

# Surface Mount Power Splitter/Combiner

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

2 Way-90° 50Ω 150 to 250 MHz

### Maximum Ratings

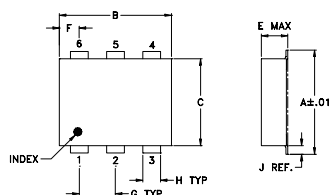
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.

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

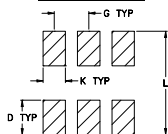
### Pin Connections

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

### Outline Drawing



### PCB Land Pattern

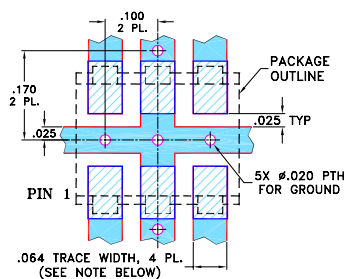


Suggested Layout,  
Tolerance to be within ±.002

### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	wt grams
.272	.310	.220	.100	.206	.055	.100	.076	.026	.065	.300	0.40
6.91	7.87	5.59	2.54	5.23	1.40	2.54	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

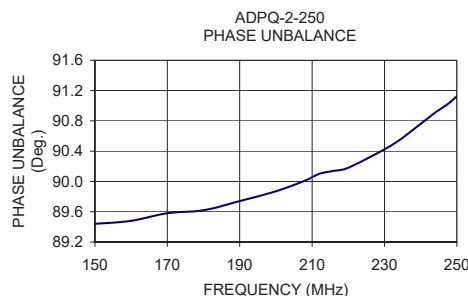
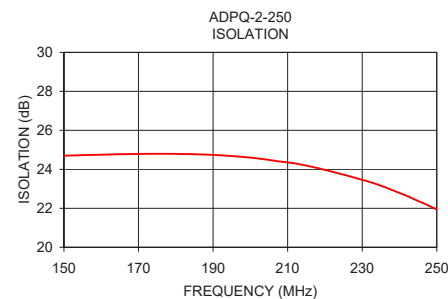
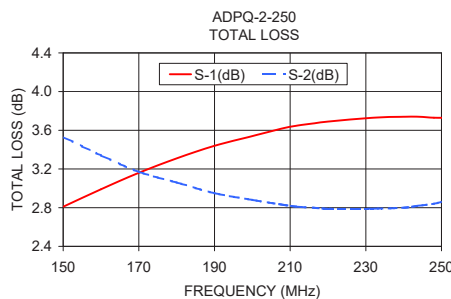
### Electrical Specifications

