

Power Splitter/Combiner

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

2 Way-0° 50Ω 1700 to 2100 MHz



CASE STYLE: SM31

Maximum Ratings

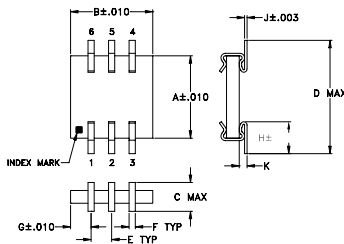
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	10W max.
Internal Dissipation	0.25W max.

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

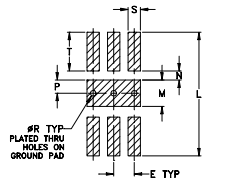
Pin Connections

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

Outline Drawing



PCB Land Pattern

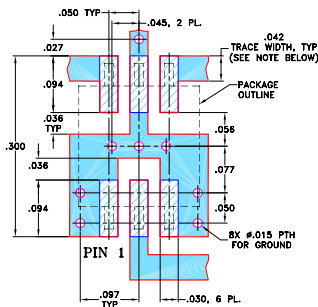


Suggested Layout,
Tolerance to be within ±.002
ADJACENT GROUND PINS SHALL BE CONNECTED TO EACH OTHER AND TO GROUND PAD

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:
- 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.
 - 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

Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- The parts covered by this specification document are subject to Mini-Circuit's standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuit's website at www.minicircuits.com/MCLStore/terms.jsp

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

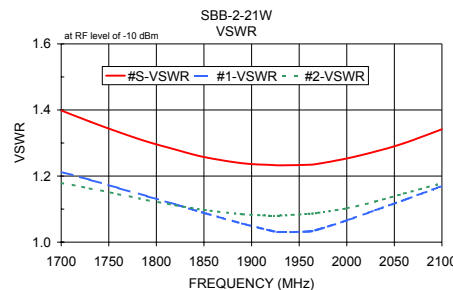
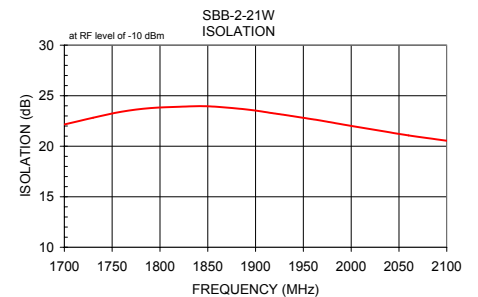
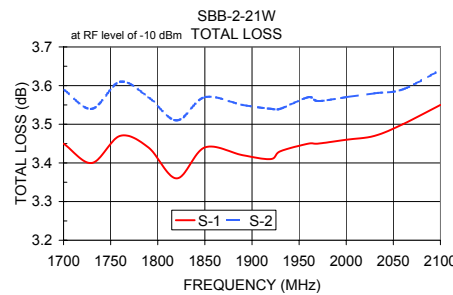
FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS ¹ (dB) ABOVE 3.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)
	Typ.	Min.	Typ.	Max.	Max.	Max.
$f_c - f_u$						
1425-2100	22	15	0.6	1.1	4.0	0.3
1800-2000	24	18	0.5	0.9	4.0	0.3

1. Includes test fixture losses

Typical Performance Data

Frequency (MHz)	Total Loss ¹ (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

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



electrical schematic

