

Surface Mount

Power Splitter/Combiner

8 Way-0° 50Ω 5 to 1000 MHz
JCPS-8-10+


Generic photo used for illustration purposes only

CASE STYLE: BG291

+RoHS Compliant

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

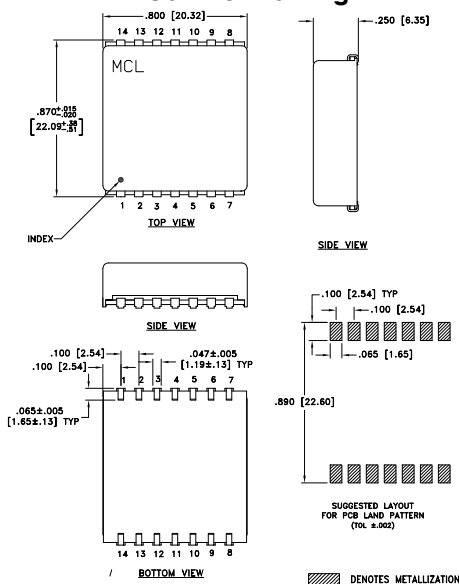
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	0.5W max.
Internal Dissipation	0.875W max.
Permanent damage may occur if any of these limits are exceeded.	

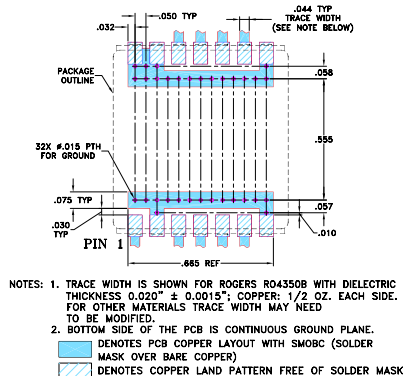
Pin Connections

SUM PORT	1
PORT 1	3
PORT 2	4
PORT 3	5
PORT 4	6
PORT 5	9
PORT 6	10
PORT 7	11
PORT 8	12
GROUND	2,7,8,13,14

Outline Drawing



Demo Board MCL P/N: TB-134 Suggested PCB Layout (PL-037)



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

Features

- wideband frequency, 5 to 1000 MHz
- excellent input matching, VSWR 1.35 typ.
- excellent output matching, VSWR 1.25 typ.
- shielded metal case
- J-leads for good solderability & strain relief
- aqueous washable
- protected under U.S Patent 6,963,255

Applications

- CATV
- VHF/UHF

Electrical Specifications

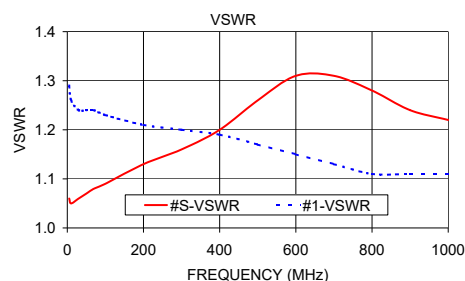
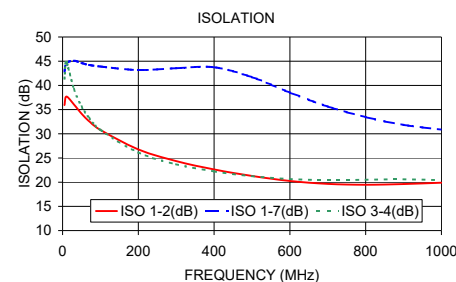
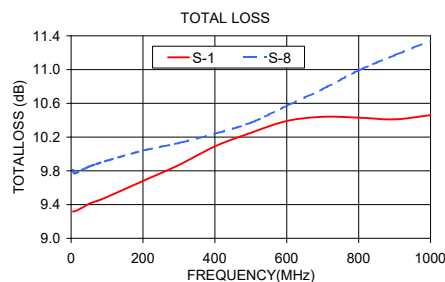
FREQ. RANGE (MHz)	ISOLATION (dB)			INSERTION LOSS (dB) ABOVE 9.0 dB			PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)		
	L	M	U	L	M	U	L	M	U	L	M	U
f_L - f_U	Typ.	Min	Typ.	Min	Typ.	Min	Typ.	Max.	Typ.	Max.	Typ.	Max.
5-1000	34	20	22	16	20	15	0.5	1.5	1.2	2.2	1.8	3.0

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]

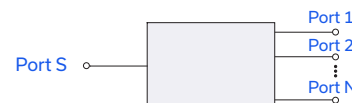
Typical Performance Data

Freq. (MHz)	Total Loss ¹ (dB)						Amplitude Unbalance (dB)	Isolation (dB)				VSWR		
	S-1	S-2	S-3	S-4	S-6	S-8		1-2	1-7	3-4	6-7	S	1	8
5.00	9.32	9.52	9.50	9.68	9.66	9.81	0.48	35.93	42.85	41.38	44.66	1.06	1.29	1.37
10.00	9.32	9.50	9.47	9.65	9.63	9.77	0.45	37.70	44.59	44.75	44.72	1.05	1.26	1.33
30.00	9.36	9.55	9.52	9.69	9.68	9.81	0.45	36.05	45.09	39.23	42.45	1.06	1.24	1.32
50.00	9.41	9.58	9.55	9.72	9.72	9.85	0.45	34.15	44.62	35.64	39.66	1.07	1.24	1.31
70.00	9.44	9.61	9.58	9.74	9.74	9.88	0.44	32.59	44.23	33.28	37.44	1.08	1.24	1.31
100.00	9.49	9.66	9.62	9.78	9.77	9.92	0.42	30.78	43.90	30.81	35.03	1.09	1.23	1.30
200.00	9.68	9.83	9.77	9.92	9.89	10.04	0.36	26.77	43.17	26.11	30.42	1.13	1.21	1.26
300.00	9.87	10.01	9.92	10.06	9.99	10.13	0.36	24.36	43.56	23.70	28.36	1.16	1.20	1.23
400.00	10.09	10.19	10.08	10.19	10.09	10.24	0.39	22.64	43.75	22.22	27.44	1.20	1.19	1.19
500.00	10.25	10.35	10.22	10.32	10.21	10.37	0.40	21.29	41.70	21.25	26.98	1.26	1.17	1.15
600.00	10.39	10.50	10.39	10.50	10.39	10.57	0.41	20.26	38.51	20.65	26.76	1.31	1.15	1.12
700.00	10.44	10.58	10.51	10.65	10.60	10.77	0.39	19.65	35.63	20.44	26.89	1.31	1.13	1.09
800.00	10.43	10.60	10.62	10.79	10.80	10.99	0.56	19.47	33.44	20.50	27.74	1.28	1.11	1.06
900.00	10.41	10.62	10.71	10.93	10.99	11.17	0.76	19.61	31.84	20.60	29.88	1.24	1.11	1.06
1000.00	10.46	10.69	10.88	11.12	11.17	11.34	0.88	19.89	30.86	20.42	34.76	1.22	1.11	1.10

