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

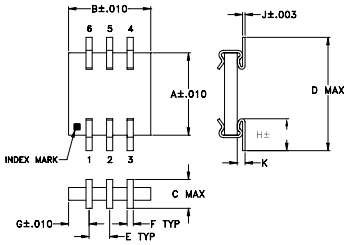
Features

- 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

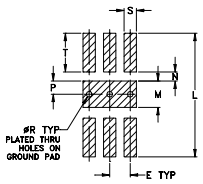
Applications

- satellite communications
- aeronautical

Outline Drawing



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

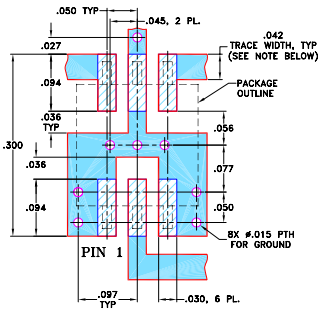
ADJACENT GROUND PINS SHALL BE CONNECTED TO EACH OTHER AND TO GROUND PAD

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

Electrical Specifications

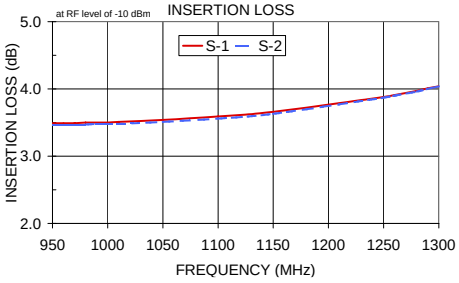
FREQ. RANGE (MHz)	ISOLATION[2] (dB)		INSERTION LOSS[1] (dB) ABOVE 3.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)
f_L-f_U	Typ.	Min	Typ.	Max.	Max.	Max.
950-1300	24	15	0.6	1.3	3.0	0.6

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

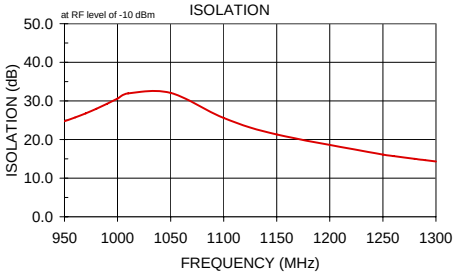
Typical Performance Data

Frequency (MHz)	Insertion Loss (dB) S-1	Insertion Loss (dB) S-2	Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 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

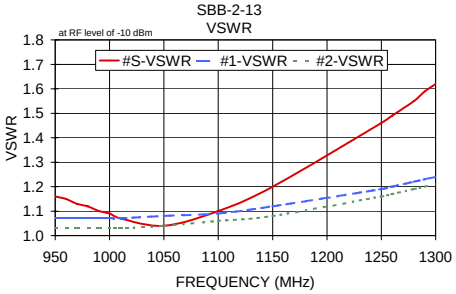
SBB-2-13
INSERTION LOSS



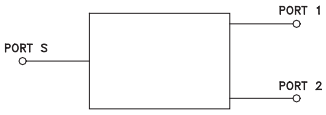
SBB-2-13
ISOLATION



SBB-2-13
VSWR



electrical schematic



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