

Power Splitter/Combiner

JPS-3-1

3 Way-0° 50Ω 5 to 300 MHz

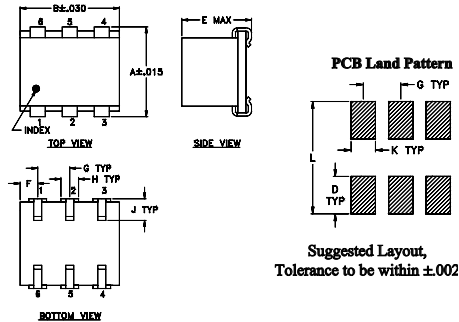
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.
Internal Dissipation	0.375W max.
Permanent damage may occur if any of these limits are exceeded.	

Pin Connections

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

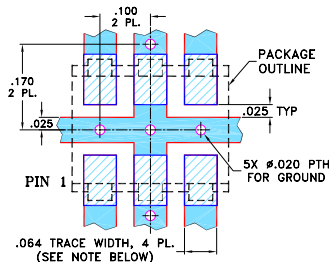
Outline Drawing



Outline Dimensions (inch mm)

A	B	C	D	E	F	G
.280	.310	--	.100	.225	.055	.100
7.11	7.87	--	2.54	5.72	1.40	2.54

H	J	K	L	wt
.047	.065	.065	.300	grams
1.19	1.65	1.65	7.62	0.45

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

- 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.
3. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
4. 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-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

Features

- wideband, 5 to 300 MHz
- high isolation, 33 dB typ.
- low insertion loss, 0.3 dB typ.

Applications

- VHF
- defense & federal communications
- amateur & FM radio



Generic photo used for illustration purposes only

CASE STYLE: BH292

Electrical Specifications

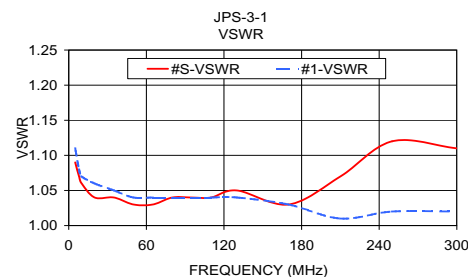
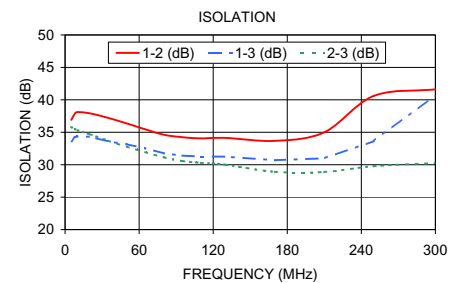
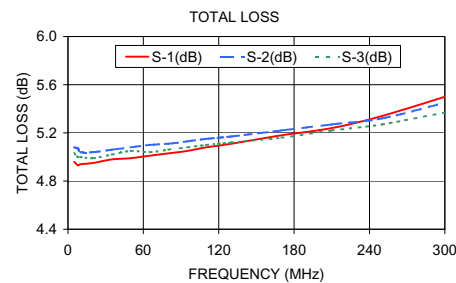
FREQ. RANGE (MHz)	ISOLATION (dB)						INSERTION LOSS (dB) ABOVE 4.8 dB						PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)		
	L		M		U		L		M		U		L	M	U	L	M	U
	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Max.	Max.	Max.	Max.	Max.	Max.
f _l -f _u																		
5-300	34	25	33	23	32	20	0.3	0.6	0.3	0.7	0.5	1.4	2.0	4.0	6.0	0.4	0.4	0.6

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]

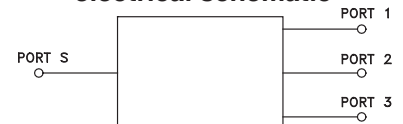
Typical Performance Data

Freq. (MHz)	Total Loss ¹ (dB)			Amp. Unbal. (dB)	Isolation (dB)			Phase Unbal. (deg.)	VSWR S	VSWR 1	VSWR 2	VSWR 3
	S-1	S-2	S-3		1-2	1-3	2-3					
5.00	4.96	5.08	5.03	0.12	36.91	33.62	35.80	0.62	1.09	1.11	1.13	1.16
8.00	4.93	5.07	5.00	0.14	37.89	34.24	35.50	0.52	1.07	1.08	1.10	1.14
10.00	4.94	5.04	5.00	0.11	38.11	34.35	35.29	0.36	1.06	1.07	1.10	1.13
20.00	4.95	5.04	4.99	0.09	37.92	34.31	34.69	0.22	1.04	1.06	1.08	1.12
35.00	4.98	5.06	5.02	0.08	37.22	33.58	33.72	0.13	1.04	1.05	1.07	1.11
50.00	4.99	5.08	5.05	0.09	36.36	33.15	32.78	0.13	1.03	1.04	1.06	1.11
65.00	5.01	5.10	5.04	0.08	35.45	32.52	31.94	0.25	1.03	1.04	1.05	1.11
80.00	5.03	5.11	5.06	0.08	34.62	31.74	31.15	0.26	1.04	1.04	1.05	1.10
95.00	5.05	5.13	5.08	0.08	34.24	31.40	30.56	0.14	1.04	1.04	1.05	1.09
110.00	5.08	5.15	5.10	0.07	34.06	31.26	30.29	0.23	1.04	1.04	1.05	1.09
130.00	5.11	5.17	5.12	0.06	34.13	31.25	29.99	0.37	1.05	1.04	1.05	1.08
170.00	5.18	5.22	5.16	0.05	33.68	30.69	28.91	0.41	1.03	1.03	1.07	1.07
210.00	5.24	5.27	5.22	0.05	35.00	30.99	28.88	0.54	1.07	1.01	1.07	1.07
250.00	5.34	5.32	5.27	0.07	40.60	33.64	29.78	0.57	1.12	1.02	1.08	1.08
300.00	5.50	5.45	5.37	0.12	41.62	40.75	30.25	0.91	1.11	1.02	1.12	1.11