1. Total Loss = Insertion Loss + 9dB splitter loss.



electrical schematic



8 Way-0° Power Splitter/Combiner

JCPS-8-10+

Typical Performance Data

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

FREQ. (MHz)	TOTAL LOSS ¹						AMP. UNBAL. (dB)	PHASE UNBAL. (deg.)	ISOLATION				VSWR		
	(dB)								(dB)				(:1)		
	S-1	S-2	S-3	S-4	S-6	S-8			1-2	1-7	3-4	5-7	S	1	8
5	9.33	9.48	9.47	9.66	9.61	9.75	0.42	0.95	36.80	42.40	37.11	46.12	1.07	1.29	1.39
10	9.34	9.48	9.47	9.64	9.61	9.74	0.40	0.41	37.95	43.44	39.47	45.78	1.06	1.26	1.34
15	9.34	9.49	9.48	9.65	9.62	9.75	0.41	0.29	37.27	43.50	39.35	45.00	1.06	1.25	1.33
20	9.36	9.51	9.49	9.66	9.63	9.77	0.41	0.24	36.33	43.43	38.44	44.21	1.07	1.25	1.33
30	9.38	9.53	9.52	9.69	9.66	9.80	0.41	0.34	34.72	43.27	36.40	42.42	1.07	1.25	1.32
40	9.41	9.56	9.54	9.71	9.68	9.82	0.41	0.43	33.38	43.11	34.66	40.79	1.08	1.25	1.32
50	9.43	9.58	9.56	9.74	9.70	9.84	0.41	0.55	32.23	43.03	33.18	39.33	1.08	1.25	1.32
75	9.48	9.63	9.61	9.79	9.75	9.89	0.41	0.79	29.91	43.01	30.38	36.48	1.10	1.24	1.31
100	9.54	9.67	9.66	9.83	9.79	9.93	0.39	1.02	28.08	43.10	28.29	34.38	1.12	1.23	1.30
125	9.59	9.73	9.70	9.87	9.83	9.97	0.38	1.25	26.60	43.31	26.66	32.75	1.14	1.22	1.29
150	9.64	9.77	9.74	9.91	9.86	10.00	0.36	1.43	25.35	43.65	25.32	31.43	1.16	1.21	1.28
175	9.69	9.82	9.78	9.94	9.90	10.03	0.34	1.59	24.28	43.94	24.19	30.36	1.18	1.20	1.27
200	9.75	9.87	9.82	9.98	9.93	10.06	0.31	1.76	23.39	44.26	23.24	29.51	1.19	1.19	1.26
250	9.87	9.96	9.91	10.06	9.99	10.13	0.29	1.95	21.94	44.71	21.72	28.21	1.22	1.17	1.23
300	9.98	10.07	9.99	10.13	10.05	10.19	0.30	2.10	20.86	44.78	20.60	27.36	1.25	1.14	1.20
350	10.10	10.16	10.07	10.21	10.11	10.25	0.30	2.46	20.07	44.30	19.80	26.84	1.26	1.12	1.18
400	10.19	10.25	10.13	10.28	10.17	10.31	0.30	2.75	19.53	43.55	19.30	26.68	1.26	1.09	1.15
450	10.27	10.32	10.19	10.33	10.23	10.37	0.31	3.13	19.19	42.54	19.06	26.79	1.25	1.06	1.12
475	10.31	10.35	10.22	10.36	10.26	10.40	0.30	3.47	19.10	41.86	19.04	26.97	1.24	1.05	1.11
500	10.33	10.38	10.24	10.39	10.28	10.42	0.30	3.79	19.04	41.11	19.07	27.20	1.23	1.04	1.10
525	10.35	10.41	10.26	10.41	10.32	10.46	0.30	4.13	19.02	40.26	19.16	27.51	1.21	1.04	1.09
550	10.37	10.43	10.28	10.44	10.34	10.49	0.29	4.47	19.03	39.36	19.28	27.85	1.19	1.03	1.08
575	10.38	10.45	10.31	10.47	10.38	10.53	0.29	4.85	19.05	38.40	19.43	28.23	1.17	1.03	1.07
600	10.39	10.48	10.33	10.50	10.42	10.56	0.28	5.21	19.09	37.47	19.59	28.64	1.15	1.03	1.06
650	10.40	10.52	10.38	10.57	10.52	10.66	0.28	5.89	19.17	35.67	19.91	29.47	1.13	1.03	1.04
700	10.43	10.58	10.45	10.66	10.64	10.77	0.35	6.60	19.21	34.13	20.08	30.21	1.15	1.04	1.03
750	10.47	10.65	10.55	10.78	10.77	10.90	0.43	7.17	19.22	32.96	20.08	30.91	1.20	1.04	1.02
800	10.52	10.73	10.66	10.91	10.91	11.03	0.51	7.69	19.23	32.17	19.93	31.78	1.25	1.05	1.02
850	10.60	10.82	10.78	11.05	11.04	11.14	0.54	8.07	19.31	31.82	19.77	33.19	1.30	1.05	1.03
900	10.67	10.91	10.90	11.18	11.14	11.23	0.55	8.30	19.51	31.93	19.65	35.78	1.30	1.06	1.06
925	10.72	10.95	10.97	11.26	11.18	11.26	0.53	8.41	19.64	32.22	19.61	37.61	1.30	1.06	1.06
950	10.78	11.00	11.04	11.32	11.21	11.27	0.54	8.39	19.79	32.65	19.58	39.05	1.28	1.07	1.07
975	10.85	11.06	11.11	11.40	11.23	11.29	0.55	8.28	19.95	33.30	19.52	38.55	1.25	1.07	1.08
1000	10.94	11.13	11.19	11.48	11.27	11.30	0.54	8.20	20.09	34.18	19.46	35.99	1.21	1.07	1.10
1025	11.04	11.21	11.28	11.57	11.29	11.32	0.53	8.05	20.18	35.44	19.35	33.05	1.16	1.07	1.10
1050	11.17	11.31	11.39	11.67	11.33	11.34	0.50	7.88	20.19	37.06	19.16	30.43	1.10	1.07	1.10
1075	11.33	11.43	11.52	11.79	11.39	11.38	0.46	7.63	20.11	39.24	18.90	28.20	1.04	1.07	1.11
1100	11.53	11.58	11.67	11.92	11.46	11.43	0.49	7.53	19.89	42.18	18.55	26.30	1.03	1.07	1.12
1150	12.06	12.01	12.08	12.27	11.71	11.63	0.64	7.36	19.21	43.18	17.73	23.36	1.18	1.06	1.12
1200	12.78	12.58	12.60	12.72	12.07	11.95	0.83	7.86	18.48	37.85	16.96	21.31	1.35	1.05	1.13
1250	13.66	13.26	13.19	13.21	12.53	12.35	1.31	9.57	18.07	34.63	16.52	20.03	1.49	1.04	1.13
1300	14.62	14.00	13.78	13.67	13.02	12.75	1.87	13.50	18.29	33.31	16.69	19.39	1.55	1.04	1.12
1350	15.62	14.79	14.38	14.12	13.57	13.16	2.46	20.79	18.91	34.08	17.96	19.28	1.54	1.08	1.11
1400	16.69	15.77	15.20	14.80	14.33	13.74	2.95	32.37	17.94	39.03	21.16	19.42	1.67	1.16	1.11
1450	18.00	17.23	16.62	16.14	15.67	14.81	3.19	47.55	14.74	48.76	23.66	19.00	2.20	1.26	1.13
1500	19.55	19.11	18.64	18.21	17.57	16.34	3.21	62.82	12.20	34.76	19.60	18.03	3.07	1.35	1.17
1600	22.57	22.46	22.33	22.36	20.97	19.23	3.34	77.33	9.77	29.50	14.24	16.57	4.59	1.47	1.28
1700	24.63	24.49	24.44	24.88	23.04	21.13	3.75	66.74	8.59	29.44	11.52	16.06	5.19	1.57	1.38
1800	24.99	24.99	25.17	25.84	24.49	22.40	3.44	47.13	7.86	31.06	9.82	16.50	5.12	1.64	1.50
1900	24.78	24.84	25.21	25.88	25.74	23.42	3.35	40.76	7.38	33.21	8.82	17.77	4.58	1.68	1.58
2000	25.18	25.44	25.98	26.56	27.48	24.70	3.45	52.98	7.09	36.21	8.29	19.89	3.88	1.70	1.59

