

# Surface Mount Power Splitter/Combiner

## SBB-2-13+

2 Way-0° 50Ω 950 to 1300 MHz



CASE STYLE: SM31  
PRICE: \$4.95 ea. QTY. (10-49)

### Maximum Ratings

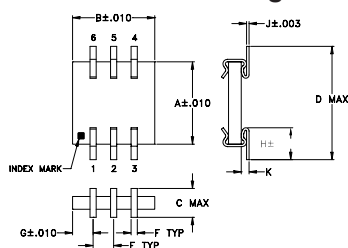
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	10W max.
Internal Dissipation	0.25W max.

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

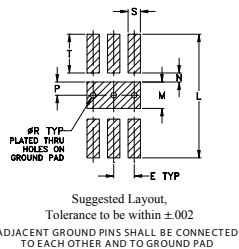
### Pin Connections

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

### Outline Drawing



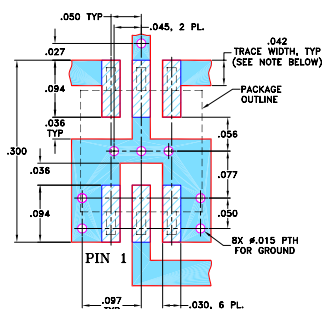
### PCB Land Pattern



### 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, 24 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

- satellite communications
- aeronautical

### Electrical Specifications

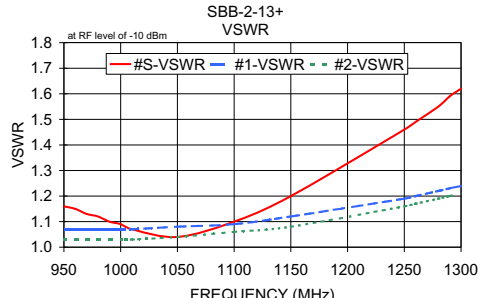
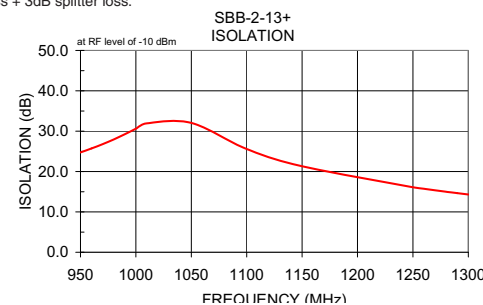
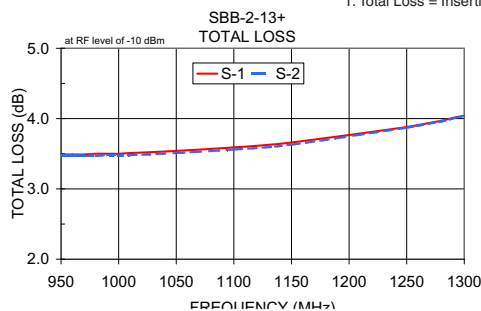
FREQ. RANGE (MHz)	ISOLATION <sup>2</sup> (dB)	INSERTION LOSS <sup>1</sup> (dB) ABOVE 3.0 dB	PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)
f <sub>L</sub> -f <sub>H</sub>	Typ. Min	Typ. Max.	Max.	Max.
950-1300	24 15	0.6 1.3	3.0	0.6

1. Includes test fixture losses
2. Isolation degrades to 12 dB min from 1200 to 1300 MHz.

### Typical Performance Data

Frequency (MHz)	Total Loss <sup>1</sup> (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
950.00	3.49	3.47	0.02	24.74	0.59	1.16	1.07	1.03
960.00	3.49	3.47	0.02	25.72	0.59	1.15	1.07	1.03
970.00	3.49	3.47	0.02	26.78	0.61	1.13	1.07	1.03
980.00	3.50	3.47	0.02	27.95	0.62	1.12	1.07	1.03
990.00	3.50	3.48	0.02	29.24	0.63	1.10	1.07	1.03
1000.00	3.50	3.48	0.02	30.61	0.63	1.09	1.07	1.03
1010.00	3.51	3.48	0.02	31.95	0.63	1.07	1.07	1.03
1050.00	3.54	3.51	0.03	32.06	0.63	1.04	1.08	1.04
1100.00	3.59	3.56	0.03	25.59	0.65	1.10	1.09	1.06
1150.00	3.66	3.63	0.03	21.31	0.65	1.20	1.12	1.08
1250.00	3.88	3.87	0.02	16.11	0.69	1.46	1.19	1.16
1260.00	3.91	3.90	0.02	15.72	0.68	1.49	1.20	1.17
1280.00	3.97	3.96	0.01	14.99	0.69	1.55	1.22	1.19
1290.00	4.01	4.00	0.01	14.65	0.70	1.59	1.23	1.20
1300.00	4.04	4.04	0.00	14.32	0.72	1.62	1.24	1.21

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



### electrical schematic



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