1. Total Loss = Insertion Loss + 4.8dB splitter loss.



electrical schematic



3 Way-0° Power Splitter/Combiner

JPS-3-1

Typical Performance Data

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

FREQ. (MHz)	TOTAL LOSS ¹			AMP. UNBAL. (dB)	PHASE UNBAL. (deg.)	ISOLATION			VSWR			
	S-1	S-2	S-3			1-2	1-3	2-3	S	1	2	3
5	4.89	4.99	4.94	0.10	0.24	38.62	33.13	33.95	1.06	1.08	1.11	1.11
6	4.89	4.99	4.94	0.10	0.18	38.82	33.41	34.09	1.05	1.08	1.10	1.11
7	4.89	4.99	4.94	0.10	0.15	38.94	33.61	34.20	1.05	1.07	1.10	1.10
8	4.89	4.99	4.94	0.10	0.13	38.99	33.76	34.27	1.05	1.07	1.09	1.10
9	4.90	5.00	4.95	0.10	0.10	38.94	33.89	34.31	1.05	1.07	1.09	1.10
10	4.91	5.01	4.97	0.10	0.08	38.90	33.96	34.33	1.05	1.07	1.09	1.10
15	4.92	5.02	4.97	0.10	0.03	38.66	33.99	34.15	1.04	1.06	1.09	1.10
20	4.92	5.01	4.97	0.10	0.03	38.20	33.78	33.79	1.04	1.06	1.09	1.10
25	4.92	5.02	4.98	0.10	0.03	37.65	33.51	33.39	1.04	1.06	1.09	1.09
30	4.92	5.03	4.98	0.10	0.05	37.11	33.20	32.98	1.03	1.06	1.09	1.09
35	4.94	5.04	4.99	0.10	0.07	36.53	32.90	32.57	1.03	1.06	1.09	1.09
40	4.95	5.05	5.00	0.10	0.05	36.08	32.63	32.19	1.03	1.06	1.09	1.09
45	4.96	5.06	5.00	0.10	0.08	35.68	32.38	31.87	1.03	1.06	1.09	1.09
50	4.96	5.06	5.00	0.10	0.08	35.35	32.19	31.59	1.03	1.06	1.09	1.09
60	4.98	5.08	5.02	0.10	0.11	34.80	31.85	31.07	1.03	1.06	1.08	1.09
70	5.00	5.09	5.04	0.09	0.13	34.40	31.57	30.62	1.03	1.06	1.08	1.09
80	5.01	5.11	5.05	0.10	0.12	34.09	31.32	30.19	1.03	1.06	1.08	1.08
90	5.03	5.12	5.06	0.09	0.16	33.72	31.02	29.75	1.03	1.06	1.08	1.08
100	5.04	5.13	5.07	0.08	0.16	33.31	30.76	29.36	1.03	1.05	1.07	1.08
110	5.06	5.14	5.09	0.08	0.18	33.07	30.56	29.05	1.02	1.05	1.07	1.08
120	5.08	5.16	5.09	0.08	0.21	32.96	30.45	28.80	1.02	1.05	1.07	1.08
130	5.10	5.17	5.10	0.07	0.19	32.93	30.38	28.58	1.02	1.04	1.07	1.08
140	5.11	5.18	5.11	0.07	0.21	32.89	30.32	28.40	1.02	1.04	1.07	1.07
150	5.13	5.19	5.12	0.06	0.22	32.87	30.27	28.23	1.02	1.04	1.07	1.07
160	5.14	5.20	5.13	0.07	0.23	32.95	30.27	28.12	1.01	1.04	1.07	1.07
170	5.16	5.21	5.14	0.07	0.21	33.17	30.35	28.02	1.01	1.04	1.07	1.07
180	5.18	5.22	5.15	0.07	0.22	33.43	30.48	27.97	1.02	1.03	1.07	1.07
190	5.20	5.24	5.17	0.07	0.28	33.69	30.63	27.92	1.02	1.03	1.07	1.07
200	5.21	5.25	5.17	0.08	0.25	34.01	30.77	27.90	1.03	1.03	1.07	1.07
210	5.23	5.26	5.18	0.08	0.26	34.49	31.01	27.97	1.03	1.03	1.07	1.07
220	5.26	5.28	5.19	0.08	0.27	35.20	31.33	28.07	1.04	1.03	1.07	1.08
230	5.28	5.29	5.20	0.09	0.29	36.02	31.75	28.18	1.05	1.03	1.08	1.08
240	5.29	5.30	5.21	0.09	0.35	37.08	32.22	28.31	1.06	1.03	1.08	1.09
250	5.31	5.32	5.22	0.09	0.38	38.36	32.76	28.46	1.07	1.03	1.09	1.09
260	5.34	5.34	5.24	0.10	0.39	40.13	33.43	28.68	1.09	1.04	1.09	1.09
270	5.37	5.36	5.25	0.12	0.41	42.61	34.27	28.93	1.10	1.04	1.10	1.10
280	5.39	5.38	5.26	0.13	0.40	45.91	35.30	29.18	1.12	1.05	1.10	1.11
290	5.42	5.40	5.28	0.14	0.42	47.64	36.54	29.40	1.14	1.05	1.11	1.12
300	5.46	5.42	5.30	0.16	0.47	44.98	37.80	29.56	1.16	1.06	1.11	1.12
310	5.49	5.45	5.32	0.17	0.52	41.31	38.95	29.68	1.18	1.07	1.12	1.13
320	5.53	5.49	5.35	0.18	0.57	38.01	39.58	29.73	1.20	1.07	1.13	1.14
330	5.57	5.52	5.38	0.19	0.69	35.31	39.17	29.59	1.23	1.08	1.14	1.15
340	5.62	5.56	5.41	0.21	0.79	33.04	37.72	29.21	1.26	1.09	1.15	1.16
350	5.67	5.60	5.44	0.22	0.91	31.16	35.77	28.64	1.30	1.10	1.16	1.17
375	5.82	5.74	5.56	0.26	1.23	27.35	31.01	26.63	1.39	1.13	1.19	1.20
400	6.02	5.93	5.72	0.30	1.62	24.28	27.19	24.15	1.52	1.16	1.22	1.23
425	6.29	6.18	5.94	0.34	2.14	21.77	24.20	21.74	1.67	1.19	1.25	1.26
450	6.63	6.51	6.24	0.38	2.71	19.62	21.72	19.54	1.88	1.23	1.29	1.30
475	7.06	6.94	6.63	0.42	3.45	17.79	19.65	17.60	2.12	1.27	1.32	1.33
500	7.59	7.48	7.13	0.46	4.40	16.22	17.91	15.91	2.41	1.31	1.36	1.37
525	8.25	8.15	7.75	0.50	5.45	14.91	16.46	14.48	2.76	1.36	1.39	1.39
550	9.04	8.95	8.50	0.54	6.80	13.81	15.25	13.27	3.16	1.39	1.42	1.42