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

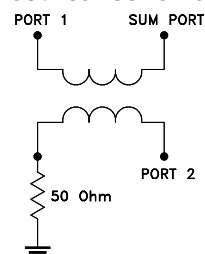
### Typical Performance Data

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



# 2 Way-90° Power Splitter/Combiner

# ADPQ-2-250+

## Typical Performance Data

TEST CONDITIONS: INPUT POWER = 0dBm @Temperature = +25°C

FREQ. (MHz)	TOTAL LOSS <sup>1</sup>			AMP. UNBAL. (dB)	PHASE UNBAL. From 90° (deg.)	ISOLATION (dB) 1-2	VSWR		
	(dB)						(:1)		
	S-1	S-2	AVG.				S	1	2
80	1.26	6.42	3.84	5.16	0.63	26.20	1.12	1.11	1.11
85	1.38	6.06	3.72	4.68	0.67	26.02	1.12	1.11	1.11
90	1.50	5.74	3.62	4.23	0.69	25.87	1.12	1.11	1.12
95	1.63	5.44	3.54	3.82	0.71	25.74	1.12	1.11	1.12
100	1.75	5.18	3.46	3.43	0.73	25.65	1.13	1.12	1.12
105	1.87	4.93	3.40	3.06	0.72	25.57	1.13	1.12	1.12
110	1.99	4.71	3.35	2.72	0.73	25.54	1.13	1.12	1.12
115	2.11	4.51	3.31	2.40	0.70	25.52	1.13	1.12	1.13
120	2.23	4.32	3.27	2.10	0.71	25.52	1.13	1.12	1.13
125	2.34	4.15	3.25	1.81	0.69	25.55	1.13	1.12	1.13
130	2.45	4.00	3.23	1.55	0.71	25.60	1.13	1.12	1.13
135	2.56	3.86	3.21	1.30	0.69	25.66	1.13	1.12	1.13
140	2.67	3.73	3.20	1.06	0.66	25.75	1.13	1.12	1.13
145	2.77	3.61	3.19	0.84	0.65	25.83	1.13	1.12	1.13
150	2.87	3.50	3.18	0.64	0.61	25.92	1.13	1.12	1.13
155	2.96	3.40	3.18	0.44	0.60	26.01	1.13	1.12	1.13
160	3.05	3.31	3.18	0.27	0.58	26.13	1.13	1.12	1.13
165	3.13	3.23	3.18	0.10	0.53	26.20	1.13	1.12	1.13
170	3.21	3.16	3.18	0.06	0.54	26.27	1.13	1.13	1.13
175	3.28	3.09	3.19	0.20	0.50	26.33	1.13	1.13	1.13
180	3.36	3.03	3.19	0.33	0.43	26.38	1.13	1.13	1.13
185	3.43	2.98	3.20	0.45	0.41	26.40	1.13	1.13	1.13
190	3.49	2.94	3.21	0.55	0.35	26.41	1.13	1.13	1.13
195	3.54	2.89	3.22	0.65	0.31	26.39	1.13	1.13	1.13
200	3.59	2.86	3.22	0.73	0.22	26.32	1.14	1.13	1.14
205	3.63	2.83	3.23	0.81	0.18	26.24	1.14	1.13	1.14
210	3.67	2.81	3.24	0.86	0.11	26.11	1.14	1.14	1.14
215	3.70	2.79	3.25	0.91	0.04	25.93	1.15	1.14	1.15
220	3.73	2.79	3.26	0.95	0.03	25.69	1.15	1.14	1.15
225	3.76	2.78	3.27	0.97	0.15	25.39	1.15	1.15	1.15
230	3.77	2.79	3.28	0.98	0.26	25.04	1.16	1.15	1.16
235	3.77	2.80	3.28	0.98	0.41	24.61	1.16	1.16	1.17
240	3.77	2.81	3.29	0.96	0.53	24.15	1.17	1.16	1.17
245	3.77	2.84	3.30	0.93	0.73	23.65	1.18	1.17	1.18
250	3.76	2.87	3.31	0.89	0.92	23.11	1.18	1.18	1.19
255	3.74	2.91	3.33	0.82	1.12	22.51	1.19	1.19	1.20
260	3.72	2.97	3.34	0.75	1.38	21.87	1.20	1.20	1.21
265	3.69	3.04	3.36	0.65	1.67	21.21	1.22	1.21	1.22
270	3.65	3.12	3.38	0.53	2.00	20.52	1.23	1.23	1.24
275	3.61	3.21	3.41	0.40	2.43	19.81	1.24	1.25	1.25
280	3.56	3.31	3.44	0.25	2.88	19.08	1.26	1.26	1.27
285	3.51	3.43	3.47	0.07	3.46	18.33	1.28	1.28	1.29
290	3.45	3.58	3.52	0.13	4.12	17.58	1.30	1.31	1.31
295	3.39	3.75	3.57	0.36	4.92	16.82	1.33	1.33	1.34
300	3.34	3.95	3.64	0.62	5.84	16.07	1.36	1.36	1.37

<sup>1</sup>Total Loss = Insertion Loss + 3dB Splitter Loss

REV. X2  
ADPQ-2-250+  
100623  
Page 1 of 3



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED RoHS compliant  
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see



