

# Power Splitter/Combiner

SCPJ-2-1W-75

2 Way-180° 75Ω

10 to 500 MHz



### Maximum Ratings

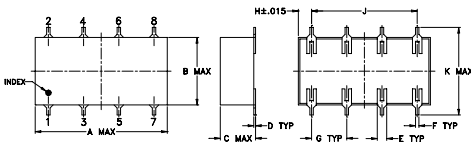
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	0.5W max.
Internal Dissipation	0.125W max.

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

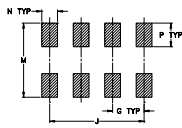
### Pin Connections

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

### Outline Drawing



### PCB Land Pattern



Suggested Layout,  
Tolerance to be within ±.002

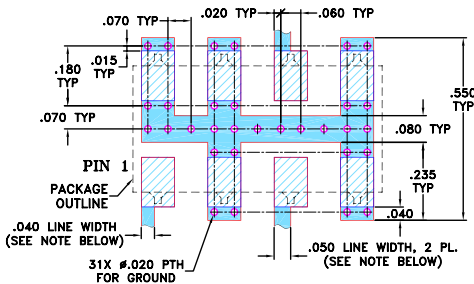
### Outline Dimensions (inch/mm)

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

### Demo Board MCL P/N: TB-228 Suggested PCB Layout (PL-121)



NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350 WITH DIELECTRIC THICKNESS  $0.060 \pm 0.004$ ", 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
- DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

### Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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, 10 to 500 MHz
- excellent isolation, 27dB typ.
- excellent amplitude unbalance, 0.5 dB typ.

CASE STYLE: YY161  
PRICE: Contact Sales Dept

### Applications

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

### Electrical Specifications

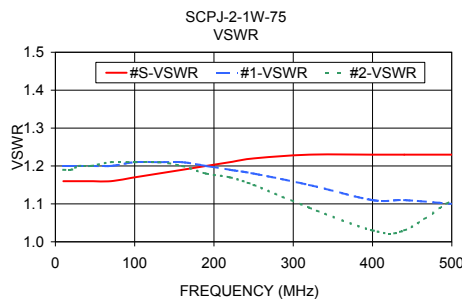
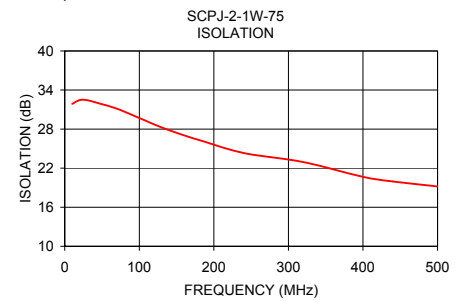
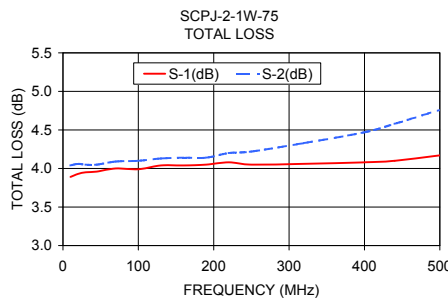
FREQ. RANGE (MHz)	ISOLATION (dB)			INSERTION LOSS (dB) ABOVE 3 dB			PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)								
	L	M	U	L	M	U	L	M	U	L	M	U						
$f_L$ - $f_U$	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Max.	Typ. Max.	Typ. Max.	Max.	Max.	Max.	Max.	Max.	Max.						
10-500	30	25	27	20	22	16	1.0	1.5	1.1	1.6	1.5	2.2	3	4	6	0.3	0.5	0.9

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)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
10.00	3.89	4.04	0.15	31.87	180.38	1.16	1.20	1.19
20.00	3.93	4.06	0.13	32.45	179.85	1.16	1.20	1.19
30.00	3.95	4.05	0.10	32.44	179.60	1.16	1.20	1.20
45.00	3.96	4.05	0.09	31.98	179.53	1.16	1.20	1.20
70.00	4.00	4.09	0.09	31.14	179.23	1.16	1.20	1.21
100.00	3.99	4.10	0.11	29.70	178.90	1.17	1.21	1.21
130.00	4.04	4.13	0.10	28.26	178.91	1.18	1.21	1.21
160.00	4.04	4.14	0.10	27.04	178.69	1.19	1.21	1.20
190.00	4.05	4.14	0.09	25.98	178.53	1.20	1.20	1.18
220.00	4.08	4.20	0.12	24.91	178.66	1.21	1.19	1.17
250.00	4.05	4.22	0.16	24.11	178.56	1.22	1.18	1.15
320.00	4.06	4.33	0.26	22.94	178.44	1.23	1.15	1.09
400.00	4.08	4.47	0.39	20.67	178.49	1.23	1.11	1.03
440.00	4.10	4.58	0.48	19.95	178.45	1.23	1.11	1.03
500.00	4.17	4.76	0.59	19.19	178.67	1.23	1.10	1.11

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



### electrical schematic