¹Total Loss = Insertion Loss + 9dB Splitter Loss



Mini-Circuits®

IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 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



REV. X2
JCPS-8-10+
100623
Page 1 of 3

8 Way-0° Power Splitter/Combiner

JCPS-8-10+

Typical Performance Data

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

FREQ. (MHz)	TOTAL LOSS ¹						AMP. UNBAL.	PHASE UNBAL.	ISOLATION				VSWR		
	(dB)						(dB)	(deg.)	(dB)				(:1)		
	S-1	S-2	S-3	S-4	S-6	S-8			1-2	1-7	3-4	5-7	S	1	8
5	9.35	9.54	9.49	9.69	9.74	9.86	0.51	2.26	30.21	38.65	29.98	50.17	1.14	1.43	1.55
10	9.29	9.43	9.39	9.54	9.56	9.68	0.39	1.37	35.69	42.10	35.98	48.97	1.10	1.29	1.37
15	9.29	9.42	9.38	9.51	9.52	9.64	0.36	0.94	39.49	43.68	41.73	47.53	1.10	1.25	1.31
20	9.29	9.42	9.39	9.51	9.51	9.64	0.36	0.69	40.90	44.35	46.32	46.32	1.10	1.23	1.29
30	9.31	9.43	9.40	9.52	9.52	9.64	0.34	0.50	39.44	44.74	43.08	43.84	1.10	1.21	1.27
40	9.33	9.45	9.42	9.53	9.53	9.65	0.32	0.46	37.04	44.82	38.87	41.85	1.11	1.21	1.26
50	9.34	9.46	9.43	9.56	9.54	9.66	0.32	0.44	35.05	44.80	36.26	40.08	1.12	1.20	1.26
75	9.39	9.50	9.47	9.59	9.57	9.70	0.31	0.56	31.51	44.81	32.27	36.93	1.14	1.19	1.24
100	9.43	9.54	9.51	9.63	9.61	9.73	0.30	0.85	29.18	44.79	29.76	34.79	1.16	1.18	1.23
125	9.47	9.58	9.54	9.66	9.63	9.76	0.29	1.08	27.51	44.90	27.90	33.22	1.17	1.17	1.23
150	9.52	9.62	9.58	9.69	9.67	9.79	0.27	1.33	26.14	45.00	26.43	31.85	1.19	1.17	1.22
175	9.57	9.66	9.62	9.72	9.69	9.82	0.25	1.46	24.97	45.12	25.21	30.69	1.21	1.16	1.21
200	9.62	9.71	9.65	9.75	9.72	9.84	0.25	1.66	23.98	45.25	24.18	29.79	1.23	1.15	1.21
250	9.72	9.79	9.72	9.81	9.77	9.90	0.25	1.86	22.46	45.16	22.54	28.47	1.26	1.13	1.19
300	9.82	9.88	9.79	9.88	9.82	9.95	0.25	2.04	21.35	44.79	21.34	27.56	1.28	1.11	1.16
350	9.92	9.96	9.86	9.93	9.86	10.00	0.26	2.38	20.53	44.08	20.49	27.03	1.29	1.09	1.14
400	10.00	10.03	9.91	9.99	9.90	10.04	0.26	2.69	19.97	43.26	19.95	26.81	1.29	1.06	1.12
450	10.06	10.08	9.96	10.03	9.94	10.09	0.27	3.02	19.63	42.26	19.69	26.90	1.27	1.04	1.10
475	10.09	10.11	9.97	10.05	9.96	10.10	0.27	3.20	19.52	41.62	19.66	27.07	1.25	1.03	1.09
500	10.10	10.12	9.99	10.07	9.98	10.13	0.26	3.43	19.45	40.91	19.68	27.27	1.24	1.02	1.08
525	10.12	10.14	10.00	10.08	10.00	10.15	0.26	3.74	19.42	40.13	19.76	27.54	1.22	1.02	1.07
550	10.12	10.16	10.01	10.10	10.03	10.17	0.26	4.09	19.40	39.26	19.87	27.84	1.20	1.02	1.06
575	10.13	10.17	10.03	10.13	10.06	10.20	0.25	4.42	19.40	38.33	19.99	28.17	1.17	1.02	1.05
600	10.13	10.19	10.04	10.15	10.09	10.23	0.24	4.79	19.41	37.41	20.12	28.52	1.15	1.02	1.05
650	10.13	10.22	10.09	10.21	10.17	10.31	0.24	5.44	19.43	35.62	20.34	29.25	1.14	1.03	1.04
700	10.15	10.26	10.15	10.28	10.27	10.42	0.27	6.12	19.40	34.05	20.37	29.81	1.16	1.04	1.03
750	10.17	10.32	10.23	10.39	10.39	10.53	0.36	6.71	19.34	32.85	20.20	30.31	1.22	1.05	1.02
800	10.21	10.38	10.33	10.51	10.51	10.65	0.43	7.25	19.32	32.00	19.91	30.96	1.28	1.05	1.03
850	10.27	10.47	10.44	10.63	10.62	10.74	0.47	7.69	19.37	31.63	19.66	32.05	1.33	1.06	1.04
900	10.33	10.53	10.55	10.75	10.71	10.82	0.49	7.96	19.56	31.69	19.51	34.13	1.35	1.07	1.07
925	10.37	10.56	10.61	10.81	10.74	10.84	0.47	8.08	19.70	31.96	19.47	35.65	1.34	1.08	1.08
950	10.42	10.60	10.66	10.87	10.76	10.85	0.45	8.13	19.87	32.37	19.44	37.29	1.32	1.08	1.09
975	10.47	10.65	10.72	10.93	10.78	10.85	0.47	8.02	20.07	33.00	19.39	38.03	1.29	1.08	1.10
1000	10.53	10.69	10.78	11.00	10.79	10.85	0.47	7.98	20.23	33.88	19.35	36.69	1.24	1.09	1.11
1025	10.61	10.76	10.86	11.07	10.80	10.85	0.46	7.89	20.35	35.13	19.26	34.03	1.19	1.09	1.11
1050	10.72	10.83	10.95	11.15	10.82	10.85	0.43	7.74	20.36	36.82	19.07	31.30	1.13	1.09	1.11
1075	10.85	10.93	11.07	11.26	10.85	10.86	0.40	7.54	20.28	39.18	18.82	28.85	1.06	1.08	1.12
1100	11.02	11.06	11.20	11.37	10.90	10.89	0.48	7.41	20.05	42.51	18.47	26.78	1.01	1.08	1.13
1150	11.49	11.43	11.56	11.69	11.10	11.05	0.64	7.20	19.29	44.11	17.60	23.61	1.17	1.07	1.13
1200	12.14	11.94	12.05	12.11	11.42	11.33	0.82	7.55	18.43	37.46	16.74	21.39	1.37	1.05	1.13
1250	12.94	12.57	12.59	12.57	11.83	11.69	1.25	8.88	17.91	33.84	16.21	19.99	1.54	1.04	1.12
1300	13.80	13.22	13.12	12.97	12.27	12.07	1.73	12.22	18.06	32.21	16.27	19.25	1.61	1.04	1.11
1350	14.66	13.87	13.60	13.33	12.73	12.41	2.24	18.77	18.71	32.46	17.39	19.15	1.60	1.08	1.10
1400	15.53	14.66	14.22	13.80	13.34	12.85	2.69	29.38	17.95	35.92	20.54	19.46	1.63	1.16	1.10
1450	16.74	15.97	15.44	14.95	14.53	13.78	2.96	43.90	14.49	47.16	23.87	19.20	2.10	1.26	1.11
1500	18.41	17.92	17.46	17.00	16.46	15.34	3.07	59.64	11.71	35.09	19.40	18.13	3.05	1.36	1.16
1600	22.02	21.85	21.66	21.59	20.22	18.44	3.58	76.82	9.26	29.09	13.77	16.42	5.06	1.50	1.28
1700	24.56	24.28	24.15	24.46	22.53	20.52	4.04	68.00	8.14	29.01	11.06	15.83	5.92	1.60	1.39
1800	25.14	24.94	25.05	25.54	24.02	21.89	3.65	48.46	7.46	30.70	9.37	16.23	6.04	1.68	1.52
1900	24.81	24.64	24.92	25.44	25.10	22.84	3.25	40.54	7.01	32.99	8.42	17.44	5.38	1.73	1.61
2000	25.05	24.88	25.27	25.77	26.15	23.76	3.06	49.64	6.77	35.80	7.97	19.48	4.43	1.76	1.62

