

# Surface Mount Power Splitter/Combiner

## SBB-2-21W+ SBB-2-21W

2 Way-0° 50Ω 1700 to 2100 MHz



### Maximum Ratings

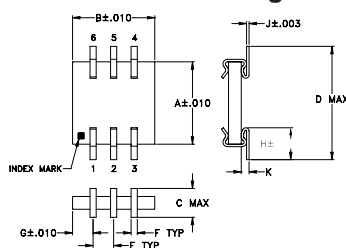
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	10W max.
Internal Dissipation	0.25W max.

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

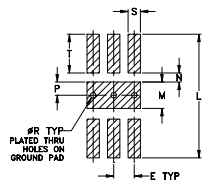
### Pin Connections

SUM PORT	2
PORT 1	6
PORT 2	4
GROUND	1,3,5

### Outline Drawing



### PCB Land Pattern

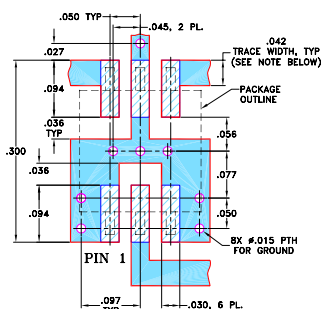


Suggested Layout,  
Tolerance to be within ±.002  
ADJACENT GROUND PINS SHALL BE CONNECTED  
TO EACH OTHER AND TO GROUND PAD

### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	
.200	.200	.070	.275	.050	.015	.050	.085	.006	.019	
5.08	5.08	1.78	6.99	1.27	0.38	1.27	2.16	0.15	0.48	
L	M	N	P	Q	R	S	T			wt
.300	.064	.022	.032	--	.014	.030	.094			grams
7.62	1.63	0.56	0.81	--	0.36	0.76	2.39			0.1

### Demo Board MCL P/N: TB-156 Suggested PCB Layout (PL-003)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015". 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

- very stable performance over temp. range
- excellent insertion loss, 0.6 dB typ.
- excellent isolation, 22 dB typ.
- solder plated leads for excellent solderability and strain relief
- small size, 0.2"x0.275"x0.07"
- very low cost
- aqueous washable
- protected by U.S Patent, 6,819,202

### Applications

- PCS
- DCS/GSM
- DECT,PHS

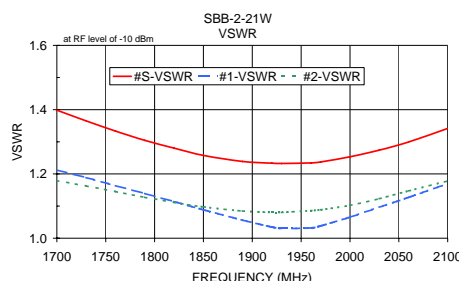
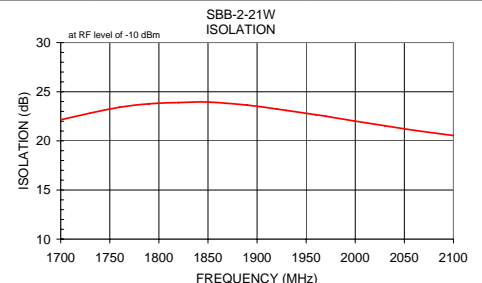
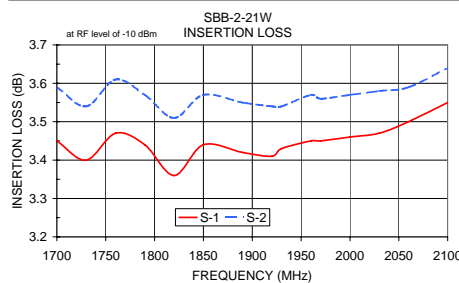
### Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS <sup>1</sup> (dB) ABOVE 3.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)
	Typ.	Min.	Typ.	Max.	Max.	Max.
$f_c-f_u$						
1425-2100	22	15	0.6	1.1	4.0	0.3
1800-2000	24	18	0.5	0.9	4.0	0.3

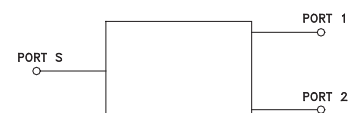
1. Includes test fixture losses

### Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
1700.00	3.45	3.59	0.14	22.15	0.95	1.40	1.21	1.18
1730.00	3.40	3.54	0.15	22.82	1.00	1.37	1.19	1.16
1760.00	3.47	3.61	0.14	23.42	0.94	1.33	1.16	1.15
1790.00	3.44	3.57	0.13	23.77	1.06	1.30	1.14	1.13
1820.00	3.36	3.51	0.14	23.90	1.13	1.28	1.11	1.11
1850.00	3.44	3.57	0.13	23.95	1.07	1.26	1.09	1.10
1890.00	3.42	3.55	0.13	23.64	1.20	1.24	1.06	1.08
1920.00	3.41	3.54	0.13	23.24	1.25	1.23	1.04	1.08
1930.00	3.43	3.54	0.12	23.10	1.22	1.23	1.03	1.08
1960.00	3.45	3.57	0.11	22.66	1.26	1.23	1.03	1.09
1970.00	3.45	3.56	0.11	22.51	1.27	1.24	1.04	1.09
2000.00	3.46	3.57	0.11	22.01	1.35	1.25	1.07	1.10
2030.00	3.47	3.58	0.11	21.54	1.44	1.27	1.10	1.12
2060.00	3.50	3.59	0.10	21.07	1.49	1.30	1.13	1.15
2100.00	3.55	3.64	0.09	20.54	1.51	1.34	1.17	1.18



### electrical schematic



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IF/RF MICROWAVE COMPONENTS

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