# 2 Way-90° Power Splitter/Combiner

# ADPQ-2-250+

## Typical Performance Data

TEST CONDITIONS: INPUT POWER = 0dBm @Temperature = -40°C

FREQ. (MHz)	TOTAL LOSS <sup>1</sup> (dB)			AMP. UNBAL. (dB)	PHASE UNBAL. From 90° (deg.)	ISOLATION (dB) 1-2	VSWR (:1)		
	S-1	S-2	AVG.				S	1	2
80	1.23	6.42	3.83	5.19	0.94	25.83	1.12	1.13	1.13
85	1.35	6.06	3.71	4.71	0.98	25.71	1.12	1.13	1.13
90	1.48	5.73	3.60	4.26	1.05	25.61	1.12	1.13	1.13
95	1.60	5.44	3.52	3.84	1.08	25.46	1.12	1.13	1.13
100	1.72	5.17	3.44	3.45	1.11	25.32	1.12	1.13	1.13
105	1.84	4.92	3.38	3.08	1.13	25.15	1.12	1.13	1.13
110	1.96	4.70	3.33	2.74	1.18	25.01	1.13	1.13	1.13
115	2.08	4.50	3.29	2.42	1.19	24.86	1.13	1.13	1.13
120	2.19	4.31	3.25	2.12	1.22	24.75	1.14	1.14	1.13
125	2.31	4.14	3.22	1.83	1.23	24.67	1.15	1.14	1.13
130	2.42	3.99	3.20	1.57	1.32	24.64	1.15	1.14	1.13
135	2.53	3.84	3.19	1.32	1.30	24.66	1.15	1.14	1.13
140	2.63	3.71	3.17	1.08	1.33	24.73	1.15	1.14	1.14
145	2.73	3.59	3.16	0.86	1.33	24.85	1.15	1.15	1.14
150	2.83	3.48	3.16	0.65	1.33	25.02	1.15	1.15	1.14
155	2.92	3.39	3.16	0.46	1.35	25.23	1.15	1.15	1.14
160	3.01	3.29	3.15	0.28	1.33	25.49	1.14	1.15	1.14
165	3.09	3.21	3.15	0.11	1.32	25.72	1.14	1.15	1.14
170	3.17	3.13	3.15	0.04	1.33	25.95	1.13	1.15	1.13
175	3.24	3.06	3.15	0.18	1.32	26.16	1.13	1.14	1.13
180	3.31	3.00	3.15	0.31	1.31	26.31	1.13	1.14	1.13
185	3.38	2.95	3.16	0.43	1.28	26.39	1.12	1.14	1.13
190	3.43	2.90	3.17	0.54	1.24	26.40	1.13	1.14	1.13
195	3.49	2.85	3.17	0.64	1.23	26.34	1.13	1.13	1.13
200	3.53	2.82	3.18	0.72	1.17	26.19	1.13	1.13	1.13
205	3.58	2.78	3.18	0.80	1.15	26.02	1.14	1.13	1.13
210	3.62	2.76	3.19	0.86	1.10	25.81	1.14	1.13	1.13
215	3.65	2.75	3.20	0.90	1.06	25.59	1.15	1.13	1.14
220	3.68	2.74	3.21	0.94	1.02	25.34	1.15	1.13	1.14
225	3.70	2.73	3.22	0.97	0.91	25.10	1.16	1.13	1.14
230	3.71	2.74	3.22	0.98	0.83	24.84	1.16	1.14	1.15
235	3.72	2.74	3.23	0.97	0.71	24.53	1.16	1.14	1.16
240	3.72	2.75	3.23	0.96	0.63	24.21	1.17	1.15	1.17
245	3.71	2.78	3.24	0.94	0.45	23.85	1.17	1.16	1.17
250	3.70	2.81	3.25	0.89	0.30	23.44	1.18	1.17	1.18
255	3.68	2.85	3.26	0.83	0.10	22.93	1.18	1.18	1.19
260	3.66	2.90	3.28	0.76	0.11	22.34	1.19	1.19	1.20
265	3.63	2.97	3.30	0.66	0.40	21.69	1.20	1.20	1.21
270	3.59	3.04	3.31	0.55	0.68	20.97	1.21	1.22	1.23
275	3.55	3.12	3.33	0.42	1.06	20.21	1.23	1.24	1.24
280	3.50	3.23	3.36	0.27	1.48	19.42	1.25	1.26	1.26
285	3.45	3.35	3.40	0.10	2.00	18.61	1.27	1.28	1.28
290	3.39	3.49	3.44	0.10	2.63	17.80	1.30	1.30	1.30
295	3.33	3.65	3.49	0.32	3.35	17.00	1.33	1.33	1.32
300	3.27	3.85	3.56	0.58	4.22	16.21	1.36	1.36	1.35

<sup>1</sup>Total Loss = Insertion Loss + 3dB Splitter Loss

REV. X2  
ADPQ-2-250+  
100623  
Page 2 of 3



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED • RoHS compliant  
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see



