

Engineering Development Model

Power Splitter/Combiner

JCPS-ED12772/3

8 Way-0°

Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability. At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.



Please click "Back", and then click "Contact Us" for Applications support.

CASE STYLE : BG291

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C				
Parameter		Min.	Typ.	Max. Units
Frequency		200		1500 MHz
Isolation	200 - 1500 MHz		19	dB
Insertion Loss Above 9.0 dB	200 - 1500 MHz		1.50	dB
Phase Unbalance	200 - 1500 MHz		5.111	deg.
Amplitude Unbalance	200 - 1500 MHz		0.565	dB
VSWR	SUM Port		1.50	(:1)
	OUT Ports		1.50	(:1)

MAXIMUM RATINGS	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

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
CASE GND	2,7,8,13,14

Functional Diagram



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Typical Performance Data

FREQ. (MHz)	TOTAL LOSS ¹ (dB)						AMP. UNBAL. (dB)	ISOLATION (dB)				PHASE UNBAL. (deg.)	FREQ. (MHz)	VSWR (:1)		
	S-1	S-2	S-3	S-4	S-6	S-8		1-2	2-3	5-6	7-8			S	1	8
30.0	10.90	11.70	11.83	12.61	12.56	13.44	2.55	14.48	25.47	15.48	16.82	5.82	30.0	4.69	10.50	16.41
50.0	9.77	10.51	10.48	11.19	11.19	11.85	2.08	13.12	25.95	13.90	14.96	7.02	50.0	2.75	5.70	8.12
70.0	9.50	10.17	10.05	10.69	10.71	11.22	1.72	13.02	27.20	13.67	14.51	7.01	70.0	2.14	4.05	5.36
90.0	9.43	10.04	9.88	10.45	10.49	10.89	1.46	13.32	28.35	13.86	14.53	6.53	90.0	1.86	3.25	4.09
100.0	9.42	10.00	9.83	10.37	10.42	10.78	1.37	13.51	28.85	14.01	14.61	6.22	100.0	1.77	2.99	3.68
150.0	9.43	9.93	9.74	10.16	10.23	10.49	1.06	14.56	30.40	14.87	15.16	4.98	150.0	1.54	2.26	2.61
200.0	9.48	9.92	9.73	10.08	10.15	10.35	0.87	15.46	30.98	15.63	15.68	3.97	200.0	1.42	1.92	2.14
250.0	9.54	9.94	9.74	10.04	10.11	10.29	0.74	16.16	31.09	16.25	16.10	3.47	250.0	1.36	1.73	1.87
300.0	9.61	9.97	9.75	10.02	10.09	10.25	0.64	16.74	31.17	16.82	16.51	3.30	300.0	1.30	1.59	1.70
350.0	9.68	10.01	9.78	10.01	10.07	10.22	0.58	17.30	31.31	17.42	16.96	3.22	350.0	1.26	1.50	1.57
400.0	9.75	10.04	9.81	10.01	10.06	10.22	0.57	17.83	31.54	18.05	17.45	3.19	400.0	1.22	1.42	1.48
450.0	9.81	10.08	9.83	10.02	10.06	10.22	0.56	18.39	31.88	18.77	18.03	3.33	450.0	1.18	1.36	1.40
500.0	9.88	10.12	9.87	10.02	10.06	10.23	0.55	19.02	32.48	19.59	18.68	3.44	500.0	1.14	1.32	1.34
550.0	9.93	10.14	9.90	10.03	10.07	10.25	0.55	19.70	33.16	20.52	19.42	3.56	550.0	1.12	1.27	1.29
600.0	9.96	10.16	9.93	10.04	10.09	10.27	0.54	20.49	34.02	21.60	20.28	3.90	600.0	1.11	1.24	1.24
