

# Power Splitter/Combiner

SBTC-2-107550X+

2 Way-0° 50/75Ω

5 to 1000 MHz



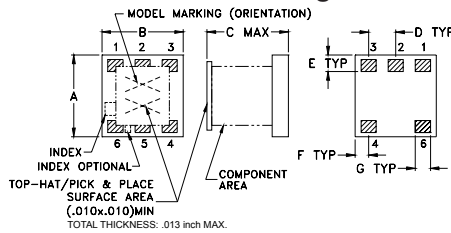
## Maximum Ratings

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.

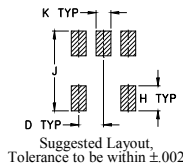
## Pin Connections

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

## Outline Drawing



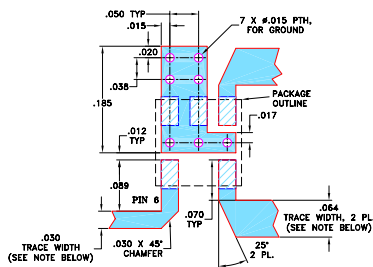
## PCB Land Pattern



## 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-147 Suggested PCB Layout (PL-092)



## Features

- 75 ohm input, 50 ohm output
- very good isolation, 24 dB typ.
- excellent amplitude unbalance, 0.15 dB typ.
- very good phase unbalance, 1 deg. typ.
- temperature stable base
- small size, 0.15"x0.15"x0.15"
- low cost
- aqueous washable
- protected by US patent 6,963,255

## Applications

- impedance matching
- balanced amplifiers

## Electrical Specifications

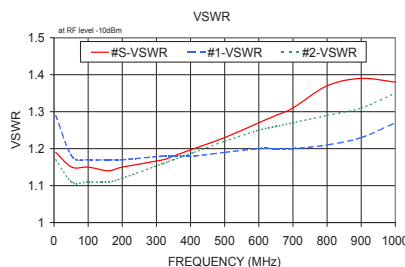
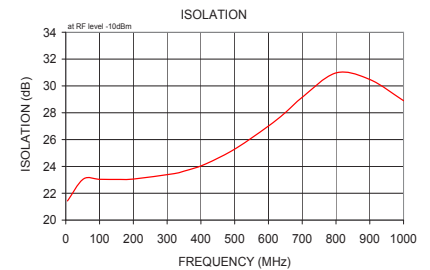
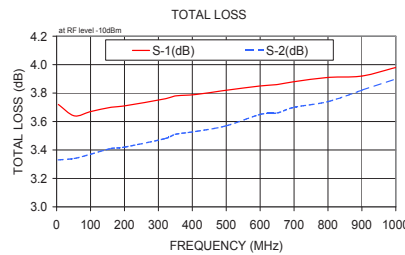
FREQ. RANGE (MHz)	ISOLATION (dB)			INSERTION LOSS (dB) ABOVE 3.0 dB			PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)								
	L	M	U	L	M	U	L	M	U	L	M	U						
$f_L$ - $f_U$	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Max.	Typ. Max.	Typ. Max.	Max.	Max.	Max.	Max.	Max.	Max.						
5-1000	23	13	24	20	26	20	0.5	1.3	0.6	1.1	0.7	1.5	6	3	5	0.8	0.5	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  $f_U$ ]

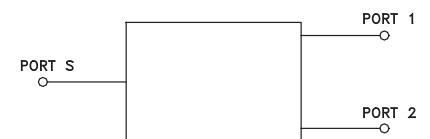
## Typical Performance Data

Frequency (MHz)	Total Loss <sup>1</sup> (dB) S-1	Total Loss <sup>1</sup> (dB) S-2	Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
5.00	3.72	3.33	0.39	21.43	1.97	1.19	1.29	1.17
52.00	3.64	3.34	0.29	23.06	0.18	1.15	1.18	1.11
100.00	3.67	3.37	0.30	23.04	0.08	1.15	1.17	1.11
160.00	3.70	3.41	0.29	23.03	0.35	1.14	1.17	1.11
200.00	3.71	3.42	0.28	23.06	0.43	1.15	1.17	1.12
320.00	3.76	3.48	0.28	23.46	0.73	1.17	1.18	1.16
350.00	3.78	3.51	0.27	23.65	0.72	1.18	1.18	1.17
410.00	3.79	3.53	0.26	24.14	0.91	1.20	1.18	1.19
500.00	3.82	3.57	0.25	25.29	1.00	1.23	1.19	1.22
600.00	3.85	3.65	0.20	27.01	1.12	1.27	1.20	1.25
650.00	3.86	3.66	0.20	28.01	1.15	1.29	1.20	1.26
700.00	3.88	3.70	0.18	29.15	1.15	1.31	1.20	1.27
800.00	3.91	3.74	0.17	30.97	1.23	1.37	1.21	1.29
900.00	3.92	3.82	0.11	30.48	1.25	1.39	1.23	1.31
1000.00	3.98	3.90	0.07	28.90	1.23	1.38	1.27	1.35

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



## electrical schematic



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