¹Total Loss = Insertion Loss + 9dB Splitter Loss



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

Mini-Circuits®

IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED • RoHS compliant
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

REV. X2
JCPS-8-10+
100623
Page 2 of 3



8 Way-0° Power Splitter/Combiner

JCPS-8-10+

Typical Performance Data

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

FREQ. (MHz)	TOTAL LOSS ¹ (dB)						AMP. UNBAL. (dB)	PHASE UNBAL. (deg.)	ISOLATION (dB)				VSWR (:1)		
	S-1	S-2	S-3	S-4	S-6	S-8			1-2	1-7	3-4	5-7	S	1	8
5	9.42	9.63	9.60	9.85	9.80	9.96	0.54	0.91	33.16	41.04	34.10	46.81	1.06	1.36	1.46
10	9.43	9.63	9.61	9.84	9.80	9.96	0.52	0.38	33.66	41.68	35.69	46.22	1.04	1.33	1.43
15	9.45	9.65	9.63	9.86	9.82	9.97	0.52	0.24	33.31	41.70	35.64	45.19	1.04	1.33	1.42
20	9.47	9.67	9.64	9.87	9.84	9.99	0.53	0.25	32.79	41.63	35.13	44.18	1.04	1.33	1.42
30	9.50	9.70	9.67	9.90	9.87	10.02	0.53	0.32	31.82	41.53	33.82	42.15	1.05	1.33	1.42
40	9.52	9.73	9.70	9.93	9.89	10.05	0.53	0.44	30.93	41.44	32.53	40.47	1.05	1.33	1.41
50	9.55	9.75	9.72	9.96	9.91	10.07	0.53	0.54	30.13	41.41	31.36	39.01	1.06	1.32	1.41
75	9.61	9.81	9.78	10.01	9.96	10.13	0.52	0.83	28.36	41.47	28.93	36.17	1.07	1.32	1.40
100	9.67	9.86	9.83	10.06	10.01	10.17	0.50	1.07	26.85	41.66	27.04	34.01	1.08	1.31	1.39
125	9.72	9.92	9.88	10.10	10.05	10.21	0.49	1.31	25.52	41.94	25.53	32.33	1.10	1.30	1.38
150	9.78	9.97	9.92	10.15	10.09	10.25	0.47	1.51	24.35	42.27	24.27	31.00	1.12	1.28	1.36
175	9.84	10.02	9.97	10.18	10.13	10.28	0.44	1.71	23.36	42.70	23.22	29.99	1.14	1.27	1.34
200	9.91	10.08	10.02	10.23	10.16	10.32	0.41	1.90	22.52	43.14	22.32	29.20	1.15	1.25	1.32
250	10.04	10.19	10.11	10.32	10.24	10.39	0.36	2.11	21.13	43.92	20.87	27.93	1.18	1.22	1.29
300	10.18	10.31	10.22	10.41	10.32	10.47	0.36	2.37	20.08	44.32	19.79	27.15	1.21	1.19	1.25
350	10.31	10.43	10.31	10.50	10.40	10.54	0.36	2.73	19.30	44.24	19.02	26.72	1.23	1.16	1.22
400	10.43	10.53	10.39	10.58	10.47	10.61	0.36	3.12	18.78	43.69	18.54	26.61	1.23	1.13	1.18
450	10.53	10.63	10.47	10.65	10.55	10.68	0.35	3.45	18.47	42.69	18.33	26.83	1.23	1.10	1.15
475	10.57	10.67	10.50	10.69	10.58	10.71	0.35	3.68	18.39	41.98	18.32	27.08	1.22	1.09	1.13
500	10.60	10.71	10.53	10.72	10.62	10.74	0.34	3.99	18.36	41.20	18.36	27.38	1.21	1.07	1.12
525	10.64	10.75	10.56	10.75	10.66	10.78	0.33	4.32	18.37	40.34	18.47	27.75	1.19	1.06	1.11
550	10.66	10.78	10.59	10.79	10.70	10.82	0.32	4.68	18.41	39.40	18.62	28.19	1.18	1.05	1.10
575	10.68	10.81	10.62	10.82	10.74	10.86	0.32	5.04	18.48	38.46	18.80	28.67	1.16	1.05	1.08
600	10.70	10.84	10.64	10.86	10.79	10.90	0.30	5.38	18.56	37.50	19.01	29.19	1.14	1.04	1.07
650	10.72	10.90	10.71	10.93	10.90	11.00	0.29	6.04	18.76	35.72	19.46	30.27	1.11	1.03	1.06
700	10.76	10.97	10.79	11.03	11.03	11.12	0.36	6.68	18.92	34.22	19.81	31.28	1.12	1.03	1.04
750	10.81	11.05	10.89	11.16	11.18	11.26	0.44	7.20	19.05	33.07	19.98	32.25	1.17	1.03	1.02
800	10.88	11.14	11.01	11.29	11.32	11.39	0.51	7.65	19.16	32.30	20.00	33.41	1.22	1.03	1.01
850	10.97	11.25	11.15	11.45	11.46	11.51	0.54	7.95	19.29	31.96	19.94	35.28	1.26	1.03	1.01
900	11.06	11.35	11.29	11.59	11.57	11.60	0.54	8.05	19.53	32.10	19.90	38.98	1.26	1.04	1.04
925	11.12	11.41	11.36	11.67	11.62	11.64	0.55	8.07	19.68	32.42	19.88	41.85	1.26	1.04	1.05
950	11.19	11.47	11.43	11.76	11.66	11.66	0.57	8.04	19.85	32.83	19.87	43.42	1.24	1.04	1.06
975	11.27	11.54	11.52	11.84	11.70	11.69	0.57	7.87	20.04	33.47	19.85	40.45	1.21	1.05	1.07
1000	11.37	11.62	11.61	11.93	11.74	11.71	0.56	7.71	20.21	34.37	19.82	36.40	1.17	1.05	1.08
1025	11.48	11.72	11.71	12.03	11.78	11.74	0.55	7.53	20.36	35.59	19.74	33.10	1.13	1.05	1.08
1050	11.63	11.83	11.83	12.14	11.83	11.78	0.51	7.27	20.44	37.13	19.59	30.40	1.07	1.05	1.09
1075	11.81	11.97	11.98	12.28	11.90	11.83	0.47	7.02	20.43	39.23	19.38	28.21	1.02	1.05	1.10
1100	12.03	12.14	12.15	12.43	11.99	11.90	0.53	6.84	20.33	41.93	19.09	26.36	1.04	1.05	1.10
1150	12.60	12.61	12.58	12.81	12.27	12.12	0.69	6.92	19.84	43.61	18.37	23.51	1.19	1.05	1.11
1200	13.38	13.22	13.14	13.29	12.67	12.45	0.92	7.34	19.24	38.64	17.66	21.51	1.34	1.05	1.13
1250	14.33	13.97	13.79	13.83	13.16	12.86	1.47	8.74	18.93	35.41	17.25	20.24	1.48	1.04	1.13
1300	15.41	14.81	14.47	14.37	13.71	13.30	2.11	12.58	19.21	34.11	17.46	19.58	1.54	1.05	1.13
1350	16.57	15.73	15.20	14.94	14.34	13.75	2.82	19.79	19.91	34.99	18.75	19.42	1.57	1.09	1.12
1400	17.76	16.81	16.14	15.74	15.17	14.38	3.38	31.32	19.12	40.17	21.98	19.47	1.71	1.16	1.12
1450	18.98	18.21	17.56	17.12	16.51	15.44	3.54	46.55	15.95	48.16	24.75	19.06	2.17	1.26	1.14
1500	20.23	19.83	19.42	19.08	18.30	16.90	3.34	61.88	13.24	35.10	20.57	18.18	2.91	1.36	1.18
1600	22.68	22.66	22.69	22.89	21.49	19.66	3.24	76.21	10.50	29.67	14.84	16.74	4.18	1.48	1.28
1700	24.46	24.45	24.57	25.18	23.43	21.51	3.67	65.51	9.13	29.47	11.97	16.18	4.67	1.57	1.39
1800	24.77	24.91	25.27	26.14	24.87	22.80	3.36	46.08	8.27	30.96	10.16	16.56	4.62	1.64	1.50
1900	24.55	24.80	25.36	26.37	26.20	23.85	3.44	40.15	7.67	33.04	9.06	17.76	4.22	1.68	1.59
2000	24.80	25.29	25.93	27.03	28.05	25.21	3.73	49.81	7.28	35.77	8.44	19.75	3.72	1.70	1.61

