

# Surface Mount Power Splitter/Combiner

## SCPQ-400+

2 Way-90° 50Ω 250 to 400 MHz



### Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.
Permanent damage may occur if any of these limits are exceeded.	

### Pin Connections

SUM PORT	1
PORT 1 (+90°)	2
PORT 2 (0°)	5
GROUND	3,4,7,8
50 OHM TERM EXTERNAL	6

### Features

- wideband, 250 to 400 MHz
- low insertion loss, 0.3 dB typ.

### Applications

- UHF
- modulators
- balanced amplifiers

CASE STYLE: YY161  
PRICE: \$14.95 ea. QTY (1-9)

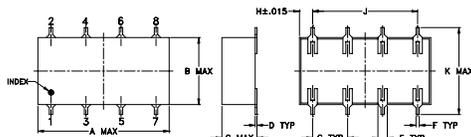
**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

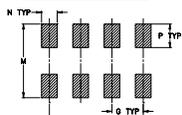
### Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)	INSERTION LOSS (dB) Avg. of Coupled Outputs ABOVE 3 dB	PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)
$f_L$ - $f_U$	Typ. Min.	Typ. Max.	Max.	Max.
250-400	20 16	0.3 0.7	3	1.2

### Outline Drawing



### PCB Land Pattern



Suggested Layout,  
Tolerance to be within ±.002

### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
0.75	0.38	0.28	0.01	0.05	0.02	0.2
19.05	9.65	7.11	0.25	1.27	0.51	5.08

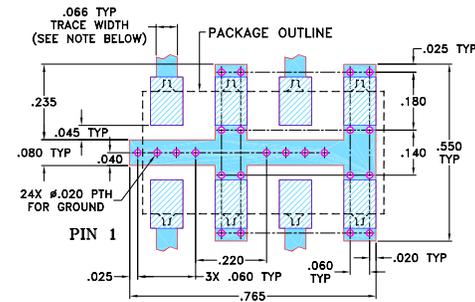
H	J	K	M	N	P	wt
0.075	0.6	0.45	0.47	0.1	0.15	grams
1.91	15.24	11.43	11.94	2.54	3.81	1.60

### Typical Performance Data

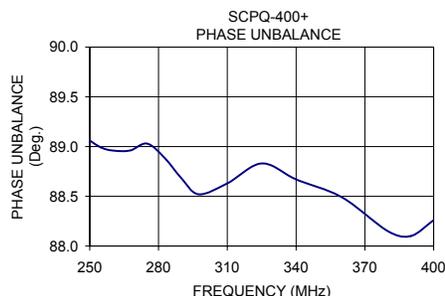
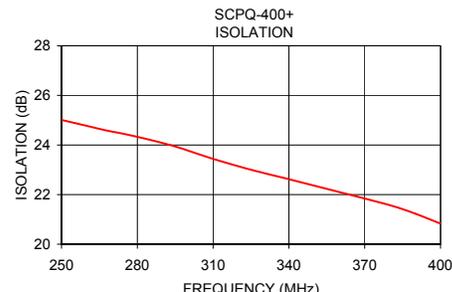
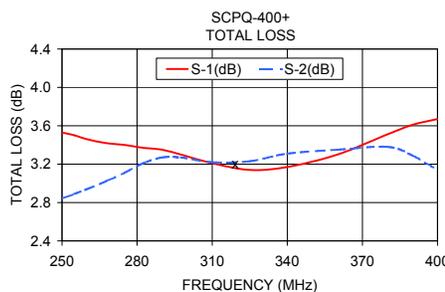
Frequency (MHz)	Total Loss <sup>1</sup> (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
250.00	3.53	2.84	0.69	25.01	89.06	1.15	1.11	1.18
255.00	3.50	2.89	0.61	24.89	88.99	1.15	1.11	1.18
260.00	3.46	2.94	0.52	24.77	88.96	1.15	1.12	1.19
267.50	3.42	3.02	0.41	24.59	88.96	1.15	1.12	1.19
275.00	3.40	3.11	0.28	24.44	89.03	1.16	1.12	1.20
282.50	3.37	3.21	0.17	24.27	88.89	1.16	1.12	1.20
290.00	3.35	3.27	0.08	24.08	88.68	1.16	1.13	1.20
297.50	3.30	3.27	0.03	23.86	88.52	1.17	1.13	1.21
310.00	3.21	3.22	0.02	23.44	88.63	1.17	1.14	1.21
325.00	3.14	3.23	0.09	23.00	88.83	1.19	1.15	1.22
340.00	3.17	3.31	0.14	22.62	88.67	1.20	1.16	1.24
360.00	3.30	3.35	0.05	22.10	88.49	1.22	1.18	1.25
380.00	3.51	3.38	0.13	21.57	88.15	1.25	1.21	1.28
390.00	3.61	3.29	0.32	21.23	88.10	1.27	1.23	1.29
400.00	3.67	3.14	0.53	20.83	88.26	1.29	1.25	1.31

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

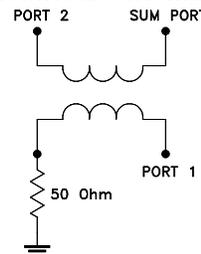
### Demo Board MCL P/N: TB-51 Suggested PCB Layout (PL-062)



- 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 schematic



For detailed performance specs & shopping online see web site



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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-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](http://www.minicircuits.com/MCLStore/terms.jsp).

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