

Engineering Development Model

Power Splitter/Combiner

2 Way-0°

LRPS-ED12965/2

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 : 99-01-1255

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency		10		650	MHz
Isolation	10 - 100 MHz		24		dB
	100 - 325 MHz		26		dB
	325 - 650 MHz		25		dB
Insertion Loss Above 3.0 dB	10 - 100 MHz		0.30		dB
	100 - 325 MHz		0.30		dB
	325 - 650 MHz		0.60		dB
Phase Unbalance	10 - 100 MHz		0.38		deg.
	100 - 325 MHz		0.20		deg.
	325 - 650 MHz		0.31		deg.
Amplitude Unbalance	10 - 100 MHz		0.15		dB
	100 - 325 MHz		0.09		dB
	325 - 650 MHz		0.09		dB
VSWR	SUM Port		1.06		(:1)
	OUT Ports		1.15		(:1)

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

PIN CONNECTIONS	
SUM PORT	6
PORT 1	4
PORT 2	3
GND EXT	1
NOT USED	2,5

Functional Diagram



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Typical Performance Data

FREQUENCY (MHz)	TOTAL LOSS ¹ (dB)		AMPLITUDE UNBALANCE (dB)	ISOLATION (dB)	PHASE UNBALANCE (deg.)	FREQUENCY (MHz)	VSWR (:1)		
	S-1	S-2					S	1	2
5.0	3.15	3.39	0.24	18.51	1.95	5.0	1.13	1.39	1.52
9.0	3.19	3.40	0.21	21.72	1.14	9.0	1.08	1.26	1.34
10.0	3.19	3.40	0.21	22.14	1.06	10.0	1.08	1.25	1.33
20.0	3.19	3.37	0.18	24.29	0.66	20.0	1.05	1.19	1.25
30.0	3.19	3.36	0.16	25.35	0.51	30.0	1.05	1.17	1.22
40.0	3.19	3.34	0.15	26.06	0.42	40.0	1.04	1.15	1.20
50.0	3.19	3.34	0.14	26.50	0.33	50.0	1.04	1.14	1.19
60.0	3.20	3.33	0.14	26.81	0.26	60.0	1.04	1.13	1.18
70.0	3.20	3.33	0.13	27.01	0.21	70.0	1.04	1.13	1.17
80.0	3.20	3.33	0.13	27.16	0.16	80.0	1.03	1.12	1.17
90.0	3.21	3.34	0.13	27.20	0.12	90.0	1.03	1.12	1.16
100.0	3.22	3.34	0.12	27.25	0.08	100.0	1.03	1.12	1.16
120.0	3.23	3.34	0.12	27.13	0.02	120.0	1.03	1.11	1.15
140.0	3.24	3.35	0.11	26.95	0.05	140.0	1.03	1.11	1.15
160.0	3.25	3.36	0.10	26.77	0.11	160.0	1.03	1.10	1.14
180.0	3.27	3.36	0.10	26.57	0.14	180.0	1.03	1.10	1.14
200.0	3.28	3.37	0.09	26.34	0.19	200.0	1.03	1.10	1.13
220.0	3.30	3.38	0.09	26.10	0.22	220.0	1.03	1.09	1.13
240.0	3.31	3.39	0.08	25.92	0.26	240.0	1.03	1.09	1.13
260.0	3.33	3.40	0.07	25.75	0.28	260.0	1.03	1.09	1.12
280.0	3.35	3.41	0.06	25.60	0.33	280.0	1.02	1.08	1.12
300.0	3.36	3.41	0.05	25.48	0.36	300.0	1.01	1.08	1.11
320.0	3.38	3.42	0.04	25.41	0.38	320.0	1.01	1.08	1.11
340.0	3.40	3.43	0.03	25.37	0.40	340.0	1.01	1.07	1.11
360.0	3.42	3.44	0.02	25.36	0.40	360.0	1.01	1.07	1.10
380.0	3.44	3.45	0.01	25.37	0.41	380.0	1.02	1.07	1.10
400.0	3.47	3.47	0.00	25.41	0.41	400.0	1.04	1.07	1.10
500.0	3.64	3.57	0.07	26.15	0.37	500.0	1.13	1.12	1.11
550.0	3.75	3.64	0.11	26.04	0.29	550.0	1.20	1.17	1.15
600.0	3.90	3.74	0.16	24.85	0.15	600.0	1.31	1.23	1.20
650.0	4.12	3.91	0.21	22.63	0.02	650.0	1.45	1.33	1.28
700.0	4.45	4.18	0.28	19.94	0.28	700.0	1.64	1.44	1.38
720.0	4.63	4.32	0.30	18.85	0.39	720.0	1.74	1.50	1.43
740.0	4.83	4.49	0.33	17.81	0.50	740.0	1.85	1.56	1.49
760.0	5.05	4.69	0.37	16.79	0.66	760.0	1.97	1.62	1.54
780.0	5.32	4.91	0.40	15.84	0.81	780.0	2.10	1.69	1.61
800.0	5.62	5.18	0.44	14.94	0.98	800.0	2.26	1.77	1.67