¹Total Loss = Insertion Loss + 4.8dB Splitter Loss

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



3 Way-0° Power Splitter/Combiner

JPS-3-1

Typical Performance Data

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

FREQ. (MHz)	TOTAL LOSS ¹ (dB)			AMP. UNBAL. (dB)	PHASE UNBAL. (deg.)	ISOLATION (dB)			VSWR (:1)			
	S-1	S-2	S-3			1-2	1-3	2-3	S	1	2	3
5	4.91	5.03	4.97	0.12	0.65	35.95	30.21	31.34	1.07	1.13	1.16	1.17
6	4.90	5.01	4.95	0.11	0.56	36.59	30.97	31.98	1.07	1.12	1.14	1.16
7	4.89	4.99	4.94	0.10	0.50	37.14	31.62	32.51	1.06	1.10	1.13	1.14
8	4.89	4.98	4.94	0.09	0.46	37.59	32.20	32.97	1.06	1.10	1.12	1.13
9	4.89	4.98	4.94	0.09	0.41	37.91	32.71	33.37	1.05	1.09	1.11	1.12
10	4.90	4.99	4.95	0.09	0.35	38.16	33.11	33.67	1.05	1.08	1.11	1.11
15	4.90	4.98	4.94	0.08	0.18	38.92	34.22	34.42	1.04	1.07	1.09	1.09
20	4.90	4.97	4.93	0.07	0.11	38.97	34.56	34.51	1.04	1.06	1.08	1.08
25	4.90	4.97	4.93	0.07	0.06	38.78	34.57	34.36	1.04	1.06	1.07	1.08
30	4.90	4.98	4.94	0.07	0.10	38.45	34.48	34.11	1.04	1.06	1.07	1.07
35	4.91	4.98	4.94	0.07	0.14	38.02	34.32	33.82	1.04	1.05	1.06	1.07
40	4.92	4.99	4.95	0.07	0.16	37.66	34.14	33.51	1.03	1.05	1.06	1.06
45	4.92	4.99	4.95	0.07	0.20	37.38	33.98	33.25	1.03	1.05	1.06	1.06
50	4.93	4.99	4.96	0.06	0.25	37.09	33.86	33.02	1.03	1.05	1.05	1.06
60	4.95	5.01	4.97	0.06	0.31	36.66	33.64	32.53	1.03	1.04	1.05	1.06
70	4.96	5.02	4.98	0.06	0.40	36.33	33.45	32.06	1.03	1.04	1.06	1.06
80	4.97	5.03	4.99	0.06	0.43	36.02	33.26	31.60	1.03	1.04	1.06	1.06
90	4.98	5.04	5.00	0.06	0.49	35.60	32.95	31.06	1.03	1.04	1.07	1.07
100	5.00	5.05	5.01	0.05	0.57	35.07	32.67	30.56	1.03	1.03	1.07	1.07
110	5.01	5.06	5.02	0.05	0.65	34.70	32.41	30.12	1.02	1.03	1.07	1.07
120	5.03	5.07	5.02	0.05	0.70	34.43	32.20	29.73	1.02	1.03	1.06	1.06
130	5.04	5.08	5.03	0.05	0.75	34.25	32.02	29.37	1.03	1.03	1.06	1.06
140	5.06	5.09	5.04	0.05	0.83	34.03	31.84	29.05	1.03	1.03	1.05	1.05
150	5.07	5.10	5.05	0.05	0.89	33.86	31.70	28.75	1.04	1.03	1.05	1.05
160	5.09	5.11	5.06	0.05	0.95	33.78	31.59	28.51	1.04	1.03	1.05	1.05
170	5.10	5.12	5.06	0.05	1.00	33.84	31.54	28.30	1.04	1.03	1.05	1.05
180	5.12	5.13	5.07	0.06	1.05	33.92	31.56	28.14	1.04	1.03	1.05	1.05
190	5.14	5.14	5.08	0.06	1.07	34.05	31.59	28.01	1.04	1.03	1.05	1.05
200	5.15	5.15	5.08	0.07	1.16	34.26	31.65	27.93	1.04	1.02	1.05	1.06
210	5.16	5.16	5.09	0.07	1.20	34.66	31.83	27.95	1.04	1.02	1.06	1.06
220	5.18	5.17	5.10	0.08	1.23	35.30	32.10	28.02	1.04	1.02	1.06	1.06
230	5.20	5.18	5.11	0.09	1.27	36.08	32.48	28.13	1.04	1.02	1.06	1.06
240	5.21	5.19	5.11	0.10	1.35	37.16	32.95	28.28	1.04	1.02	1.06	1.06
250	5.23	5.20	5.12	0.11	1.34	38.53	33.53	28.45	1.05	1.02	1.06	1.07
260	5.25	5.22	5.13	0.12	1.38	40.45	34.24	28.70	1.06	1.02	1.07	1.07
270	5.28	5.23	5.14	0.14	1.40	43.28	35.16	29.01	1.07	1.02	1.07	1.07
280	5.30	5.25	5.15	0.15	1.42	47.44	36.28	29.32	1.09	1.03	1.08	1.08
290	5.32	5.26	5.16	0.16	1.44	49.67	37.60	29.59	1.11	1.04	1.09	1.09
300	5.35	5.29	5.18	0.17	1.48	45.26	38.93	29.83	1.13	1.04	1.10	1.10
310	5.38	5.31	5.20	0.18	1.49	40.93	39.90	29.98	1.16	1.05	1.10	1.11
320	5.42	5.34	5.22	0.20	1.47	37.51	39.89	30.03	1.18	1.06	1.11	1.12
330	5.46	5.37	5.25	0.21	1.47	34.82	38.72	29.84	1.21	1.07	1.13	1.13
340	5.50	5.41	5.27	0.23	1.45	32.60	36.84	29.39	1.25	1.08	1.14	1.14
350	5.54	5.44	5.30	0.24	1.42	30.75	34.79	28.74	1.28	1.09	1.15	1.15
375	5.68	5.57	5.41	0.27	1.32	27.04	30.25	26.55	1.38	1.12	1.18	1.18
400	5.87	5.75	5.56	0.31	1.18	24.03	26.64	24.00	1.51	1.15	1.21	1.22
425	6.11	5.98	5.77	0.34	0.93	21.57	23.78	21.59	1.67	1.19	1.25	1.26
450	6.44	6.29	6.05	0.38	1.02	19.44	21.36	19.38	1.88	1.23	1.29	1.30
475	6.84	6.70	6.43	0.42	1.24	17.62	19.33	17.42	2.13	1.27	1.33	1.33
500	7.37	7.24	6.92	0.45	1.76	16.06	17.61	15.72	2.46	1.32	1.37	1.37
525	8.01	7.89	7.53	0.48	2.67	14.73	16.17	14.27	2.84	1.37	1.40	1.41
550	8.79	8.69	8.27	0.51	3.83	13.63	14.97	13.04	3.30	1.41	1.44	1.43

