

Surface Mount, Micro-Miniature Power Splitter/Combiner

SBTCJ-1WX+

2 Way-180° 50Ω 1 to 750 MHz



Maximum Ratings

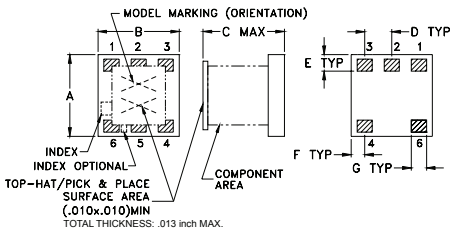
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	0.5W max.
Internal Dissipation	0.125W max.

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

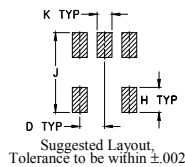
Pin Connections

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

Outline Drawing



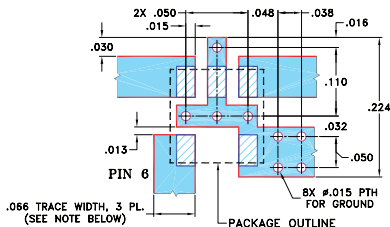
PCB Land Pattern



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-227 Suggested PCB Layout (PL-117)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .050" ± .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

Features

- low insertion loss, 0.7 dB typ.
- good isolation, 23 dB typ.
- good VSWR, 1.25 typ. all ports
- small size, 0.15X0.15"X0.15"
- temperature stable, LTCC base
- low cost
- protected by US Patent, 6,806,790

Applications

- cellular
- UHF/VHF receivers/transmitters
- protected by US Patent, 6,806,790

Electrical Specifications

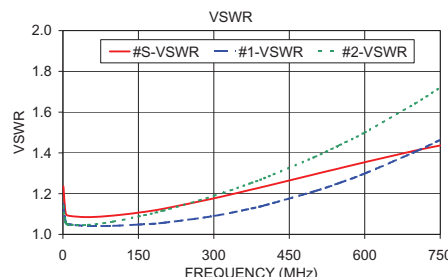
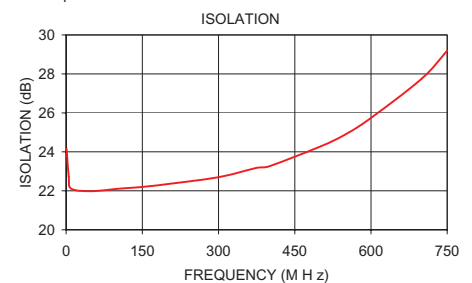
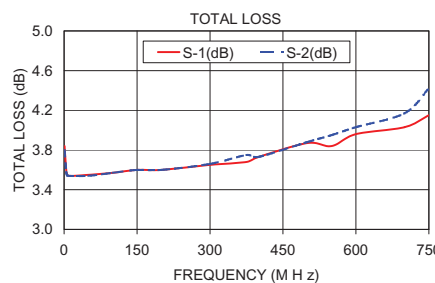
FREQ. RANGE (MHz)	ISOLATION* (dB)						INSERTION LOSS (dB) ABOVE 3.0 dB						PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)		
	L		M		U		L		M		U		L	M	U	L	M	U
f _L -f _U	Typ.	Min	Typ.	Min	Typ.	Min	Typ.	Max.	Typ.	Max.	Typ.	Max.	Max.	Max.	Max.	Max.	Max.	Max.
1-750	23	20	22	20	24	20	0.6	1.7	0.6	1.2	0.9	1.8	3	7	10	0.2	0.4	0.9

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]
*Isolation, 17 dB min. at 1 - 3 MHz.

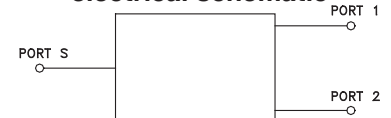
Typical Performance Data

Frequency (MHz)	Total Loss ¹ (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
1.00	3.84	3.80	0.04	24.15	179.96	1.24	1.15	1.14
5.00	3.57	3.56	0.01	22.73	179.96	1.11	1.07	1.06
10.00	3.54	3.54	0.00	22.11	179.95	1.09	1.05	1.05
50.00	3.55	3.54	0.00	21.98	179.53	1.08	1.04	1.05
100.00	3.57	3.57	0.00	22.10	179.01	1.09	1.04	1.06
150.00	3.60	3.60	0.01	22.20	178.54	1.11	1.05	1.09
200.00	3.60	3.60	0.00	22.35	178.04	1.13	1.06	1.12
300.00	3.65	3.66	0.01	22.70	177.08	1.18	1.09	1.19
375.00	3.68	3.75	0.07	23.18	176.60	1.22	1.13	1.25
400.00	3.73	3.73	0.01	23.26	176.18	1.23	1.14	1.28
500.00	3.87	3.88	0.01	24.27	175.75	1.29	1.21	1.38
550.00	3.84	3.95	0.11	24.90	175.68	1.32	1.25	1.44
600.00	3.96	4.03	0.07	25.74	175.59	1.35	1.30	1.50
700.00	4.03	4.17	0.14	27.76	175.20	1.41	1.41	1.64
750.00	4.15	4.42	0.27	29.19	175.46	1.44	1.46	1.72

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



electrical schematic



For detailed performance specs & shopping online see web site



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at minicircuits.com

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