

Surface Mount Power Splitter/Combiner

SCP-4-1W+ SCP-4-1W

4 Way-0° 50Ω

10 to 650 MHz



Maximum Ratings

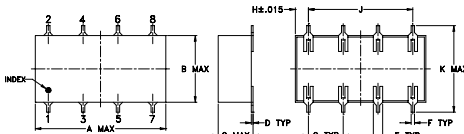
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.
Internal Dissipation	0.25W max.

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

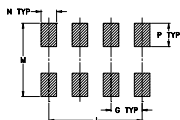
Pin Connections

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

Outline Drawing



PCB Land Pattern

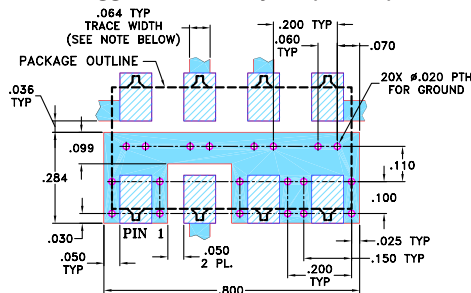


Suggested Layout,
Tolerance to be within ±.002

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-36 Suggested PCB Layout (PL-073)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002"; 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.
3. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
4. DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- wideband, 10 to 650 MHz
- excellent amplitude unbalance, 0.4 dB typ.

Applications

- VHF/UHF
- receivers/transmitters
- federal and defense communication

Electrical Specifications

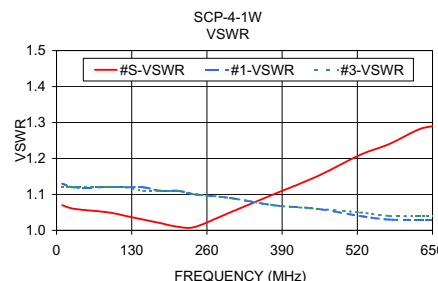
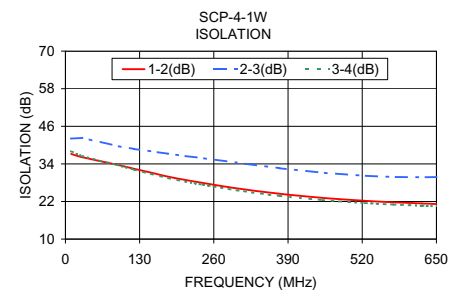
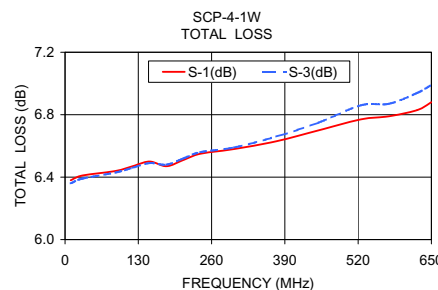
FREQ. RANGE (MHz)	ISOLATION (dB)			INSERTION LOSS (dB) ABOVE 6 dB			PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)								
	L	M	U	L	M	U	L	M	U	L	M	U						
f _L -f _U	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Max.	Typ. Max.	Typ. Max.	Max.	Max.	Max.	Max.	Max.	Max.						
10-650	34	28	23	18	21	15	0.7	1.0	0.9	1.5	1.1	1.9	3	7	12	0.2	0.4	0.7

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	VSWR 4
	S-1	S-2	S-3	S-4		1-2	2-3	3-4						
10.00	6.38	6.36	6.36	6.36	0.02	37.18	42.07	38.05	0.07	1.07	1.13	1.13	1.12	1.12
30.00	6.41	6.39	6.39	6.38	0.02	36.10	42.30	36.46	0.12	1.06	1.12	1.12	1.12	1.12
90.00	6.44	6.43	6.43	6.42	0.02	33.76	39.74	33.67	0.43	1.05	1.12	1.12	1.12	1.12
120.00	6.47	6.46	6.46	6.44	0.03	32.46	38.76	32.19	0.58	1.04	1.12	1.12	1.12	1.12
150.00	6.50	6.49	6.49	6.47	0.03	31.21	38.02	30.82	0.70	1.03	1.12	1.12	1.11	1.12
180.00	6.47	6.47	6.48	6.45	0.03	29.92	37.23	29.49	0.85	1.02	1.11	1.11	1.11	1.11
210.00	6.51	6.52	6.52	6.49	0.04	28.87	36.52	28.36	0.95	1.01	1.11	1.11	1.11	1.11
240.00	6.55	6.56	6.56	6.52	0.04	27.96	35.86	27.40	1.10	1.01	1.10	1.11	1.10	1.10
300.00	6.58	6.59	6.59	6.54	0.05	26.21	34.39	25.59	1.33	1.05	1.09	1.09	1.09	1.09
375.00	6.63	6.65	6.66	6.58	0.08	24.48	32.64	23.81	1.69	1.10	1.07	1.08	1.07	1.08
450.00	6.70	6.75	6.75	6.63	0.12	23.16	31.19	22.46	1.94	1.15	1.06	1.07	1.06	1.06
525.00	6.77	6.86	6.86	6.70	0.15	22.23	30.20	21.51	2.32	1.21	1.04	1.05	1.05	1.04
575.00	6.79	6.88	6.87	6.69	0.19	21.76	29.83	21.04	2.45	1.24	1.03	1.05	1.04	1.04
625.00	6.83	6.95	6.94	6.73	0.22	21.37	29.74	20.65	2.66	1.28	1.03	1.05	1.04	1.03
650.00	6.88	7.01	6.99	6.77	0.25	21.19	29.79	20.47	2.73	1.29	1.03	1.05	1.04	1.03

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



Electrical Schematic



Mini-Circuits
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