Surface Mount

Power Splitter/Combiner

SCP-3-1+

3 Way-0° 50Ω 1 to 300 MHz



Generic photo used for illustration purposes only

CASE STYLE: YY101

+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.
Internal Dissipation	0.375W max.

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

Pin Connections

SUM PORT	6
PORT 1	1
PORT 2	2
PORT 3	5
GROUND	3,4,7,8

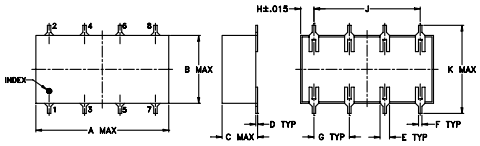
Features

- low insertion loss, 0.4 dB typ.
- good isolation, 25 dB typ.
- excellent output VSWR, 1.1:1 typ.

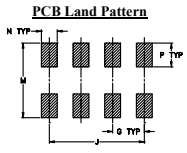
Applications

- VHF/UHF receivers/transmitters
- communications system

Outline Drawing



PCB Land Pattern



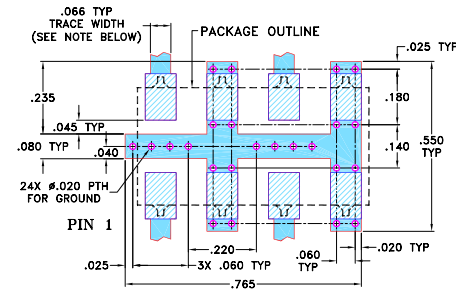
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G
.75	.38	.20	.010	.050	.020	.200
19.05	9.65	5.08	0.25	1.27	0.51	5.08

H	J	K	M	N	P	wt
.075	.600	.450	.470	.100	.150	grams
1.91	15.24	11.43	11.94	2.54	3.81	1.6

Demo Board MCL P/N: TB-51
Suggested PCB Layout (PL-062)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002". 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 (dB)						INSERTION LOSS (dB) ABOVE 4.8 dB						PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)		
	L		M		U		L		M		U		L	M	U	L	M	U
f_L-f_U	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Max.	Max.	Max.	Max.	Max.	Max.
1-300	30	25	25	20	20	15	0.3	0.6	0.4	0.8	0.7	1.5	1	2	4	0.1	0.15	0.5

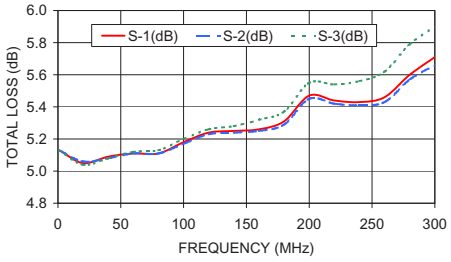
L = low range [f_L to 10 f_L] M = mid range [10 f_L to f_U/2] U= upper range [f_U/2 to f_U]

Typical Performance Data

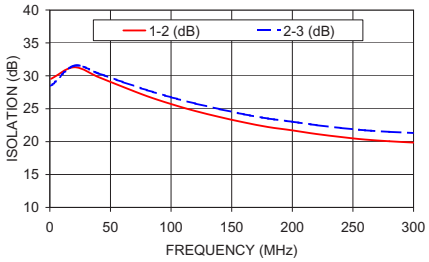
Freq. (MHz)	Total Loss[1] (dB)			Amp. Unbal. (dB)	Isolation (dB)		Phase Unbal. (deg.)	VSWR S	VSWR 1	VSWR 2	VSWR 3
	S-1	S-2	S-3		1-2	2-3					
1.00	5.13	5.13	5.13	0.01	29.54	28.48	0.02	1.17	1.19	1.19	1.20
20.00	5.05	5.06	5.04	0.02	31.30	31.53	0.11	1.12	1.06	1.06	1.06
40.00	5.09	5.08	5.08	0.01	29.82	30.37	0.19	1.13	1.06	1.06	1.06
60.00	5.11	5.11	5.12	0.00	28.34	29.07	0.33	1.15	1.06	1.06	1.06
80.00	5.11	5.11	5.13	0.02	26.92	27.83	0.44	1.17	1.06	1.06	1.05
100.00	5.18	5.17	5.20	0.03	25.71	26.74	0.56	1.19	1.07	1.06	1.05
120.00	5.24	5.23	5.26	0.03	24.65	25.78	0.67	1.22	1.07	1.06	1.05
140.00	5.25	5.24	5.28	0.04	23.74	24.93	0.75	1.25	1.08	1.07	1.05
160.00	5.26	5.25	5.32	0.07	22.93	24.16	0.80	1.27	1.08	1.07	1.05
180.00	5.31	5.29	5.37	0.08	22.22	23.51	0.86	1.29	1.08	1.07	1.05
200.00	5.47	5.45	5.55	0.10	21.71	23.02	1.00	1.32	1.09	1.08	1.05
220.00	5.44	5.42	5.54	0.12	21.15	22.50	1.04	1.34	1.09	1.08	1.06
240.00	5.43	5.41	5.56	0.16	20.71	22.08	1.09	1.36	1.10	1.08	1.06
260.00	5.46	5.43	5.62	0.19	20.32	21.72	1.23	1.37	1.10	1.09	1.06
280.00	5.60	5.57	5.79	0.22	20.06	21.49	1.26	1.39	1.10	1.09	1.06
300.00	5.71	5.66	5.90	0.24	19.86	21.31	1.27	1.40	1.10	1.09	1.06

1. Total Loss = Insertion Loss + 4.8dB splitter loss.

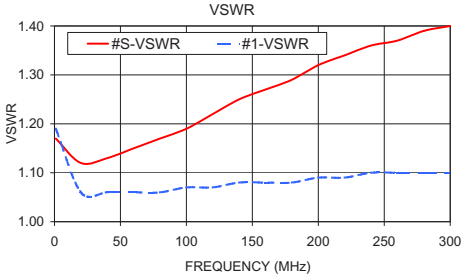
TOTAL LOSS



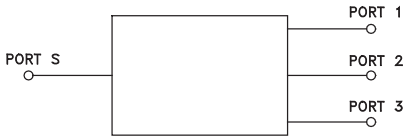
ISOLATION



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.
C. The parts covered by this specification document are subject to Mini-Circuits 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-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

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