¹Total Loss = Insertion Loss + 4.8dB Splitter Loss

REV. X2

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Patent Pending

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3 Way-0° Power Splitter/Combiner

JPS-3-1

Typical Performance Data

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

FREQ. (MHz)	TOTAL LOSS ¹			AMP. UNBAL. (dB)	PHASE UNBAL. (deg.)	ISOLATION			VSWR			
	S-1	S-2	S-3			1-2	1-3	2-3	S	1	2	3
5	4.91	5.06	4.99	0.14	0.29	37.92	31.79	32.78	1.07	1.10	1.13	1.14
6	4.92	5.06	4.99	0.14	0.22	38.02	31.99	32.91	1.06	1.09	1.12	1.13
7	4.92	5.06	4.99	0.14	0.18	38.07	32.12	32.99	1.06	1.09	1.12	1.13
8	4.92	5.06	5.00	0.14	0.16	38.06	32.21	33.03	1.06	1.09	1.12	1.13
9	4.93	5.07	5.01	0.14	0.14	37.97	32.27	33.05	1.06	1.09	1.12	1.13
10	4.95	5.09	5.02	0.14	0.13	37.88	32.31	33.05	1.06	1.09	1.12	1.13
15	4.95	5.09	5.03	0.14	0.10	37.54	32.25	32.85	1.05	1.08	1.12	1.13
20	4.95	5.09	5.03	0.14	0.08	37.01	32.04	32.50	1.05	1.08	1.12	1.13
25	4.96	5.10	5.03	0.14	0.13	36.46	31.78	32.13	1.04	1.08	1.12	1.13
30	4.96	5.11	5.04	0.15	0.10	35.91	31.50	31.73	1.04	1.08	1.13	1.14
35	4.98	5.12	5.05	0.14	0.14	35.31	31.22	31.36	1.04	1.08	1.13	1.14
40	4.98	5.13	5.06	0.15	0.16	34.84	30.94	30.99	1.04	1.08	1.13	1.14
45	4.99	5.14	5.07	0.15	0.21	34.45	30.70	30.68	1.04	1.08	1.13	1.14
50	5.00	5.14	5.07	0.15	0.22	34.09	30.50	30.41	1.03	1.08	1.13	1.14
60	5.02	5.16	5.09	0.14	0.29	33.50	30.13	29.88	1.03	1.08	1.13	1.14
70	5.04	5.17	5.10	0.14	0.35	33.04	29.82	29.44	1.03	1.08	1.12	1.13
80	5.05	5.19	5.11	0.14	0.41	32.69	29.55	29.03	1.03	1.08	1.11	1.12
90	5.08	5.20	5.12	0.12	0.46	32.32	29.24	28.61	1.03	1.08	1.10	1.11
100	5.09	5.21	5.14	0.12	0.50	31.93	28.98	28.27	1.04	1.08	1.09	1.10
110	5.11	5.23	5.15	0.12	0.50	31.71	28.79	28.00	1.03	1.07	1.09	1.10
120	5.13	5.24	5.16	0.11	0.58	31.62	28.68	27.81	1.03	1.07	1.09	1.10
130	5.15	5.26	5.17	0.11	0.63	31.63	28.61	27.66	1.02	1.07	1.09	1.10
140	5.17	5.27	5.18	0.10	0.67	31.64	28.58	27.54	1.01	1.06	1.10	1.10
150	5.18	5.28	5.19	0.10	0.71	31.68	28.55	27.45	1.01	1.06	1.10	1.10
160	5.20	5.29	5.20	0.09	0.78	31.81	28.57	27.40	1.01	1.06	1.10	1.11
170	5.21	5.31	5.22	0.09	0.86	32.06	28.66	27.40	1.02	1.06	1.10	1.11
180	5.24	5.32	5.23	0.09	0.91	32.40	28.81	27.42	1.03	1.05	1.10	1.11
190	5.26	5.33	5.24	0.09	1.02	32.76	28.97	27.46	1.03	1.05	1.10	1.10
200	5.28	5.34	5.24	0.10	1.03	33.16	29.14	27.52	1.04	1.05	1.09	1.10
210	5.30	5.36	5.25	0.10	1.11	33.71	29.38	27.66	1.05	1.05	1.09	1.10
220	5.33	5.38	5.27	0.11	1.15	34.48	29.69	27.82	1.06	1.05	1.09	1.10
230	5.35	5.39	5.29	0.11	1.21	35.38	30.08	28.00	1.07	1.05	1.10	1.10
240	5.37	5.41	5.30	0.11	1.31	36.51	30.50	28.18	1.08	1.05	1.10	1.10
250	5.39	5.43	5.31	0.11	1.42	37.87	30.99	28.39	1.10	1.06	1.11	1.11
260	5.42	5.45	5.33	0.12	1.48	39.72	31.55	28.65	1.11	1.06	1.11	1.12
270	5.46	5.47	5.35	0.13	1.61	42.41	32.24	28.94	1.13	1.06	1.12	1.13
280	5.49	5.50	5.36	0.13	1.71	46.46	33.06	29.23	1.15	1.07	1.13	1.14
290	5.52	5.52	5.38	0.14	1.81	50.63	34.02	29.46	1.17	1.07	1.14	1.14
300	5.56	5.55	5.41	0.15	1.91	47.31	35.02	29.66	1.19	1.08	1.14	1.15
310	5.60	5.58	5.43	0.17	2.05	42.53	35.99	29.78	1.21	1.09	1.14	1.15
320	5.64	5.62	5.46	0.18	2.18	38.81	36.88	29.86	1.23	1.09	1.15	1.16
330	5.69	5.66	5.49	0.19	2.34	35.88	37.37	29.75	1.26	1.10	1.15	1.17
340	5.74	5.70	5.53	0.21	2.50	33.50	37.15	29.40	1.29	1.11	1.16	1.17
350	5.79	5.75	5.57	0.22	2.67	31.56	36.08	28.87	1.32	1.12	1.17	1.18
375	5.96	5.90	5.69	0.27	3.10	27.70	31.95	26.94	1.42	1.14	1.20	1.21
400	6.18	6.10	5.86	0.31	3.65	24.60	28.06	24.50	1.54	1.17	1.23	1.25
425	6.45	6.36	6.09	0.36	4.29	22.08	24.94	22.12	1.68	1.20	1.26	1.27
450	6.80	6.70	6.40	0.41	5.02	19.91	22.36	19.91	1.87	1.24	1.28	1.30
475	7.25	7.13	6.79	0.45	5.86	18.08	20.23	17.97	2.09	1.27	1.32	1.34
500	7.80	7.68	7.30	0.50	6.94	16.51	18.44	16.28	2.37	1.31	1.35	1.37
525	8.47	8.35	7.92	0.56	8.16	15.19	16.94	14.83	2.68	1.35	1.38	1.39
550	9.26	9.15	8.65	0.61	9.60	14.08	15.70	13.61	3.05	1.39	1.40	1.41

