PCB Land Pattern



Outline Dimensions (inch/mm)

A	B	C	D	E	F
.150	.150	.150	.050	.030	.025
3.81	3.81	3.81	1.27	0.76	0.64
G	H	J	K		wt
.028	.050	.160	.030		grams
0.71	1.27	4.06	0.76		0.10

Demo Board MCL P/N: TB-146 Suggested PCB Layout (PL-093)



NOTE: TRACE WIDTH IS SHOWN FOR ROGERS RO4350 WITH DIELECTRIC THICKNESS 0.030" ± 0.002". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

- DENOTES PCB COPPER LAYOUT
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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

- 50 ohm input, 75 ohm output
- excellent isolation, 20 dB typ.
- very good phase unbalance, 1.0 deg. typ.
- small size, 0.15"x0.15"x0.15"
- temperature stable LTCC base
- small size
- low cost
- aqueous washable
- protected by US patent 6,963,255

Applications

- cable
- 50-75 ohm amplifier splitter

Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 3.0 dB		PHASE UNBALANCE (Degrees)		AMPLITUDE UNBALANCE (dB)	
	L	U	L	U	L	U	L	U
	Typ. Min.	Typ. Min.	Typ. Max.	Typ. Max.	Max.	Max.	Max.	Max.
f _L -f _U								
50-1000	25 16	20 15	0.7 1.2	1.0 1.6	3	5	0.6	0.5

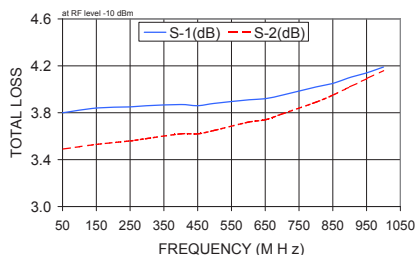
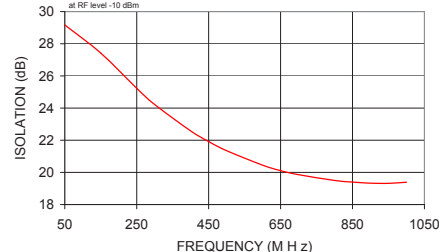
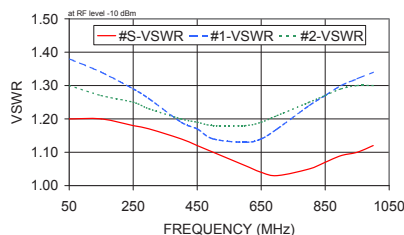
L = 50 to 500 MHz

U = 500 to 1000 MHz

Typical Performance Data

Frequency (MHz)	Total Loss ¹		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	(dB) S-1	(dB) S-2						
50.00	3.80	3.49	0.31	29.17	0.08	1.20	1.38	1.30
150.00	3.84	3.53	0.30	27.42	0.28	1.20	1.34	1.27
250.00	3.85	3.56	0.29	25.23	0.57	1.18	1.29	1.25
300.00	3.86	3.58	0.28	24.22	0.67	1.17	1.26	1.23
400.00	3.87	3.62	0.25	22.58	0.95	1.14	1.19	1.20
450.00	3.86	3.62	0.24	21.92	1.08	1.12	1.17	1.19
500.00	3.88	3.65	0.23	21.35	1.21	1.10	1.14	1.18
600.00	3.91	3.72	0.19	20.45	1.47	1.06	1.13	1.18
650.00	3.92	3.74	0.18	20.11	1.53	1.04	1.14	1.19
700.00	3.95	3.79	0.16	19.86	1.66	1.03	1.17	1.21
800.00	4.02	3.89	0.13	19.50	1.80	1.05	1.24	1.25
850.00	4.05	3.95	0.10	19.40	1.84	1.07	1.27	1.27
900.00	4.10	4.02	0.09	19.33	1.93	1.09	1.30	1.29
950.00	4.14	4.09	0.05	19.32	2.00	1.10	1.32	1.30
1000.00	4.19	4.16	0.03	19.39	1.99	1.12	1.34	1.30

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

SBTC-2-10-5075
TOTAL LOSSSBTC-2-10-5075
ISOLATIONSBTC-2-10-5075
VSWR

electrical schematic