# 2 Way-90° Power Splitter/Combiner

# ADPQ-2-250+

## Typical Performance Data

TEST CONDITIONS: INPUT POWER = 0dBm @Temperature = +85°C

FREQ. (MHz)	TOTAL LOSS <sup>1</sup> (dB)			AMP. UNBAL. (dB)	PHASE UNBAL. From 90° (deg.)	ISOLATION (dB) 1-2	VSWR (:1)		
	S-1	S-2	AVG.				S	1	2
80	1.27	6.42	3.85	5.15	0.31	26.56	1.11	1.09	1.09
85	1.40	6.07	3.73	4.67	0.33	26.28	1.12	1.09	1.10
90	1.52	5.74	3.63	4.22	0.33	26.08	1.13	1.10	1.10
95	1.65	5.45	3.55	3.81	0.33	25.91	1.13	1.10	1.11
100	1.76	5.19	3.48	3.42	0.30	25.82	1.14	1.10	1.11
105	1.89	4.95	3.42	3.06	0.26	25.78	1.14	1.10	1.12
110	2.01	4.73	3.37	2.71	0.25	25.82	1.13	1.11	1.12
115	2.13	4.52	3.32	2.40	0.20	25.89	1.13	1.11	1.12
120	2.24	4.34	3.29	2.10	0.18	26.00	1.13	1.11	1.12
125	2.35	4.17	3.26	1.81	0.15	26.15	1.12	1.11	1.12
130	2.46	4.01	3.24	1.55	0.15	26.31	1.12	1.11	1.12
135	2.57	3.87	3.22	1.30	0.07	26.46	1.11	1.11	1.12
140	2.68	3.74	3.21	1.06	0.03	26.59	1.11	1.11	1.12
145	2.78	3.62	3.20	0.84	0.02	26.68	1.11	1.11	1.12
150	2.88	3.51	3.19	0.64	0.09	26.72	1.11	1.11	1.12
155	2.98	3.42	3.20	0.44	0.13	26.73	1.11	1.11	1.12
160	3.07	3.33	3.20	0.26	0.17	26.72	1.11	1.11	1.12
165	3.15	3.25	3.20	0.09	0.25	26.65	1.12	1.11	1.12
170	3.23	3.17	3.20	0.06	0.26	26.57	1.12	1.11	1.12
175	3.30	3.10	3.20	0.20	0.32	26.49	1.13	1.11	1.12
180	3.38	3.05	3.21	0.33	0.40	26.41	1.13	1.11	1.13
185	3.45	3.00	3.22	0.45	0.47	26.35	1.14	1.12	1.13
190	3.51	2.96	3.23	0.55	0.55	26.31	1.14	1.12	1.13
195	3.56	2.92	3.24	0.65	0.60	26.27	1.14	1.12	1.14
200	3.61	2.88	3.25	0.73	0.71	26.22	1.14	1.13	1.14
205	3.66	2.85	3.26	0.81	0.78	26.17	1.15	1.13	1.15
210	3.70	2.83	3.26	0.87	0.87	26.06	1.15	1.14	1.15
215	3.73	2.82	3.27	0.91	0.97	25.91	1.15	1.14	1.16
220	3.76	2.81	3.29	0.95	1.08	25.68	1.15	1.15	1.16
225	3.78	2.81	3.30	0.97	1.22	25.37	1.16	1.16	1.17
230	3.79	2.82	3.31	0.97	1.36	24.99	1.16	1.16	1.17
235	3.80	2.83	3.31	0.97	1.55	24.50	1.17	1.17	1.18
240	3.80	2.84	3.32	0.96	1.70	23.97	1.17	1.18	1.18
245	3.80	2.87	3.33	0.93	1.92	23.39	1.18	1.19	1.19
250	3.78	2.91	3.35	0.88	2.13	22.80	1.19	1.20	1.20
255	3.77	2.95	3.36	0.82	2.36	22.15	1.21	1.21	1.21
260	3.75	3.01	3.38	0.74	2.64	21.48	1.22	1.22	1.22
265	3.72	3.08	3.40	0.64	2.97	20.81	1.23	1.23	1.23
270	3.69	3.16	3.42	0.52	3.35	20.13	1.25	1.24	1.24
275	3.65	3.25	3.45	0.39	3.81	19.44	1.26	1.26	1.26
280	3.60	3.36	3.48	0.23	4.32	18.74	1.28	1.28	1.28
285	3.54	3.49	3.51	0.06	4.91	18.03	1.30	1.30	1.30
290	3.49	3.64	3.56	0.15	5.62	17.32	1.32	1.32	1.33
295	3.43	3.81	3.62	0.38	6.46	16.60	1.34	1.35	1.35
300	3.37	4.01	3.69	0.64	7.44	15.89	1.36	1.38	1.38