¹Total Loss = Insertion Loss + 4.8dB Splitter Loss

REV. X2

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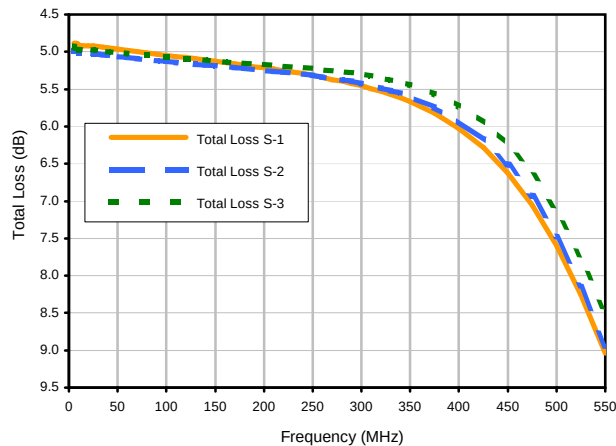


3 Way-0° Power Splitter/Combiner

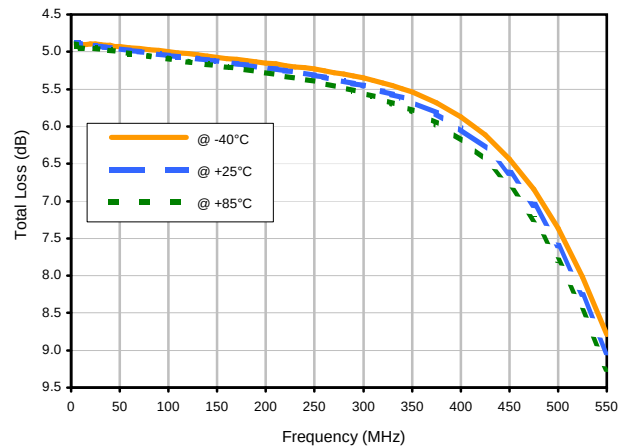
JPS-3-1

Typical Performance Curves

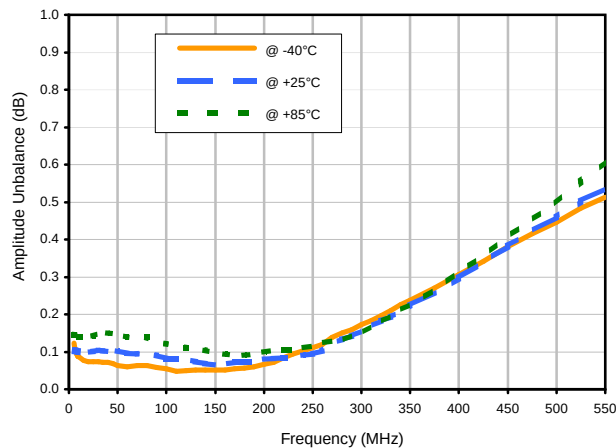
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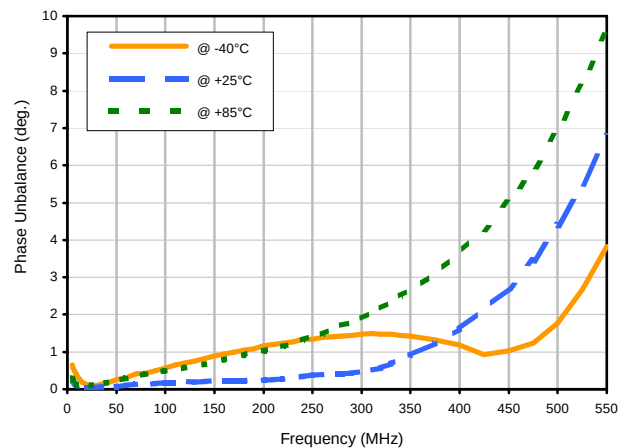
Total Loss S-1 vs. TEMPERATURE