¹Total Loss = Insertion Loss + 9dB Splitter Loss



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

Mini-Circuits®

IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED • RoHS compliant

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



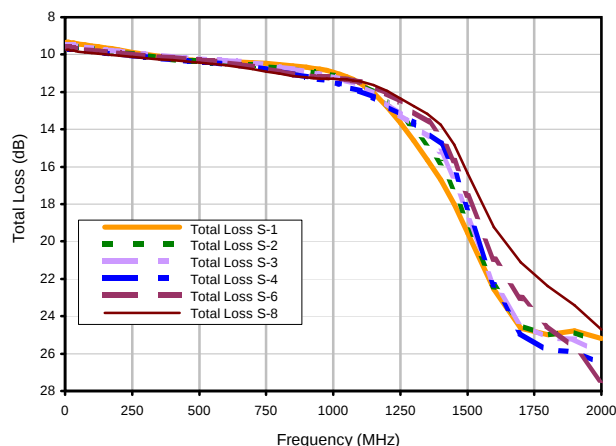
REV. X2
JCPS-8-10+
100623
Page 3 of 3

8 Way-0° Power Splitter/Combiner

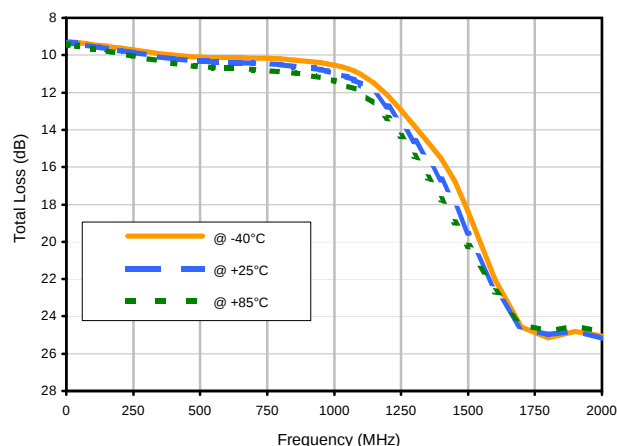
JCPS-8-10+

Typical Performance Curves

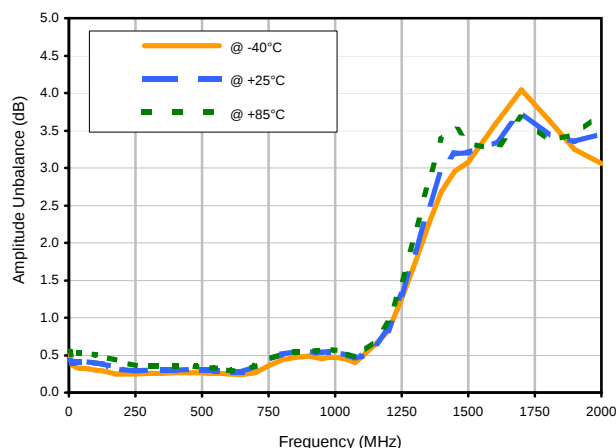
Total Loss



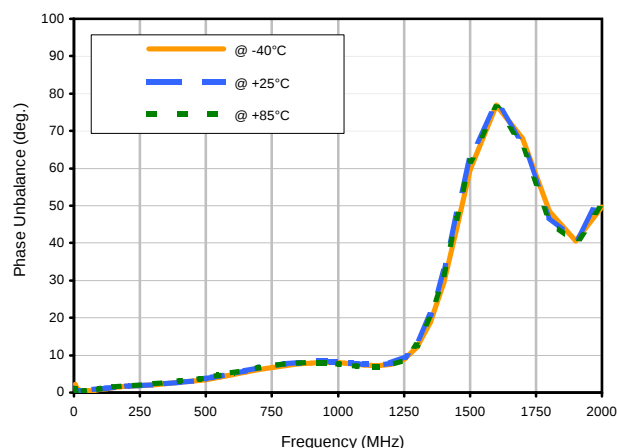
