

# Surface Mount Power Splitter/Combiner

## SCP-2-1+

2 Way-0° 50Ω

0.1 to 400 MHz

### Maximum Ratings

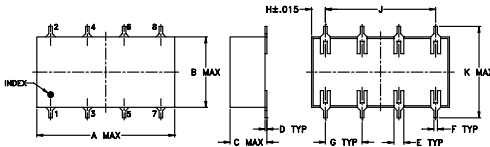
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.
Internal Dissipation	0.125W max.

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

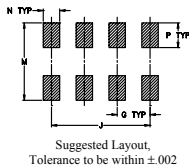
### Pin Connections

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

### Outline Drawing



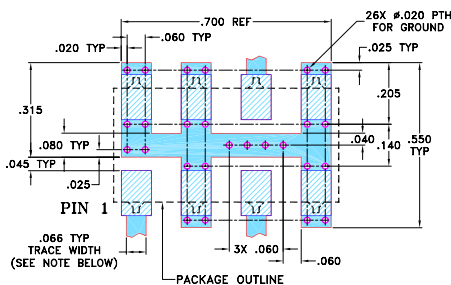
### PCB Land Pattern



### 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-50+ Suggested PCB Layout (PL-060)



- NOTES:
- 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.
  - 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

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

### Features

- wideband, 0.1 to 400 MHz
- low insertion loss, 0.2 dB typ.
- good isolation, 30 dB typ.
- good amplitude unbalance, 0.05 dB typ.

### Applications

- VHF/UHF
- instrumentation
- communication receivers & transmitters



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

### Electrical Specifications

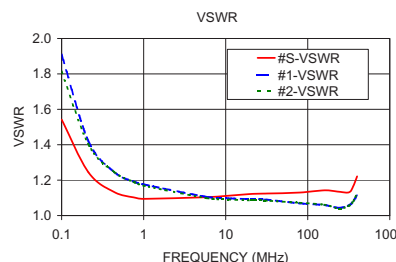
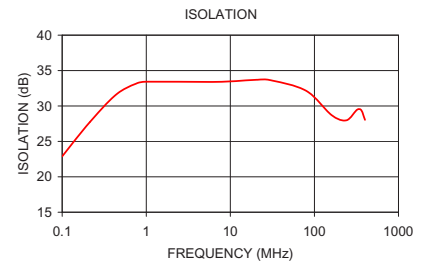
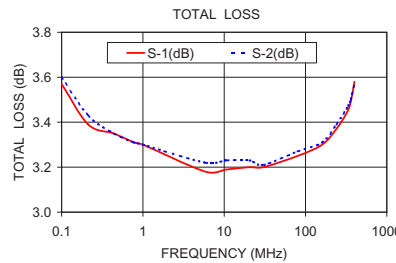
FREQ. RANGE (MHz)	ISOLATION (dB)			INSERTION LOSS (dB) ABOVE 3.0 dB			PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)								
	L	M	U	L	M	U	L	M	U	L	M	U						
$f_L$ - $f_U$	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Max.	Typ. Max.	Typ. Max.	Max.	Max.	Max.	Max.	Max.	Max.						
0.1-400	25	15	30	20	25	20	0.3	1.2	0.2	0.6	0.4	1.1	2.0	2.0	3.0	0.15	0.2	0.3

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

Frequency (MHz)	Total Loss <sup>1</sup> (dB) S-1	Total Loss <sup>1</sup> (dB) S-2	Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
0.10	3.57	3.60	0.03	22.88	0.28	1.54	1.91	1.81
0.21	3.39	3.43	0.03	27.70	0.11	1.24	1.42	1.40
0.44	3.35	3.35	0.01	31.60	0.08	1.13	1.25	1.25
0.78	3.31	3.31	0.01	33.21	0.09	1.10	1.19	1.19
1.00	3.30	3.30	0.01	33.43	0.06	1.09	1.18	1.17
5.88	3.18	3.22	0.04	33.40	0.20	1.10	1.11	1.10
10.75	3.19	3.23	0.04	33.49	0.18	1.11	1.10	1.09
20.50	3.20	3.23	0.04	33.70	0.03	1.12	1.09	1.09
30.25	3.20	3.21	0.01	33.64	0.11	1.12	1.09	1.08
80.00	3.25	3.27	0.02	32.14	0.02	1.13	1.07	1.07
160.00	3.30	3.31	0.02	28.71	0.12	1.14	1.06	1.06
240.00	3.37	3.39	0.02	27.98	0.10	1.13	1.04	1.04
320.00	3.44	3.46	0.02	29.46	0.15	1.13	1.06	1.06
360.00	3.49	3.50	0.00	29.42	0.29	1.17	1.08	1.08
400.00	3.58	3.57	0.01	28.04	0.34	1.22	1.11	1.13

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



### electrical schematic