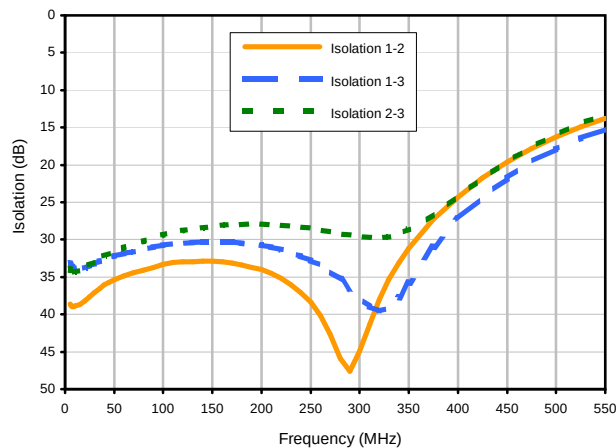
Amplitude Unbalance vs. TEMPERATURE



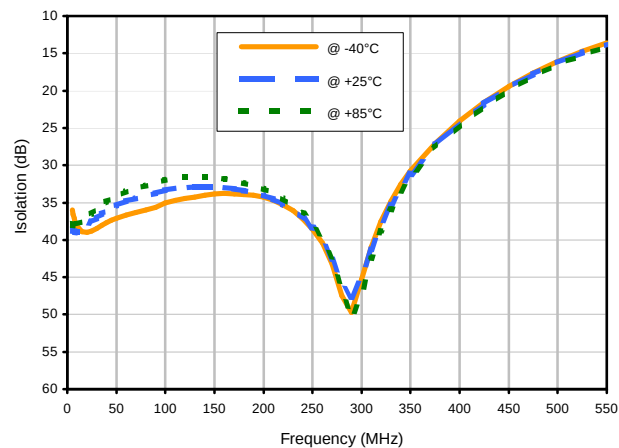
Phase Unbalance vs. TEMPERATURE



Isolation



Isolation 1-2 vs. TEMPERATURE



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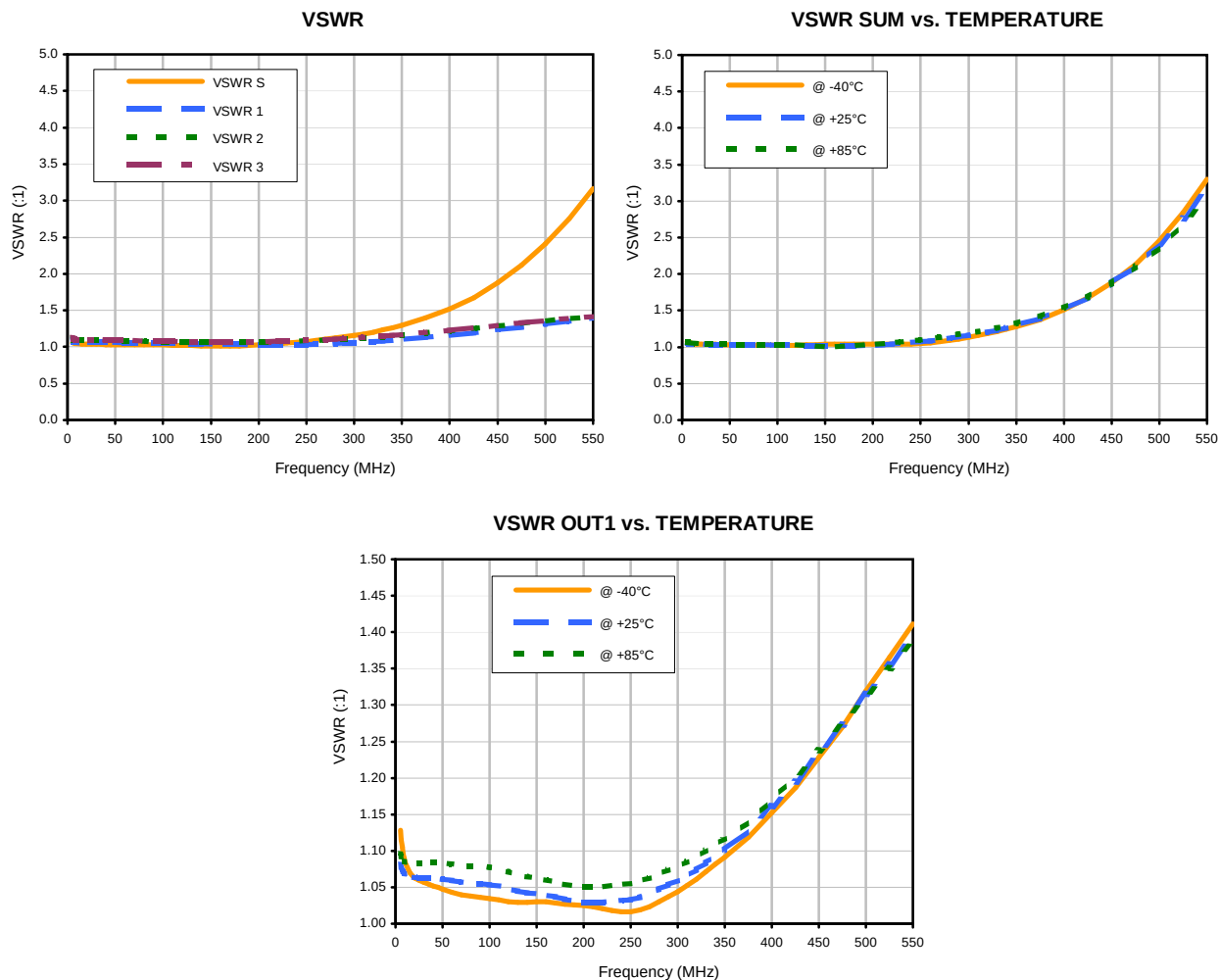
REV. X2