Total Loss S-1 vs. TEMPERATURE



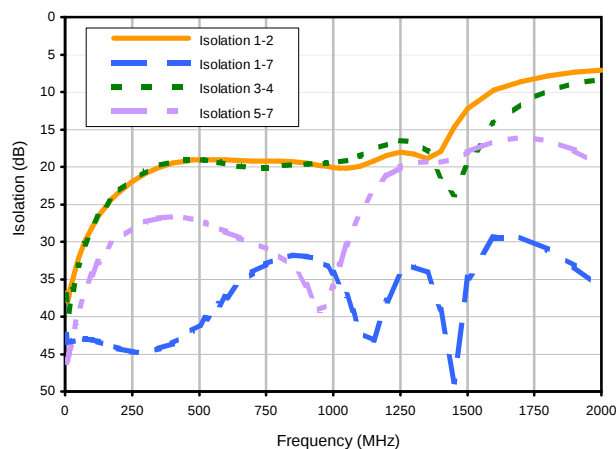
Amplitude Unbalance vs. TEMPERATURE



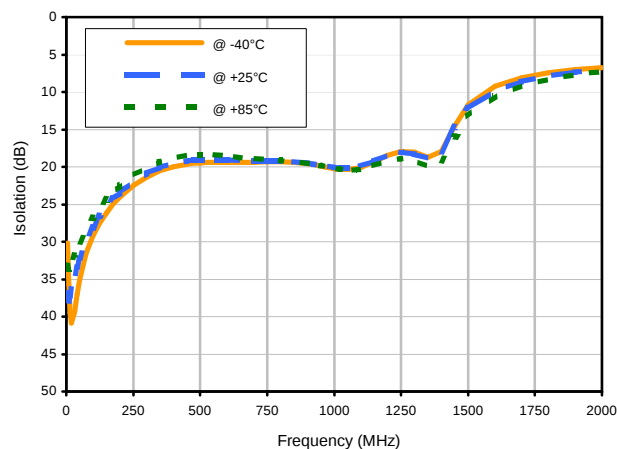
Phase Unbalance vs. TEMPERATURE



Isolation



Isolation 1-2 vs. TEMPERATURE



REV. X2

JCPS-8-10+

100623

Page 1 of 2



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



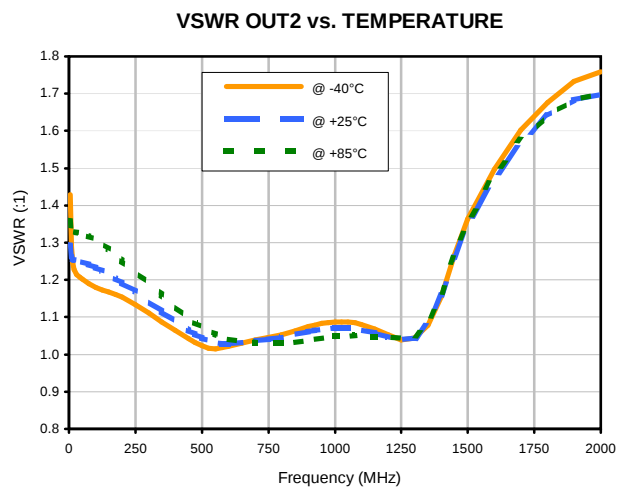
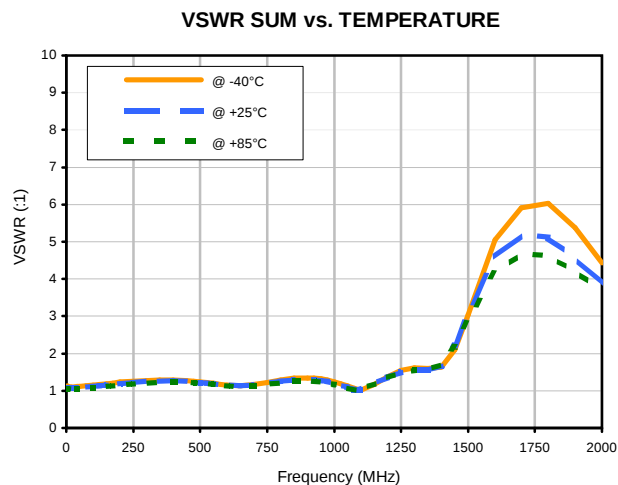
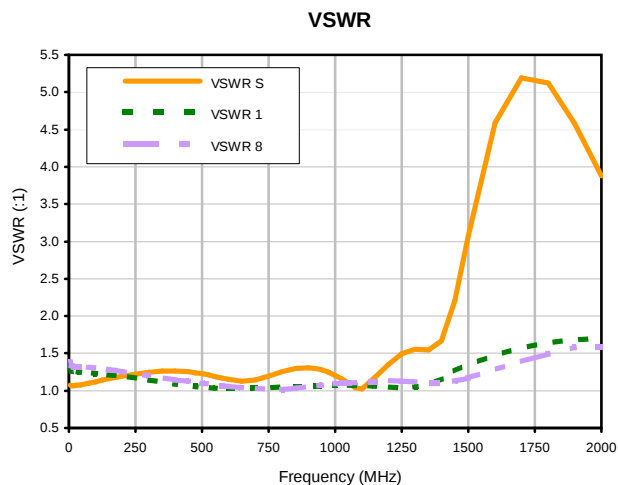
The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see