<sup>1</sup>Total Loss = Insertion Loss + 3dB Splitter Loss

REV. X2  
ADPQ-2-250+  
100623  
Page 3 of 3



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED • RoHS compliant

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

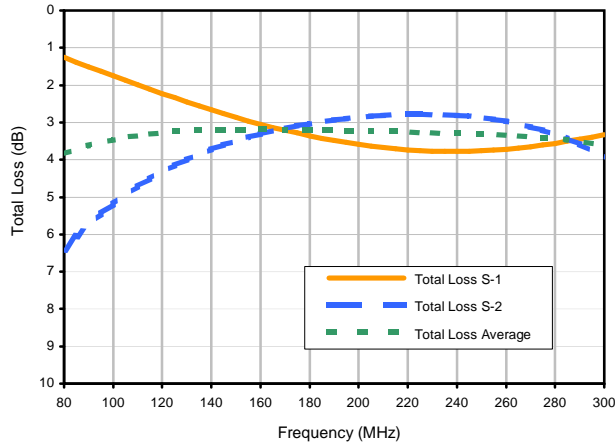


The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see

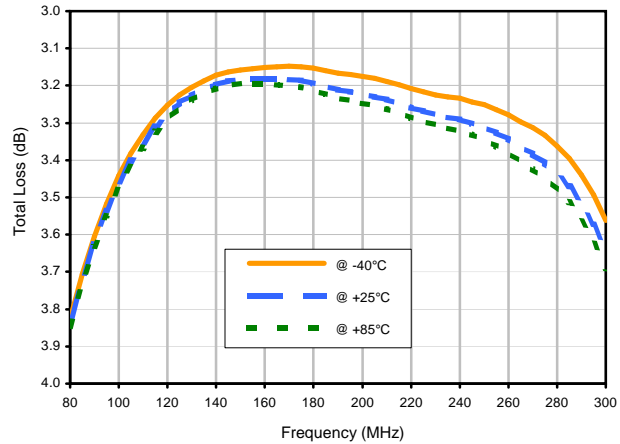


## Typical Performance Curves

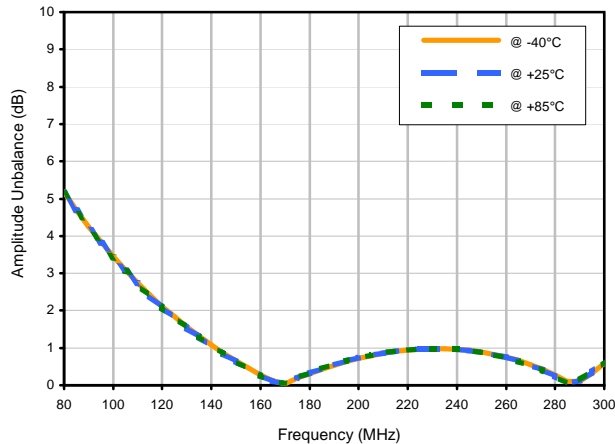
### Total Loss



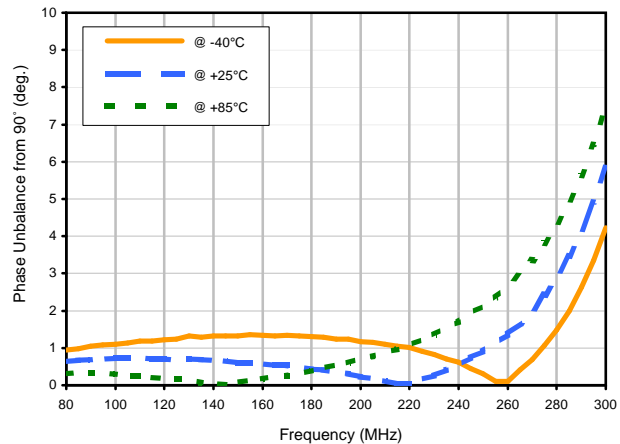
### Average Total Loss vs. TEMPERATURE



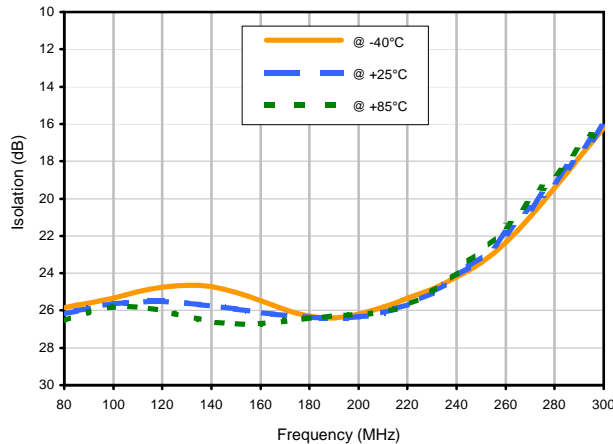
### Amplitude Unbalance vs. TEMPERATURE



### Phase Unbalance vs. TEMPERATURE

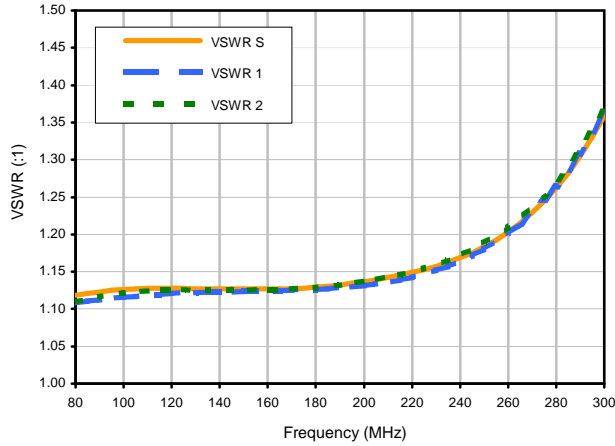


### Isolation 1-2 vs. TEMPERATURE

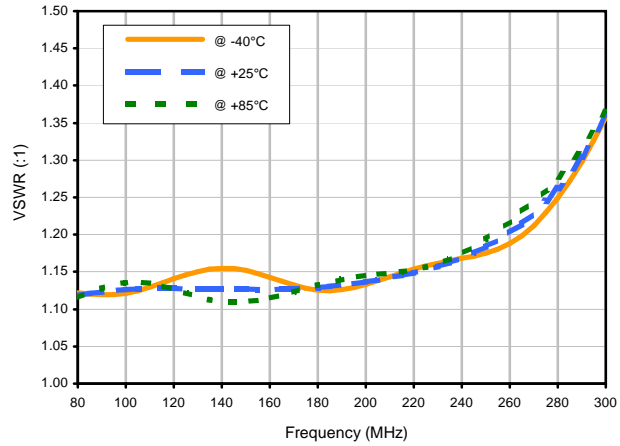


## Typical Performance Curves

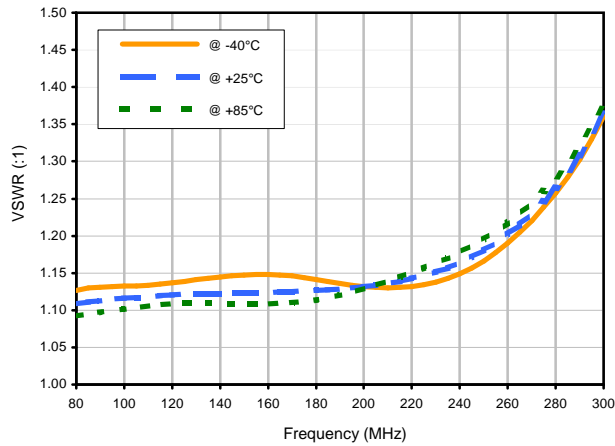
VSWR



VSWR SUM vs. TEMPERATURE



VSWR OUT1 vs. TEMPERATURE

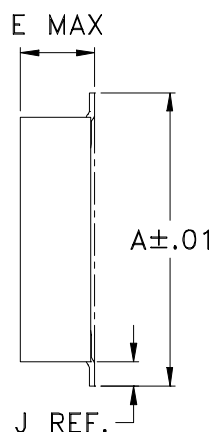


# Case Style

# CD

CD541  
CD542  
CD636  
CD637