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Typical Performance Curves



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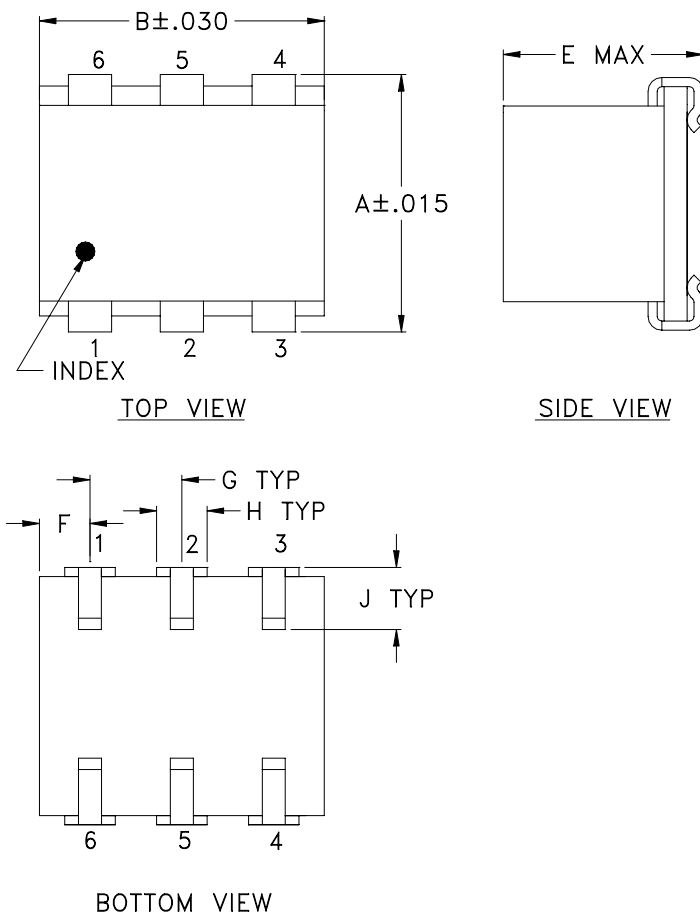
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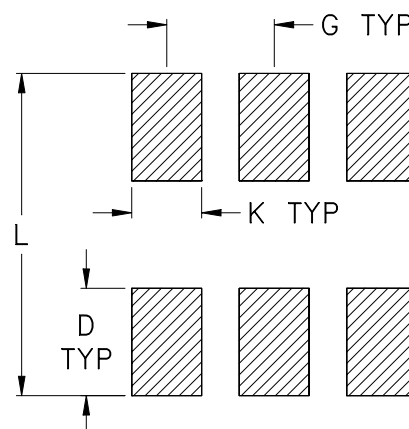
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Outline Dimensions



PCB Land Pattern



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

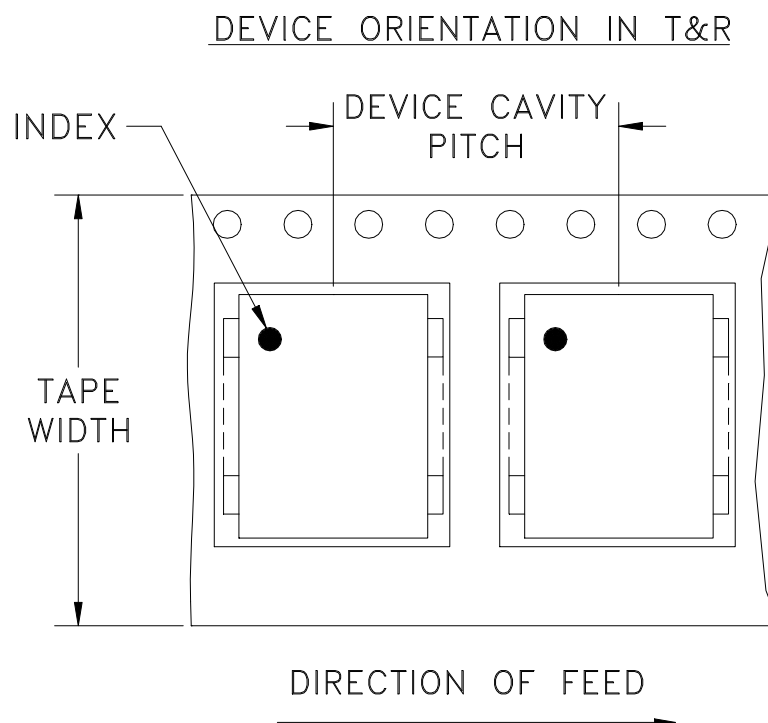
CASE #	A	B	C	D	E	F	G	H	J	K	L	WT. GRAM
BH292	.280 (7.11)	.310 (7.87)	- -	.100 (2.54)	.225 (5.72)	.055 (1.40)	.100 (2.54)	.047 (1.19)	.065 (1.65)	.065 (1.65)	.300 (7.62)	.45

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

Notes:

- Case material: Ceramic.
- 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.

Tape & Reel Packaging TR-F24



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel
16	12	13	500

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.