650.0	10.00	10.18	9.97	10.06	10.12	10.31	0.53	21.37	34.77	22.79	21.19	4.19	650.0	1.13	1.21	1.21
700.0	10.03	10.20	10.02	10.10	10.17	10.37	0.52	22.33	34.87	24.04	22.12	4.47	700.0	1.19	1.19	1.18
750.0	10.07	10.23	10.09	10.16	10.24	10.44	0.50	23.27	33.95	25.19	22.94	4.70	750.0	1.26	1.18	1.15
800.0	10.10	10.26	10.16	10.23	10.32	10.53	0.48	24.02	32.50	25.93	23.50	5.12	800.0	1.34	1.16	1.13
850.0	10.14	10.30	10.24	10.32	10.41	10.62	0.48	24.46	30.99	26.09	23.74	5.51	850.0	1.42	1.15	1.11
900.0	10.18	10.33	10.33	10.41	10.50	10.71	0.54	24.51	29.66	25.74	23.65	5.87	900.0	1.50	1.14	1.10
950.0	10.21	10.37	10.41	10.51	10.59	10.80	0.59	24.21	28.65	25.13	23.37	6.13	950.0	1.57	1.13	1.08
1000.0	10.24	10.40	10.49	10.60	10.66	10.87	0.62	23.78	27.97	24.59	23.07	6.33	1000.0	1.62	1.12	1.06
1050.0	10.27	10.41	10.55	10.67	10.71	10.91	0.64	23.36	27.57	24.21	22.87	6.44	1050.0	1.65	1.10	1.05
1100.0	10.28	10.42	10.60	10.73	10.73	10.92	0.64	23.06	27.44	24.11	22.86	6.51	1100.0	1.65	1.08	1.06
1150.0	10.28	10.41	10.64	10.77	10.73	10.89	0.61	22.95	27.52	24.32	23.10	6.46	1150.0	1.62	1.07	1.07
1200.0	10.28	10.39	10.65	10.80	10.70	10.84	0.56	23.08	27.72	24.95	23.74	6.37	1200.0	1.54	1.04	1.10
1250.0	10.28	10.37	10.67	10.81	10.64	10.76	0.52	23.43	27.71	25.97	24.83	6.22	1250.0	1.44	1.03	1.12
1300.0	10.32	10.37	10.70	10.82	10.60	10.68	0.50	23.96	27.19	27.36	26.59	6.05	1300.0	1.32	1.01	1.14
1350.0	10.40	10.40	10.77	10.86	10.59	10.63	0.46	24.49	26.06	28.43	29.16	5.90	1350.0	1.18	1.01	1.16
1400.0	10.56	10.50	10.90	10.94	10.62	10.62	0.44	24.81	24.56	27.97	32.29	6.04	1400.0	1.05	1.01	1.18
1450.0	10.81	10.67	11.11	11.09	10.73	10.67	0.45	24.65	22.97	25.85	32.46	6.70	1450.0	1.12	1.02	1.18
1500.0	11.15	10.92	11.40	11.31	10.94	10.82	0.58	24.00	21.54	23.49	28.98	7.61	1500.0	1.28	1.01	1.18
1600.0	12.06	11.58	12.17	11.86	11.56	11.28	0.90	22.73	19.70	20.16	24.24	10.39	1600.0	1.58	1.01	1.16
1700.0	12.92	12.12	12.93	12.30	12.22	11.72	1.21	23.83	19.48	18.97	23.41	14.66	1700.0	1.56	1.04	1.17
1800.0	13.44	12.39	13.66	12.67	12.87	12.11	1.55	27.18	20.18	19.50	25.92	22.94	1800.0	1.01	1.09	1.25
1900.0	14.61	13.50	15.40	14.22	14.49	13.49	1.91	19.94	17.71	19.47	23.76	32.91	1900.0	2.12	1.14	1.33
2000.0	16.46	15.48	17.73	16.75	16.63	15.62	2.25	16.30	15.35	18.01	19.19	35.86	2000.0	3.85	1.20	1.40
2100.0	17.60	16.79	18.90	18.25	17.72	17.00	2.20	14.22	14.09	15.80	15.56	28.93	2100.0	4.88	1.26	1.49
2200.0	17.51	16.89	18.73	18.34	17.88	17.57	2.32	12.55	13.31	13.50	12.91	17.76	2200.0	4.73	1.34	1.56

