

Power Splitter/Combiner

SCP-4-1

4 Way-0° 50Ω

1 to 400 MHz



CASE STYLE: YY101

Maximum Ratings

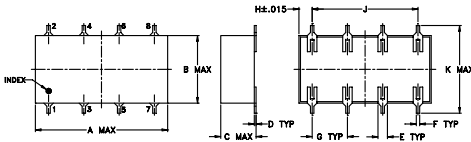
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.
Internal Dissipation	0.25W max.

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

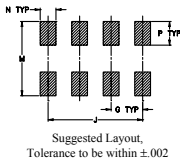
Pin Connections

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

Outline Drawing



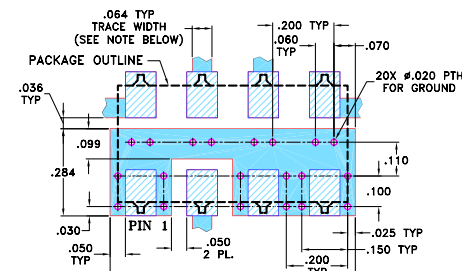
PCB Land Pattern



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-36 Suggested PCB Layout (PL-073)



- NOTES:
- TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002"; 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-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

Features

- wideband, 1 to 400 MHz
- good isolation, 26 dB typ.
- excellent amplitude unbalance, 0.3 dB typ.

Applications

- VHF/UHF
- receivers/transmitters
- communication systems
- instrumentation

Electrical Specifications at 25°C

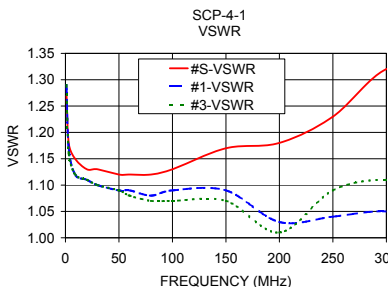
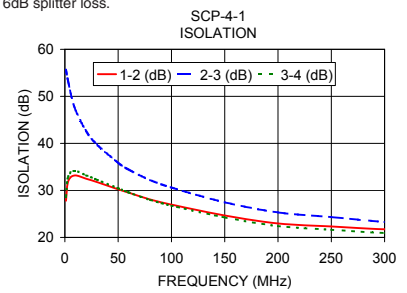
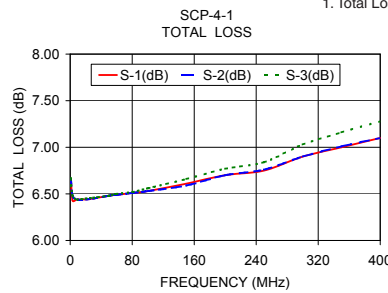
FREQ. RANGE (MHz)	ISOLATION (dB)			INSERTION LOSS (dB) ABOVE 6 dB			PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)								
	L	M	U	L	M	U	L	M	U	L	M	U						
f _L -f _U	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Max.	Typ. Max.	Typ. Max.	Max.	Max.	Max.	Max.	Max.	Max.						
1-400	32	22	26	18	21	17	0.4	1.2	0.6	1.2	1.0	1.5	1	4	9	0.2	0.3	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-1	S-2	S-3	S-4		1-2	2-3	3-4		S	1	2	3	4
1.00	6.66	6.66	6.67	6.67	0.01	27.78	55.66	28.57	0.12	1.27	1.29	1.29	1.29	1.29
3.00	6.43	6.48	6.48	6.48	0.02	31.87	53.23	32.88	0.13	1.18	1.17	1.17	1.16	1.16
9.00	6.44	6.44	6.44	6.45	0.01	33.17	47.65	34.15	0.06	1.15	1.12	1.12	1.12	1.12
20.00	6.44	6.44	6.45	6.44	0.01	32.49	42.58	33.20	0.05	1.13	1.11	1.11	1.11	1.11
30.00	6.45	6.45	6.46	6.46	0.02	31.78	39.78	32.28	0.07	1.13	1.10	1.11	1.10	1.10
50.00	6.48	6.48	6.48	6.49	0.02	30.23	35.87	30.45	0.14	1.12	1.09	1.10	1.09	1.10
60.00	6.49	6.49	6.50	6.51	0.01	29.51	34.42	29.57	0.20	1.12	1.09	1.09	1.08	1.09
80.00	6.51	6.51	6.52	6.53	0.01	28.07	32.20	27.97	0.31	1.12	1.08	1.08	1.07	1.07
100.00	6.53	6.53	6.56	6.55	0.01	26.98	30.61	26.75	0.35	1.13	1.09	1.07	1.07	1.07
150.00	6.61	6.59	6.66	6.65	0.02	24.67	27.47	24.26	0.41	1.17	1.09	1.05	1.07	1.04
200.00	6.70	6.70	6.77	6.75	0.03	22.97	25.32	22.42	0.43	1.18	1.03	1.01	1.01	1.03
250.00	6.75	6.76	6.84	6.82	0.05	22.33	24.33	21.63	0.55	1.23	1.04	1.04	1.09	1.07
300.00	6.90	6.90	7.03	6.99	0.08	21.73	23.29	20.94	0.57	1.32	1.05	1.04	1.11	1.10
350.00	7.00	7.01	7.16	7.10	0.12	21.67	22.74	20.73	0.53	1.32	1.03	1.05	1.09	1.11
400.00	7.10	7.10	7.28	7.22	0.14	22.15	22.57	20.86	0.58	1.34	1.12	1.15	1.23	1.15

1. Total Loss = Insertion Loss + 6dB splitter loss.



Electrical Schematic

