

# Surface Mount Power Splitter/Combiner

## SCP-4-1+ SCP-4-1

4 Way-0° 50Ω

1 to 400 MHz



CASE STYLE: YY101  
PRICE: \$24.95 ea. QTY (1-9)

**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

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	0.25W 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

### Features

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

### Applications

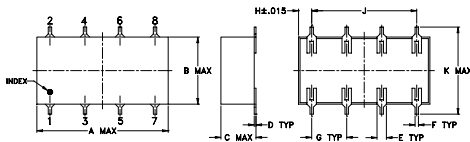
- VHF/UHF
- receivers/transmitters
- communication systems
- instrumentation

### Electrical Specifications

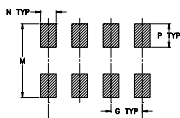
FREQ. RANGE (MHz)	ISOLATION (dB)			INSERTION LOSS (dB) ABOVE 6 dB			PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)								
	L	M	U	L	M	U	L	M	U	L	M	U						
f <sub>L</sub> -f <sub>U</sub>	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Max.	Typ. Max.	Typ. Max.	Max.	Max.	Max.	Max.	Max.	Max.						
1-400	32	23	26	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<sub>L</sub> to 10 f<sub>L</sub>]    M = mid range [10 f<sub>L</sub> to f<sub>U</sub>/2]    U = upper range [f<sub>U</sub>/2 to f<sub>U</sub>]

### Outline Drawing



### PCB Land Pattern



Suggested Layout,  
Tolerance to be within ±.002

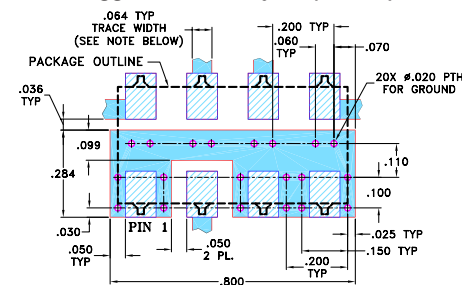
### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.75	.38	.20	.10	.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

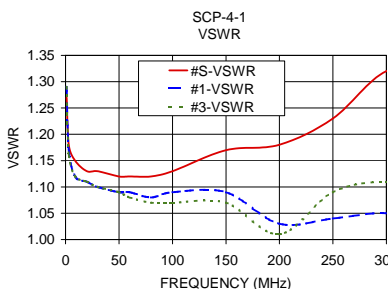
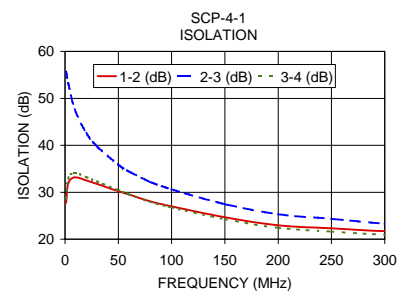
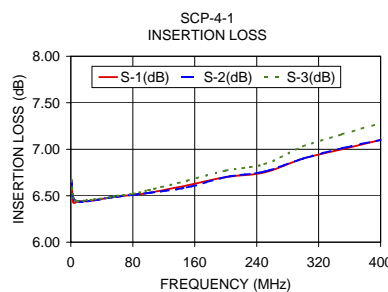
### Typical Performance Data

Freq. (MHz)	Insertion Loss (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

### Demo Board MCL P/N: TB-36 Suggested PCB Layout (PL-073)



- NOTES: 1. 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.  
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



### Electrical Schematic



**Mini-Circuits®**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED  
IFIRF MICROWAVE COMPONENTS

For detailed performance specs & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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](http://www.minicircuits.com/MCLStore/terms.jsp).

REV. B  
M102713  
SCP-4-1  
HY/TD/CP  
090827