¹ Total Loss = Insertion Loss + 9dB Splitter Loss

REV. X2

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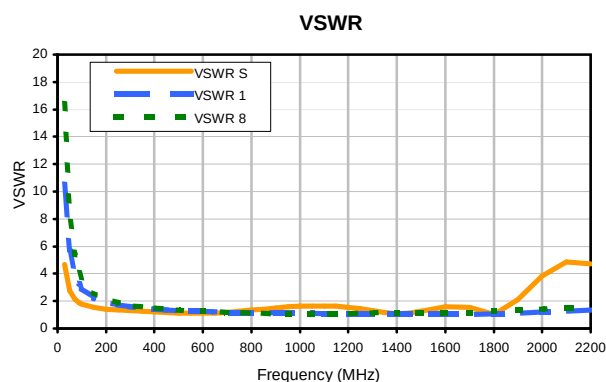
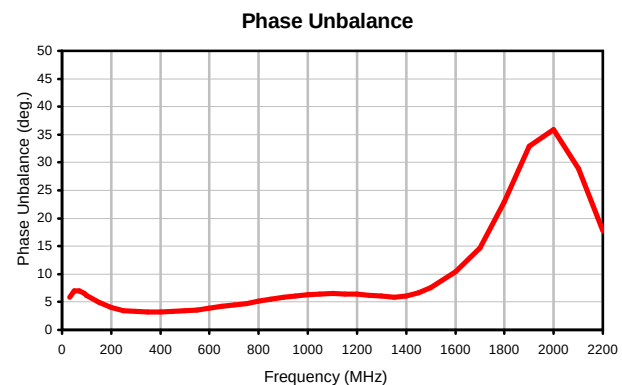
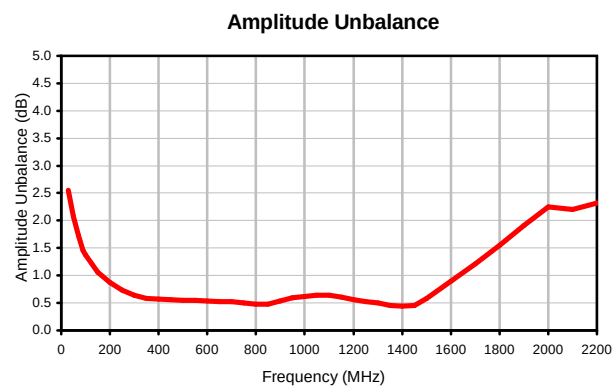
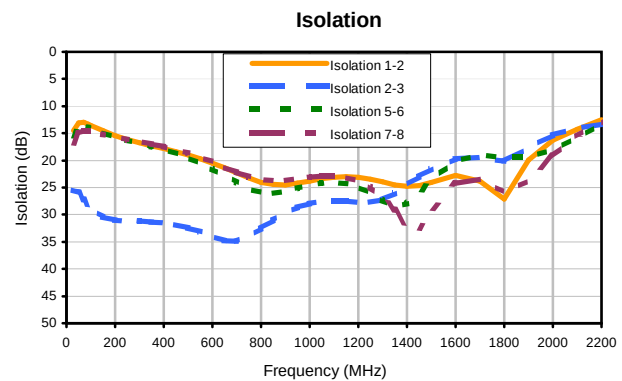
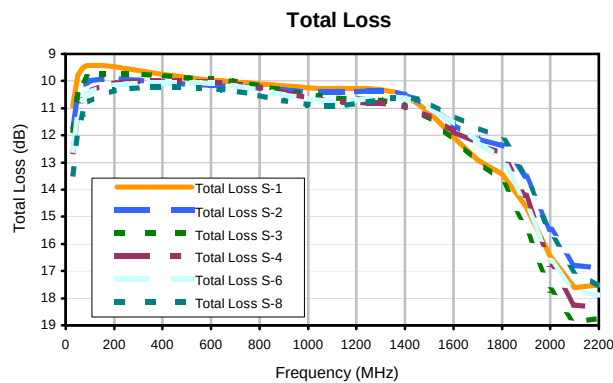
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Typical Performance Curves