## Outline Dimensions



## PCB Land Pattern



Suggested Layout,  
Tolerance to be within  $\pm .002$

CASE#	A	B	C	D	E	F	G	H	J	K	L	WT, GRAM
CD541					.082 (2.08)							.15
CD542	.272 (6.91)	.310 (7.87)	.220 (5.58)	.100 (2.54)	.112 (2.84)	.055 (1.40)	.100 (2.54)	.030 (0.76)	.026 (0.66)	.065 (1.65)	.300 (7.62)	.20
CD636					.162 (4.11)							.25
CD637					.206 (5.23)							.40

Dimensions are in inches (mm). Tolerances: 2 Pl.  $\pm .01$ ; 3 Pl.  $\pm .005$

### Notes:

- Case material: Plastic.
- Termination finish:
  - For RoHS Case Styles: Tin plate over Nickel plate. All models, (+) suffix.
  - For RoHS-5 Case Styles: Tin-Lead plate. All models, no (+) suffix.

**Mini-Circuits**

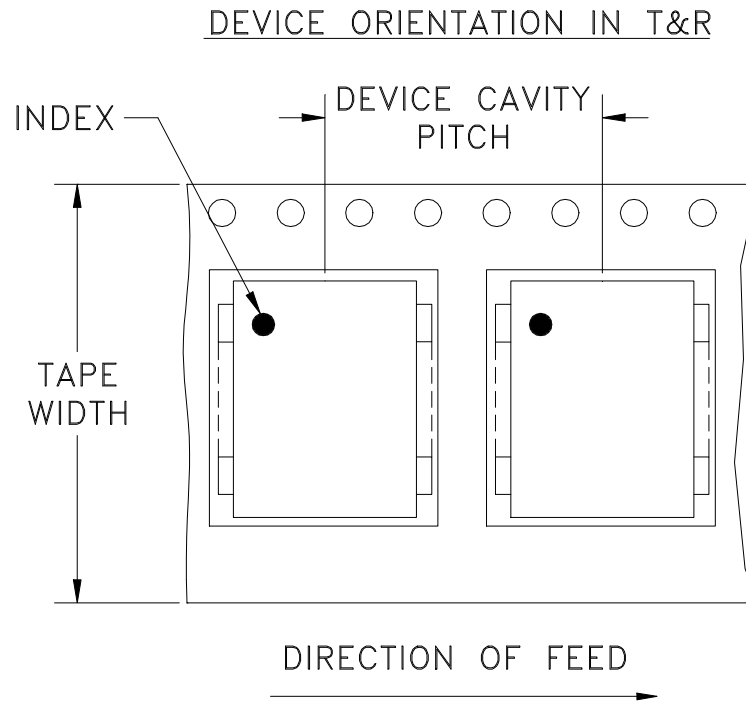
INTERNET <http://www.minicircuits.com>

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

Mini-Circuits ISO 9001 & ISO 14001 Certified

# Tape & Reel Packaging TR-F46



<b>Tape Width, mm</b>	<b>Device Cavity Pitch, mm</b>	<b>Reel Size, inches</b>	<b>Devices per Reel</b>
16	12	13	900

Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.

