

Surface Mount

# Power Splitter/Combiner

## JEPS-12-10

12 Way-0° 50Ω 50 to 1000 MHz



CASE STYLE: BL372

### Maximum Ratings

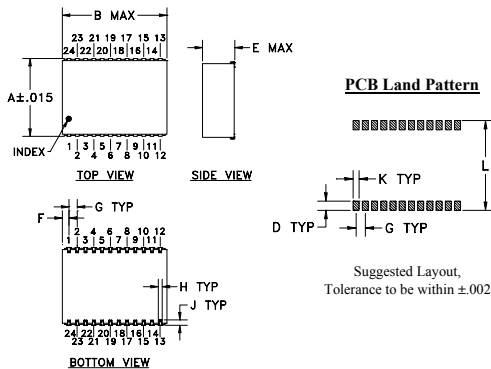
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	0.5W max.
Internal Dissipation	0.87W max.

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

### Pin Connections

SUM PORT	18
PORT 1	2
PORT 2	3
PORT 3	4
PORT 4	5
PORT 5	8
PORT 6	9
PORT 7	10
PORT 8	11
PORT 9	14
PORT 10	15
PORT 11	22
PORT 12	23
GROUND	1,6,7,12,13,16,17,19,20,21,24

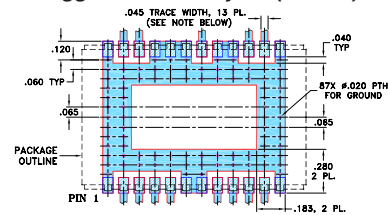
### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F
.940	1.426	--	.100	.250	.163
23.88	36.22	--	2.54	6.35	4.14
G	H	J	K	L	wt
.100	.047	.065	.065	.970	grams
2.54	1.19	1.65	1.65	24.64	6.4

### Demo Board MCL P/N: TB-219 Suggested PCB Layout (PL-106)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.020" ± 0.0015"; 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

- good input VSWR, 1.22 typ.
- excellent output VSWR, 1.12 typ.
- aqueous washable
- shielded metal case
- solder plated J-leads for good solderability & strain relief

### Applications

- CATV
- cellular
- instrumentation

### Electrical Specifications

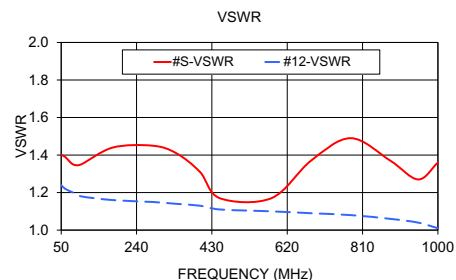
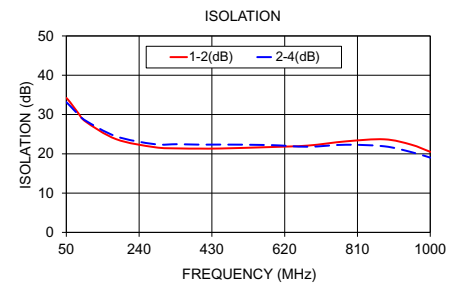
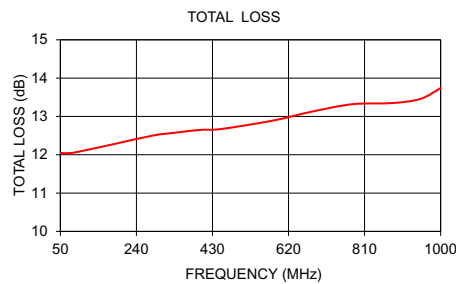
FREQ. RANGE (MHz)	ISOLATION (dB)				INSERTION LOSS (dB) ABOVE 10.8 dB				PHASE UNBALANCE (Degrees)		AMPLITUDE UNBALANCE (dB)	
	L		U		L		U		L	U	L	U
$f_{-f_u}$	Typ.	Min.	Typ.	Min.	Typ.	Max.	Typ.	Max.	Max.	Max.	Max.	Max.
50-1000	25	16	23	14	1.6	2.5	2.2	4.0	10	23	0.7	1.4

L = 50-500 MHz U = 500-1000 MHz

### Typical Performance Data

Freq. (MHz)	Total Loss <sup>1</sup> (dB)	Amplitude Unbalance (dB)	Isolation (dB)		Phase Unbalance (deg.)	VSWR S	VSWR 12
			1-2	2-4			
50.00	12.05	0.10	34.24	33.14	0.72	1.40	1.24
60.00	12.04	0.11	33.12	32.18	0.97	1.39	1.22
80.00	12.05	0.10	30.51	30.14	1.21	1.35	1.20
100.00	12.09	0.11	28.23	28.46	1.20	1.35	1.18
180.00	12.27	0.14	23.73	24.45	2.11	1.44	1.16
280.00	12.50	0.21	21.69	22.46	2.78	1.45	1.15
340.00	12.58	0.25	21.38	22.45	3.11	1.41	1.14
400.00	12.65	0.32	21.33	22.33	3.50	1.31	1.13
450.00	12.67	0.34	21.35	22.35	3.60	1.17	1.11
580.00	12.89	0.47	21.71	22.23	4.39	1.17	1.10
680.00	13.13	0.56	22.09	21.80	5.34	1.37	1.09
780.00	13.32	0.60	23.17	22.31	6.19	1.49	1.08
880.00	13.35	0.73	23.69	21.91	7.47	1.37	1.06
950.00	13.46	0.83	22.34	20.45	9.07	1.27	1.04
1000.00	13.74	0.91	20.50	19.03	10.45	1.36	1.01

1. Total Loss = Insertion Loss + 10.8dB splitter loss.



### electrical schematic