8 Way-0° Power Splitter/Combiner

JCPS-8-10+

Typical Performance Curves



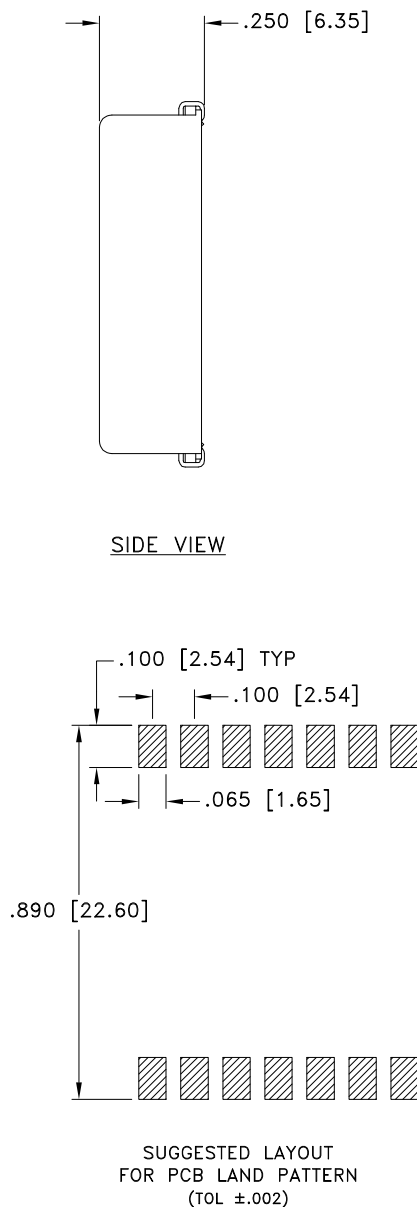
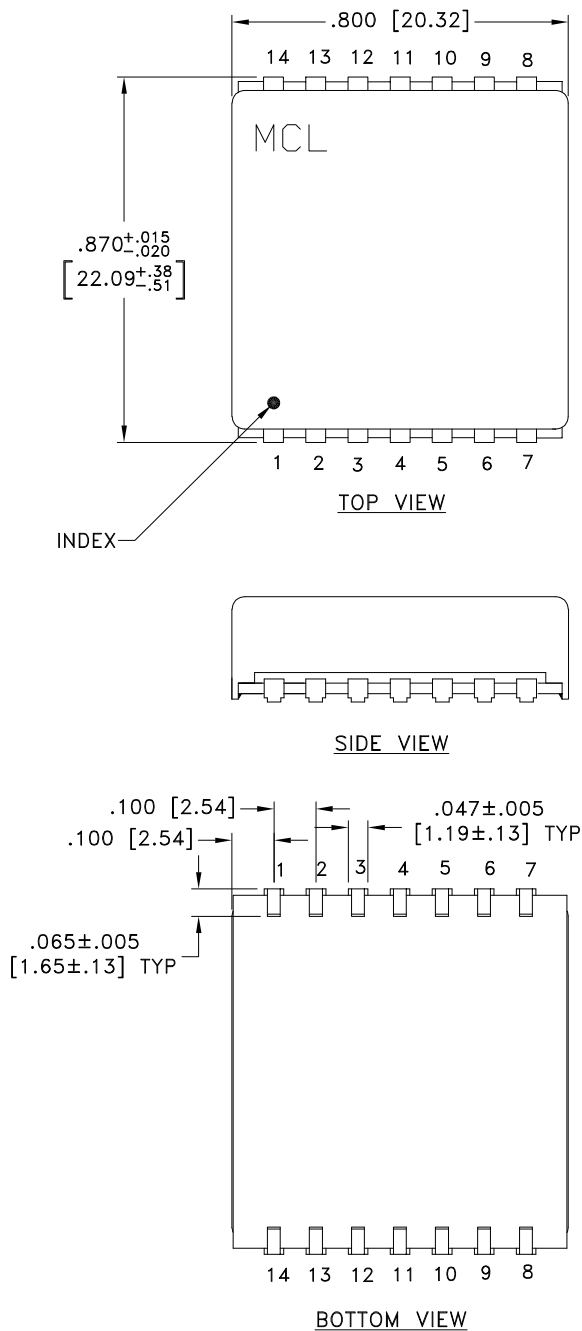
REV. X2
JCPS-8-10+
100623
Page 2 of 2



Mini-Circuits®
IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 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 minicircuits.com

Outline Dimensions

BG291



 DENOTES METALLIZATION

Weight: 4 gram

Dimensions are in inches[mm]. Tolerances: 2PL $\pm$ 0.03[0.76]; 3 PL $\pm$ 0.015 [0.381] inches[mm], unless otherwise specified

Notes:

1. Case material: Copper-Nickel alloy.
2. Base material: Printed wiring laminate.
3. 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®
ISO 9001 ISO 14001 CERTIFIED

ALL NEW
minicircuits.com

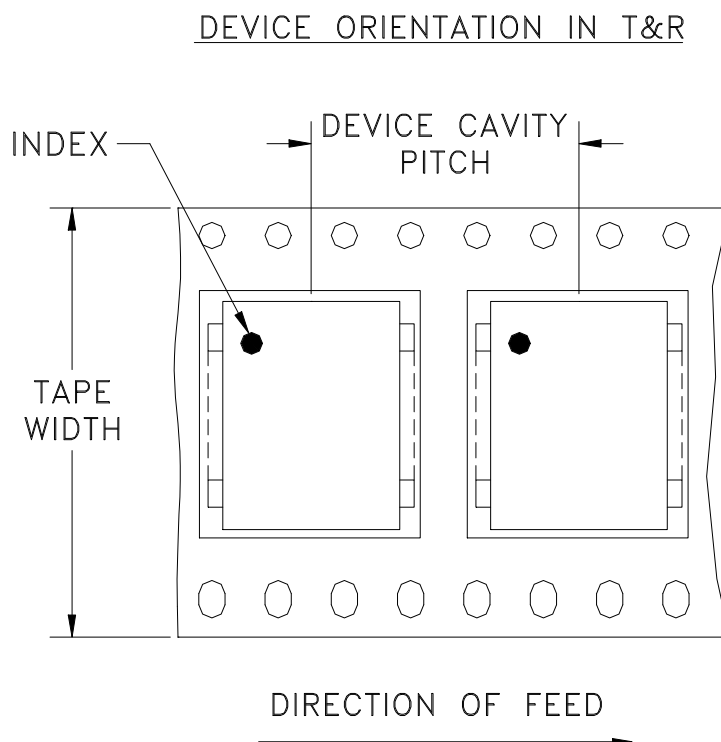
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS