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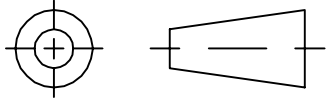
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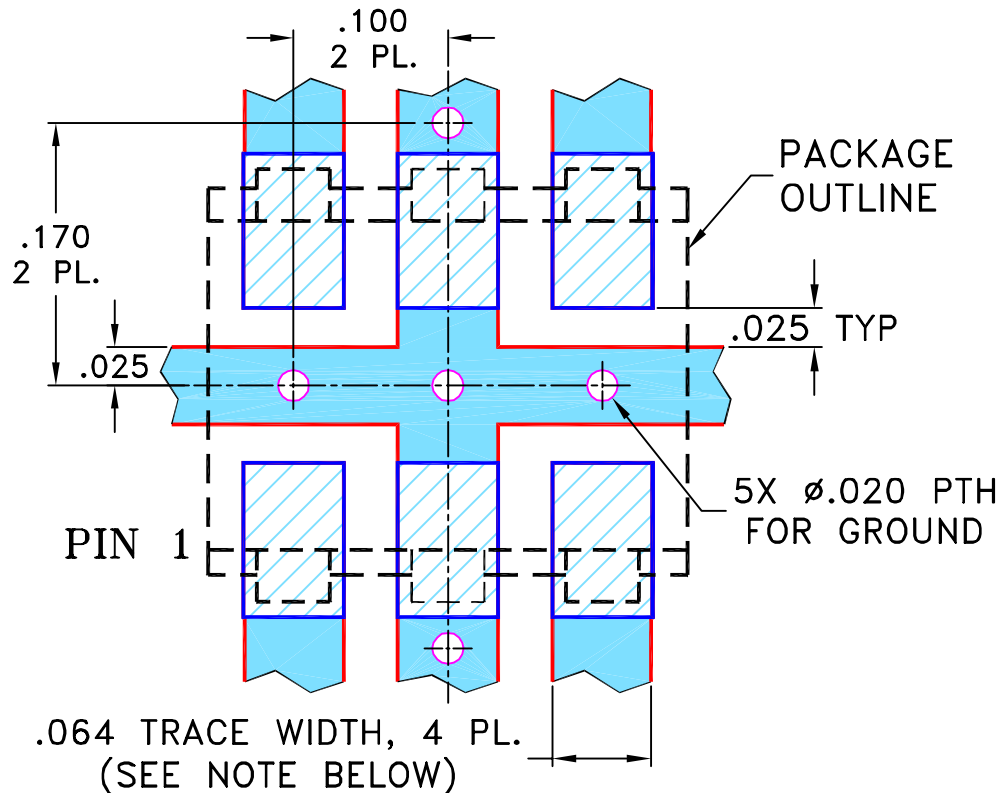
THIRD ANGLE PROJECTION



REVISIONS

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

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



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" $\pm$.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

TOLERANCES ON:

2 PL DECIMALS $\pm$ 3 PL DECIMALS $\pm$.005ANGLES $\pm$ FRACTIONS $\pm$

DRAWN

MMG

10/30/02

CHECKED

AV

11/26/02

APPROVED

HY

11/26/02



Mini-Circuits®

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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

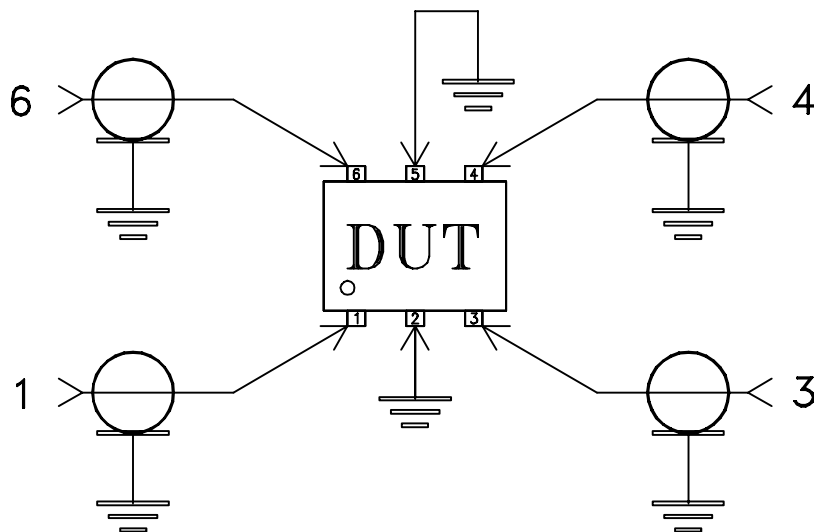
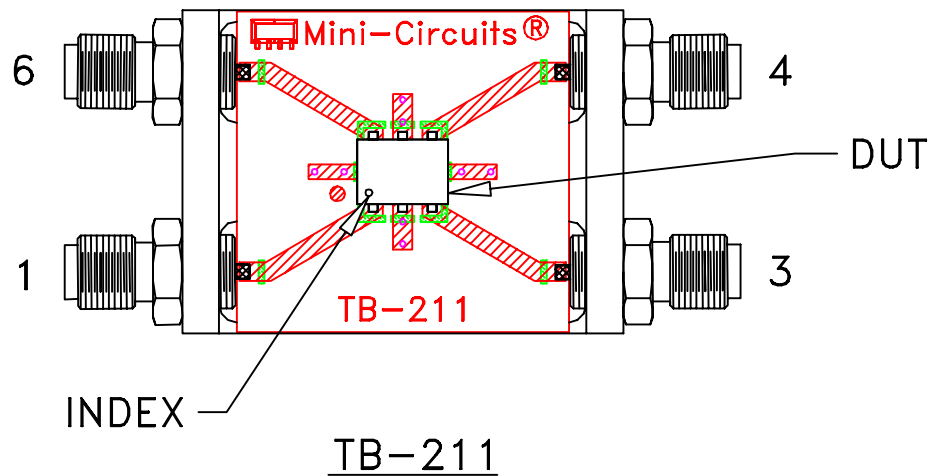
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ASHEETA1.DWG REV:A DATE:01/12/95

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