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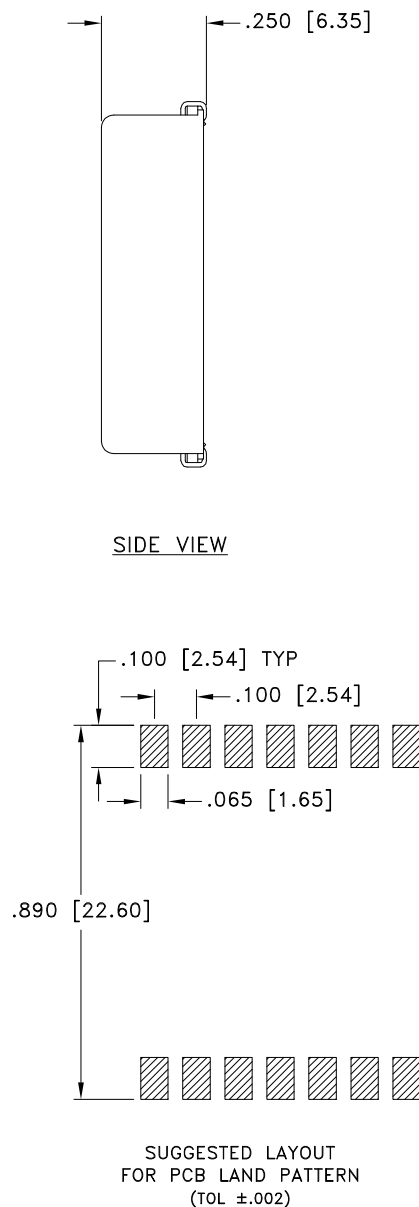
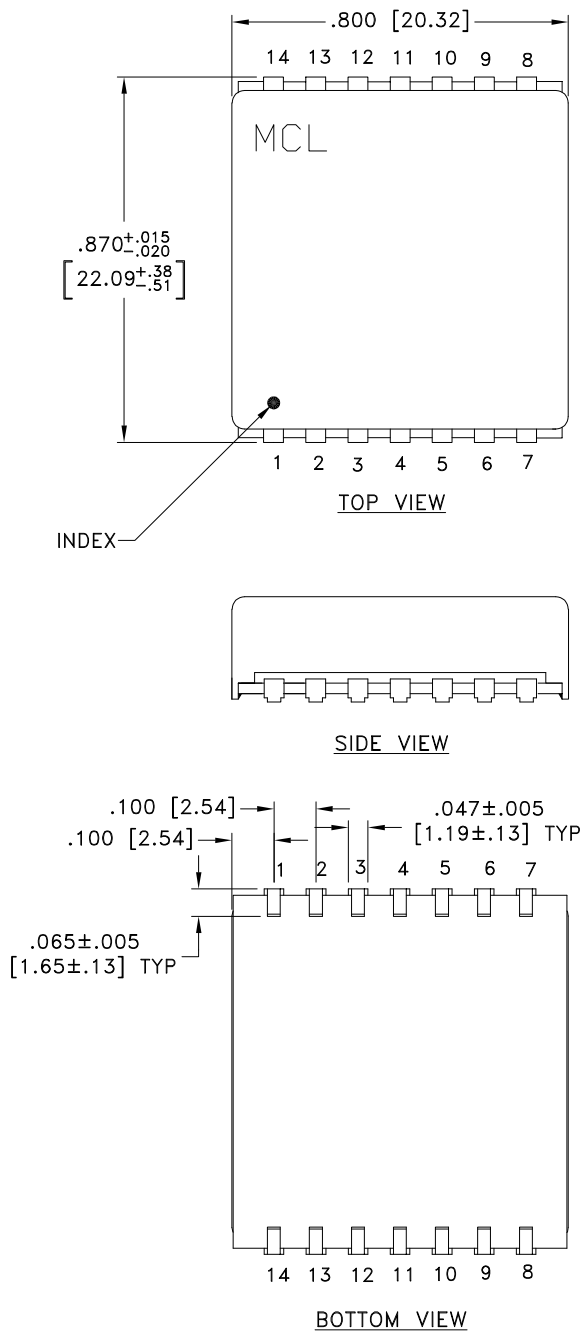
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Outline Dimensions

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.

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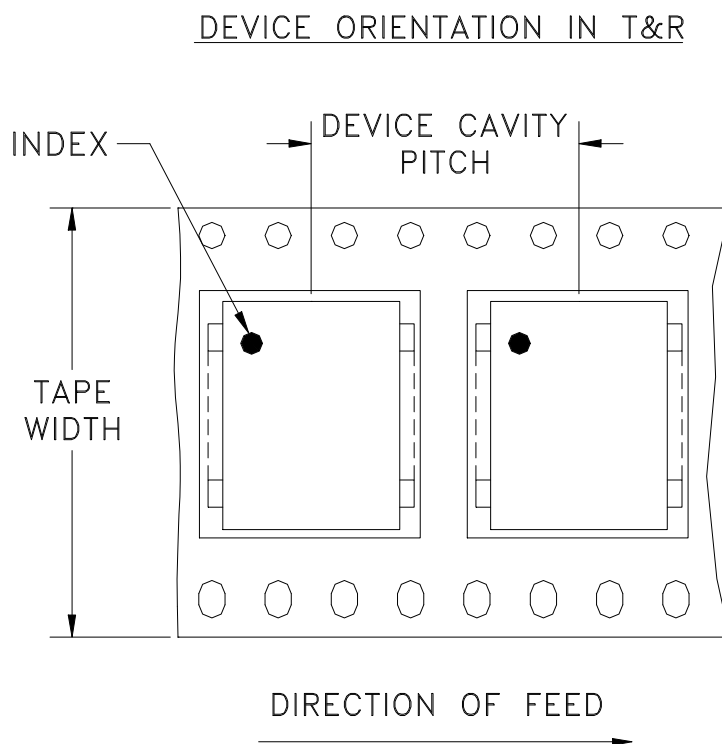
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RF/IF MICROWAVE COMPONENTS