Tape & Reel Packaging TR-F21



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel
32	32	13	200

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



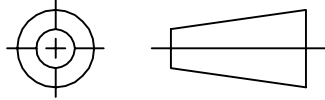
INTERNET <http://www.minicircuits.com>

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

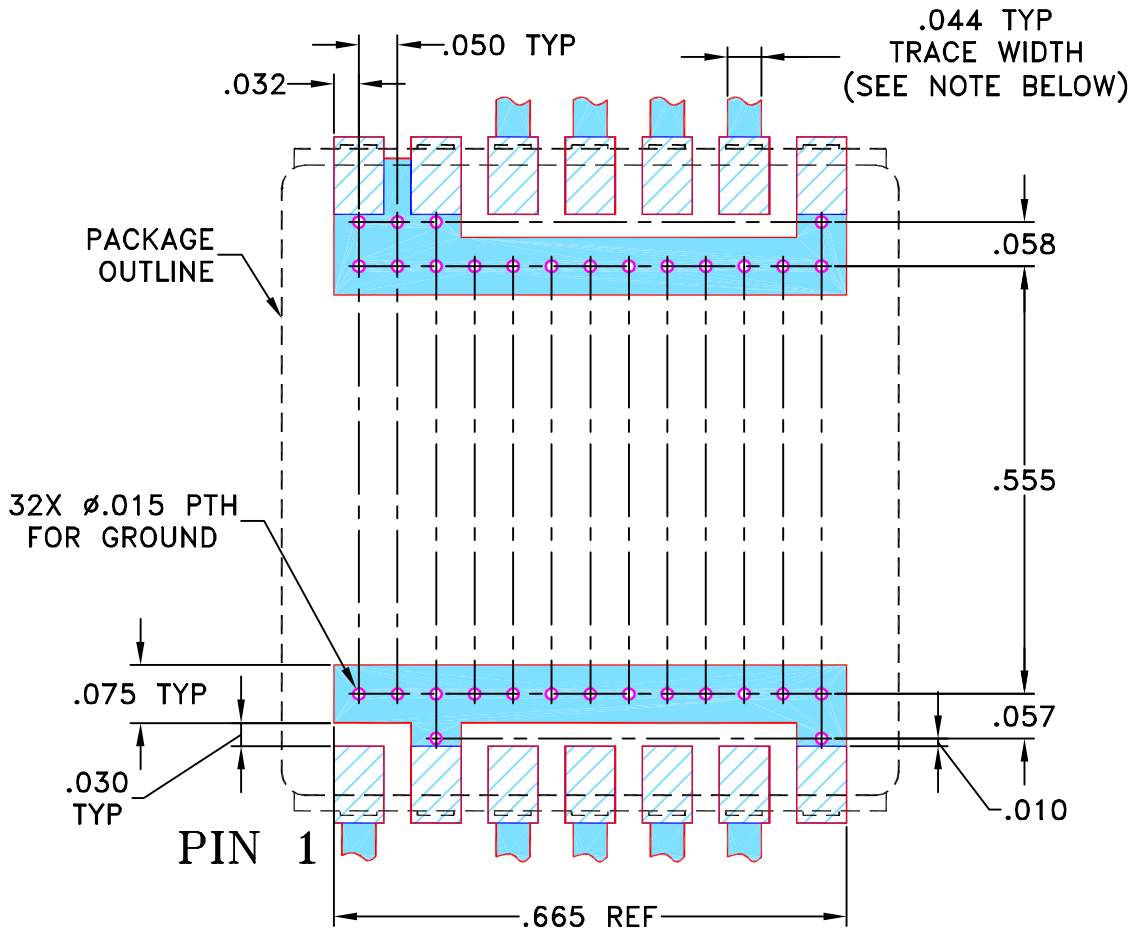
THIRD ANGLE PROJECTION



REVISIONS

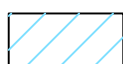
REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M77531	NEW RELEASE	07/01	MMG	CT
A	M82377	UPDATED DRAWING	07/31/02	AV	HY
B	M102713	UPDATED NOTES	01/12/06	GF	IL

SUGGESTED MOUNTING CONFIGURATION FOR BG291 CASE STYLE, "hn" PIN CONNECTION



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS $0.020'' \pm 0.0015''$; 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

UNLESS OTHERWISE SPECIFIED	INITIALS	DATE
DIMENSIONS ARE IN INCHES	DRAWN MMG	08/16/01
TOLERANCES ON:	CHECKED WP	09/06/01
2 PL DECIMALS $\pm$	APPROVED CT	09/07/01
3 PL DECIMALS $\pm$.005		
ANGLES $\pm$		
FRACTIONS $\pm$		

 Mini-Circuits®

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.

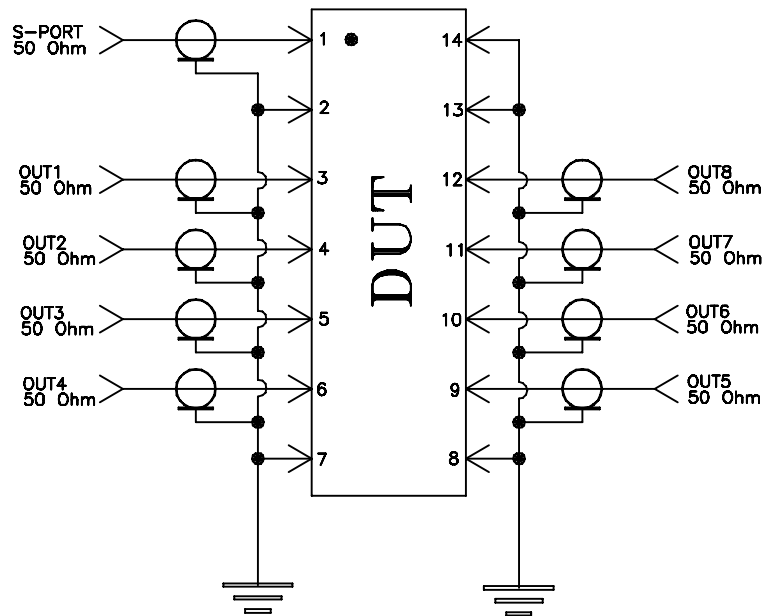
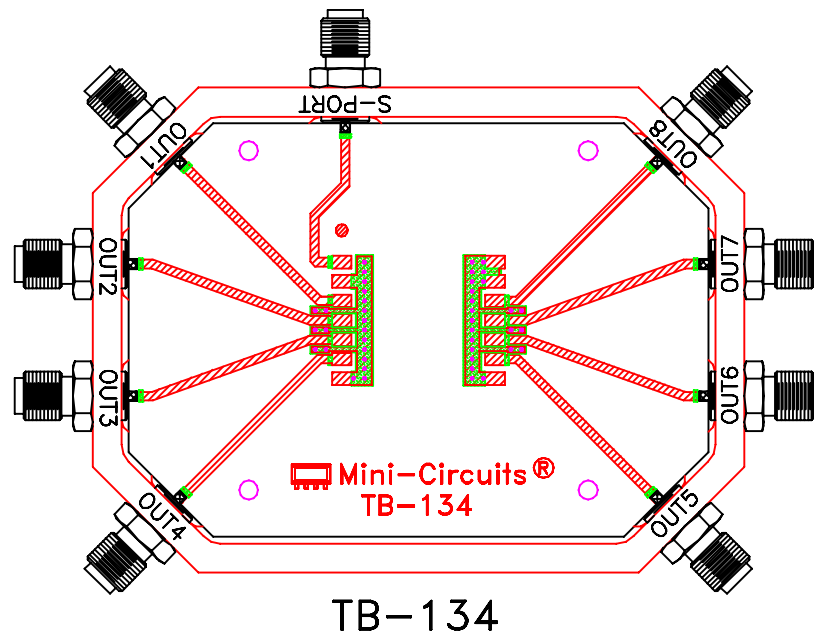
ASHEETA1.DWG REV:A DATE:01/12/95

 **Mini-Circuits®** 13 Neptune Avenue
Brooklyn NY 11235

PL, hn, BG291, JCPS-8, TB-134

SIZE	CODE IDENT	DRAWING NO:	REV:
A	15542	98-PL-037	B
FILE:	98PL037	SCALE:	SHEET:
		4:1	1 OF 1

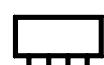
Evaluation Board and Circuit



Schematic Diagram

Notes:

1. SMA Female connectors.
2. PCB Material: Rogers R04350 or equivalent,
Dielectric Constant=3.5, Thickness=.020 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