Surface Mount

Power Splitter/Combiner

SBB-2-23

2 Way-0° 50Ω 2000 to 2300 MHz

CASE STYLE: SM31

Maximum Ratings

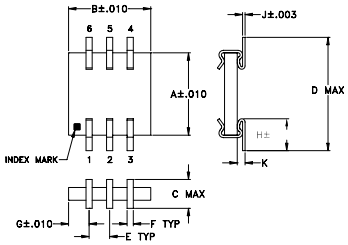
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	10W max.
Internal Dissipation	0.25W max.

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

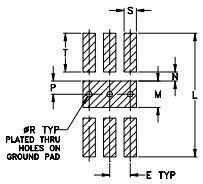
Pin Connections

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

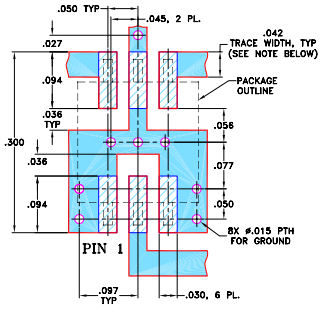
ADJACENT GROUND PINS SHALL BE CONNECTED TO EACH OTHER AND TO GROUND PAD

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, 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
- mobile radio

Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (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.
2000-2300	**24**	**17**	**0.6**	**1.0**	**3.0**	**0.3**
2100-2200	25	18	0.5	0.9	3.0	0.3

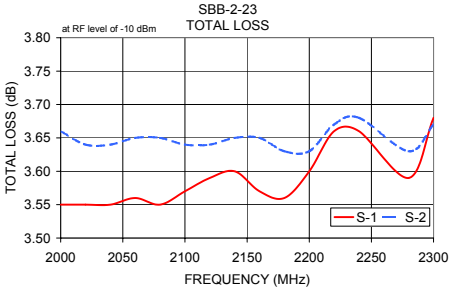
1. Includes test fixture losses

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						
2000.00	3.55	3.66	0.10	21.03	0.34	1.29	1.06	1.06
2020.00	3.55	3.64	0.10	21.14	0.42	1.27	1.06	1.05
2040.00	3.55	3.64	0.09	21.19	0.49	1.25	1.06	1.04
2060.00	3.56	3.65	0.09	21.28	0.54	1.24	1.06	1.03
2080.00	3.55	3.65	0.10	21.29	0.37	1.23	1.07	1.02
2100.00	3.57	3.64	0.07	21.29	0.37	1.22	1.08	1.02
2120.00	3.59	3.64	0.05	21.27	0.52	1.21	1.10	1.03
2140.00	3.60	3.65	0.06	21.28	0.66	1.20	1.11	1.04
2160.00	3.57	3.65	0.08	21.22	0.75	1.20	1.12	1.05
2180.00	3.56	3.63	0.06	21.17	0.52	1.20	1.13	1.06
2200.00	3.60	3.63	0.04	21.11	0.51	1.19	1.15	1.07
2220.00	3.66	3.67	0.01	21.09	0.75	1.20	1.17	1.08
2240.00	3.66	3.68	0.02	21.04	0.96	1.20	1.18	1.10
2280.00	3.59	3.63	0.03	20.85	0.67	1.21	1.22	1.12
2300.00	3.68	3.67	0.01	20.83	0.73	1.22	1.23	1.14

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

SBB-2-23
TOTAL LOSS



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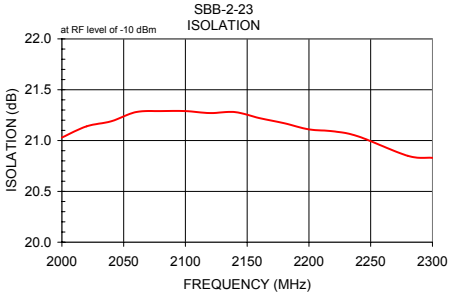
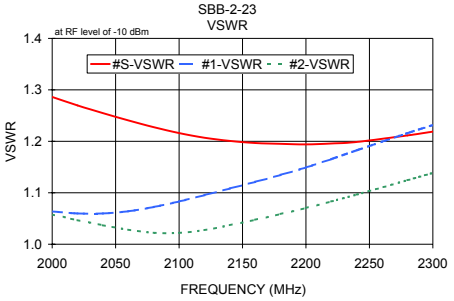
ISOLATION



SBB-2-23
VSWR



electrical schematic

Notes

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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