

# Surface Mount Power Splitter/Combiner

## ADPQ-2-250+ ADPQ-2-250

2 Way-90° 50Ω 150 to 250 MHz

### Maximum Ratings

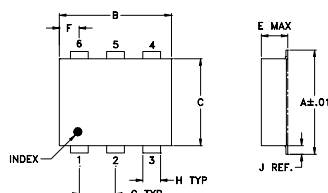
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.

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

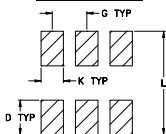
### Pin Connections

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

### Outline Drawing



### PCB Land Pattern

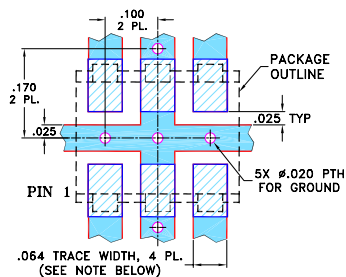


Suggested Layout,  
Tolerance to be within ±.002

### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	wt grams
.272	.310	.220	.100	.206	.055	.100	.030	.026	.065	.300	0.40
6.91	7.87	5.59	2.54	5.23	1.40	2.54	0.76	0.66	1.65	7.62	

### Demo Board MCL P/N: TB-211 Suggested PCB Layout (PL-097)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B 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

- excellent amplitude unbalance, 0.7 dB typ. and phase unbalance, 0.4 dB typ.
- very low insertion loss, 0.2 dB typ.
- excellent VSWR, 1.15 typ.
- excellent isolation, 24 dB typ.
- aqueous washable
- protected under U.S. Patent 6,133,525

### Applications

- VHF TV



Generic photo used for illustration purposes only

CASE STYLE: CD637

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications



Available Tape and Reel  
at no extra cost

Reel Size	Devices/Reel
13"	900

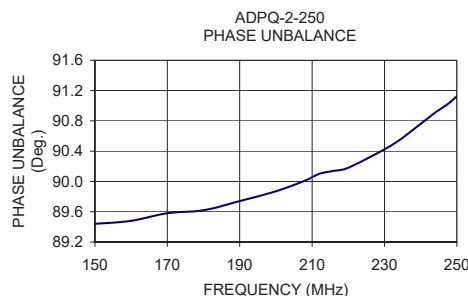
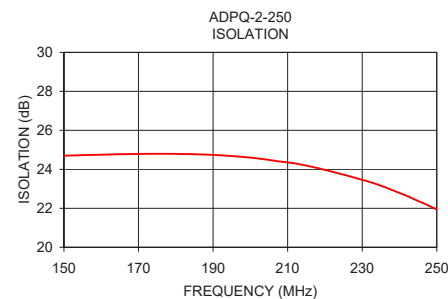
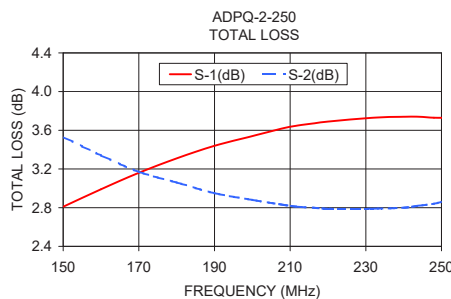
### Electrical Specifications

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.
150-250	24 17	0.2 0.7	4	1.4

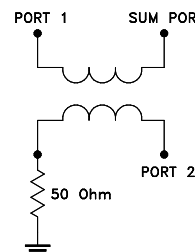
### Typical Performance Data

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						
150.00	2.81	3.53	0.72	24.70	89.44	1.13	1.13	1.14
160.00	2.99	3.34	0.34	24.75	89.48	1.14	1.14	1.14
170.00	3.16	3.17	0.01	24.79	89.58	1.14	1.14	1.15
180.00	3.31	3.06	0.25	24.79	89.62	1.14	1.14	1.15
190.00	3.44	2.95	0.49	24.74	89.74	1.15	1.15	1.16
200.00	3.54	2.88	0.67	24.60	89.87	1.15	1.15	1.17
208.00	3.62	2.83	0.78	24.40	90.01	1.16	1.15	1.17
212.00	3.65	2.81	0.83	24.30	90.10	1.16	1.16	1.18
216.00	3.67	2.80	0.87	24.15	90.14	1.16	1.16	1.18
220.00	3.69	2.79	0.90	23.97	90.18	1.16	1.16	1.18
232.00	3.73	2.79	0.94	23.35	90.48	1.17	1.17	1.20
240.00	3.74	2.80	0.94	22.79	90.76	1.18	1.18	1.21
244.00	3.74	2.82	0.92	22.46	90.91	1.19	1.18	1.22
248.00	3.73	2.84	0.89	22.12	91.04	1.19	1.19	1.22
252.00	3.73	2.88	0.85	21.75	91.22	1.20	1.19	1.23

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



### electrical schematic



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