Tape & Reel Packaging TR-F21



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

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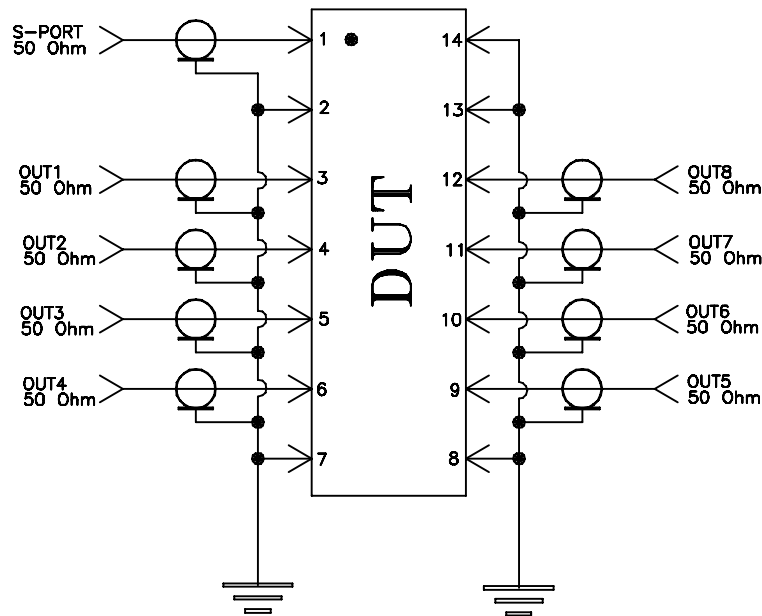
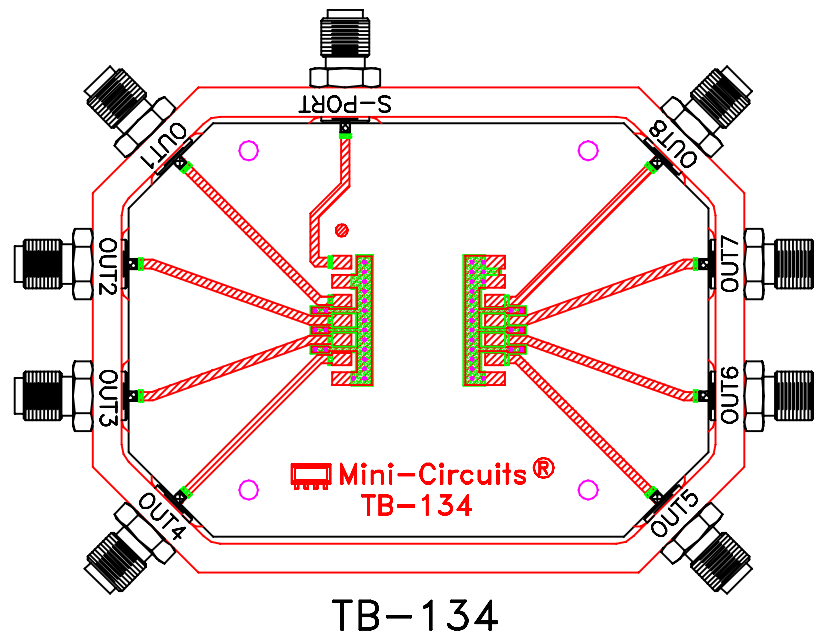
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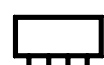
Evaluation Board and Circuit



Schematic Diagram

Notes:

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

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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