Go to: [www.minicircuits.com/pages/pdfs/tape.pdf](http://www.minicircuits.com/pages/pdfs/tape.pdf)



INTERNET <http://www.minicircuits.com>

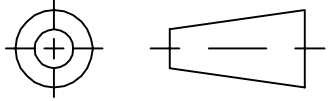
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

Mini-Circuits ISO 9001 & ISO 14001 Certified



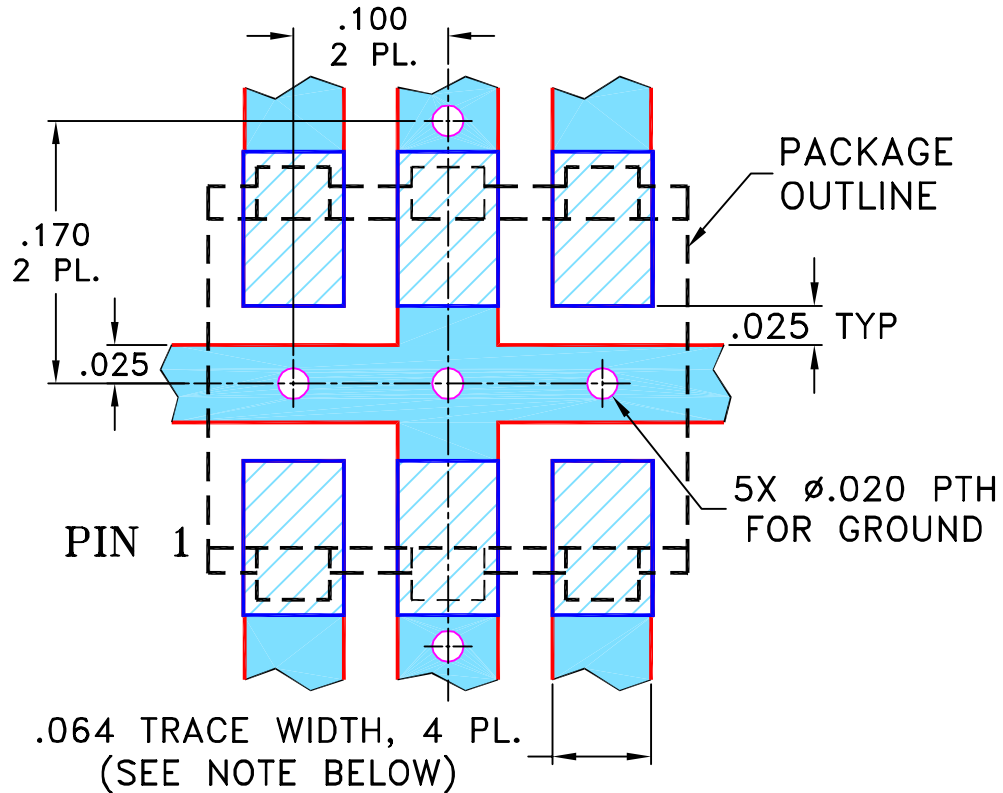
THIRD ANGLE PROJECTION



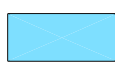
REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M82476	NEW RELEASE	11/26/02	MMG	HY
A	M102713	ADDED "ay", "ls" PIN CONNECTIONS, CD636/637 CASE STYLES & "...WITH SMOBC"	01/17/06	MMG	IL

SUGGESTED MOUNTING CONFIGURATION  
FOR BH292, CD636/CD637 CASE STYLES,  
"ay", "jg", "ls" PIN CONNECTIONS



- 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

UNLESS OTHERWISE SPECIFIED

INITIALS

DATE

DIMENSIONS ARE IN INCHES

DRAWN

MMG

10/30/02

TOLERANCES ON:

