

# Power Splitter/Combiner

SCPQ-90

2 Way-90° 50Ω 55 to 90 MHz



CASE STYLE: YY101

### Maximum Ratings

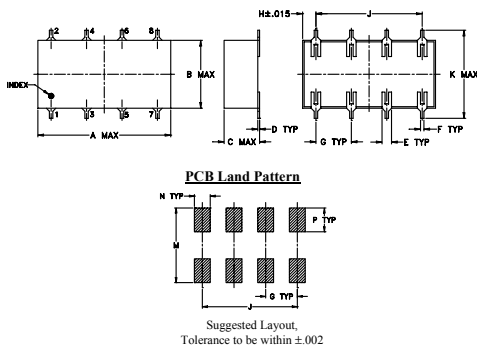
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.

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

### Outline Drawing



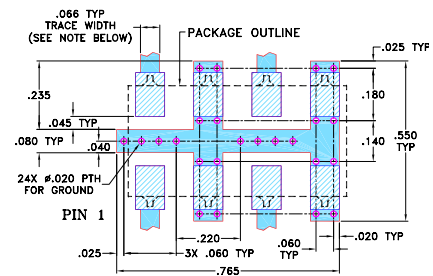
### Outline Dimensions (inch/mm)

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-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

### 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-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)

### Features

- low insertion loss, 0.2 dB typ.
- high isolation, 26 dB typ.
- excellent phase unbalance, 1 deg typ.
- excellent, VSWR 1.15:1 typ.

### Applications

- VHF
- signal processing
- image rejection mixer

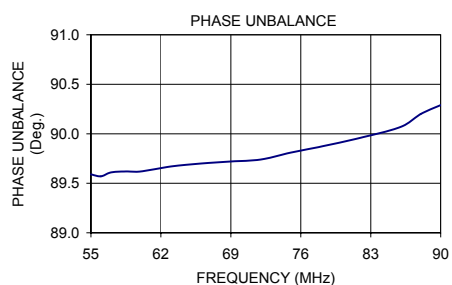
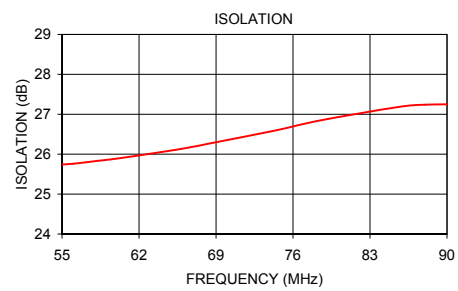
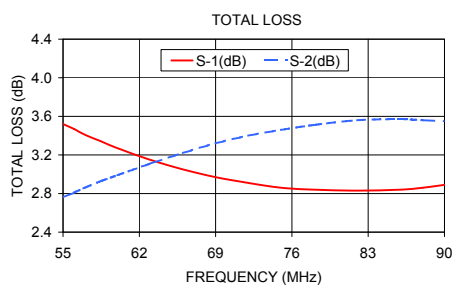
### Electrical Specifications

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.
55-90	26 20	0.2 0.7	3	1.2

### 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						
55.00	3.52	2.76	0.76	25.74	89.59	1.12	1.13	1.15
56.00	3.47	2.81	0.66	25.76	89.57	1.12	1.13	1.15
57.00	3.41	2.86	0.55	25.79	89.61	1.12	1.13	1.15
58.50	3.34	2.93	0.41	25.84	89.62	1.12	1.13	1.16
60.00	3.27	2.99	0.28	25.89	89.62	1.12	1.13	1.16
63.00	3.15	3.11	0.04	26.01	89.67	1.12	1.13	1.16
66.00	3.05	3.22	0.17	26.14	89.70	1.12	1.12	1.16
69.00	2.97	3.32	0.34	26.30	89.72	1.12	1.12	1.17
72.00	2.91	3.40	0.49	26.46	89.74	1.12	1.12	1.17
75.00	2.86	3.46	0.60	26.63	89.81	1.11	1.12	1.17
78.00	2.84	3.51	0.68	26.82	89.87	1.11	1.12	1.18
82.00	2.83	3.56	0.73	27.02	89.96	1.10	1.11	1.18
86.00	2.84	3.57	0.73	27.20	90.07	1.09	1.11	1.19
88.00	2.86	3.56	0.70	27.24	90.20	1.08	1.11	1.19
90.00	2.89	3.55	0.66	27.25	90.29	1.08	1.11	1.19

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



### electrical schematic