CHECKED

AV

11/26/02

2 PL DECIMALS ± .005

APPROVED

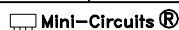
HY

11/26/02

3 PL DECIMALS ±

ANGLES ±

FRACTIONS ±



Mini-Circuits®

13 Neptune Avenue  
 Brooklyn NY 11235

PL, ay/jg/lb, BH292, CD636/637,  
 ADPQ/AMT/JPS, TB-211

SIZE  
 A

CODE IDENT  
 15542

DRAWING NO:  
 98-PL-097

REV:  
 A

FILE: 98PL097

SCALE: 8:1

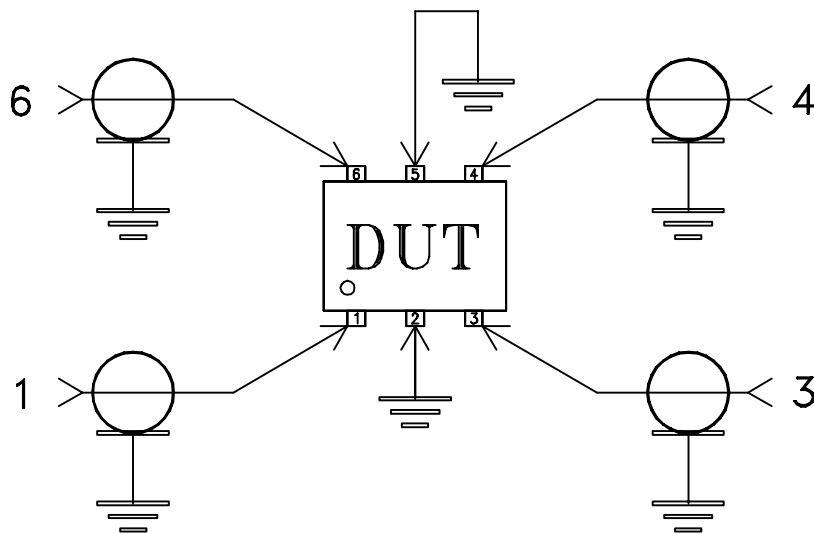
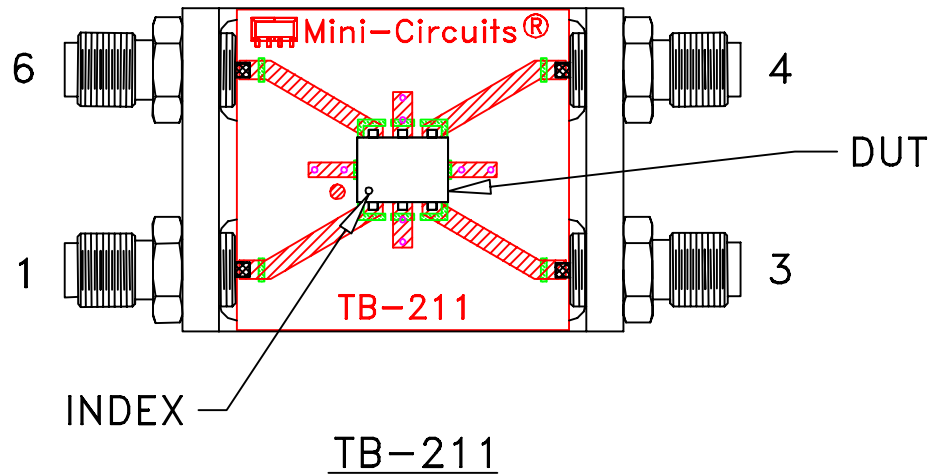
SHEET: 1 OF 1

ASHEETA1.DWG REV:A DATE:01/12/95

THIS DOCUMENT AND ITS CONTENTS ARE THE PROPERTY OF MINI-CIRCUITS. EXCEPT FOR USE EXPRESSLY GRANTED, IN WRITING, TO ITS VENDORS, VENDEE AND THE UNITED STATES GOVERNMENT, MINI-CIRCUITS RESERVES ALL PROPRIETARY DESIGN, USE, MANUFACTURING AND REPRODUCTION RIGHTS THERETO. THESE CONTENTS SHALL NOT BE USED, DUPLICATED OR DISCLOSED TO ANY OUTSIDE PARTY, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION OF MINI-CIRCUITS.

# Evaluation Board and Circuit


For Pin Connections refer to Data Sheet of the DUT



Schematic Diagram

## Notes:

1. SMA Female connectors.
2. PCB Material: Rogers R04350 or equivalent,  
Dielectric Constant=3.5, Thickness=.030 inch.

 Mini-Circuits®



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-40° to 85°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Humidity	90 to 95% RH, 240 hours, 50°C	MIL-STD-202, Method 103, Condition A, Except 50°C and end-point electrical test done within 12 hours
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
Solder Reflow Heat	Sn-Pb Eutetic Process: 225°C peak Pb-Free Process 245° - 250°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, 95% Coverage
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C	MIL-STD-202, Method 215