¹Total Loss = Insertion Loss + 3dB Splitter Loss



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IF/RF MICROWAVE COMPONENTS

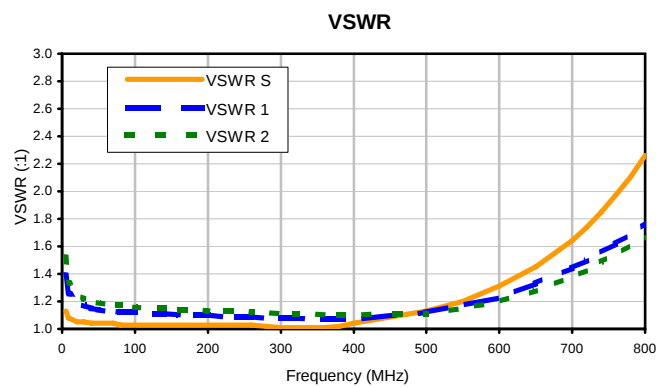
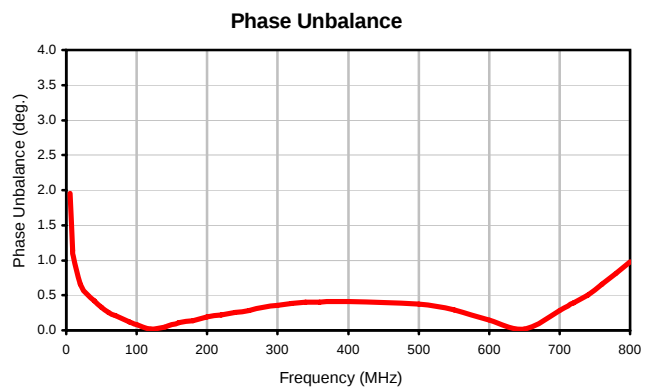
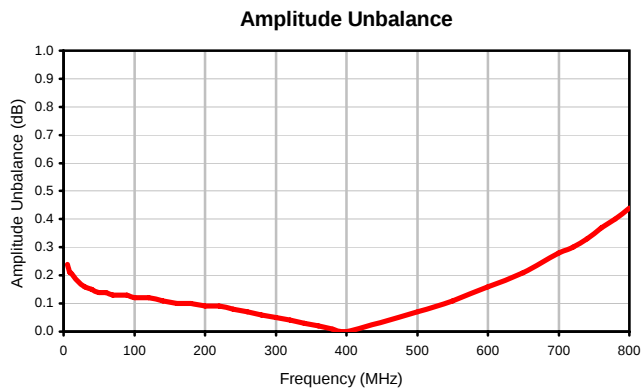
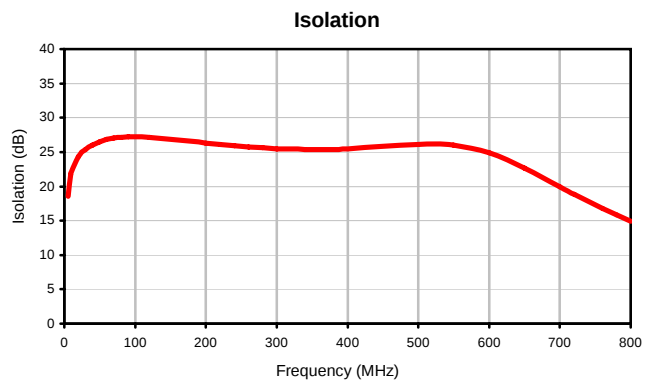
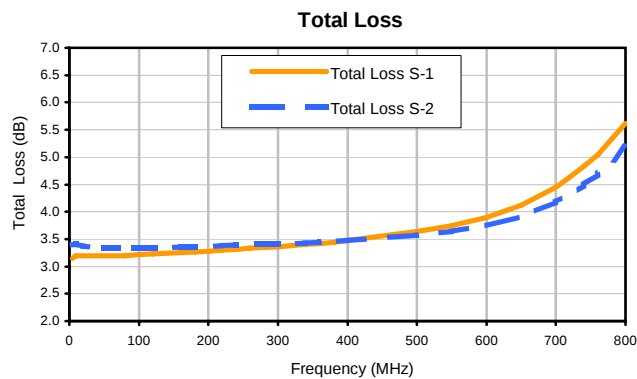


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 LRPS-ED12965/2
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 Page 1 of 1

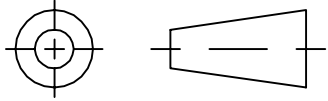
2 Way-0° Power Splitter/Combiner

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Typical Performance Curves



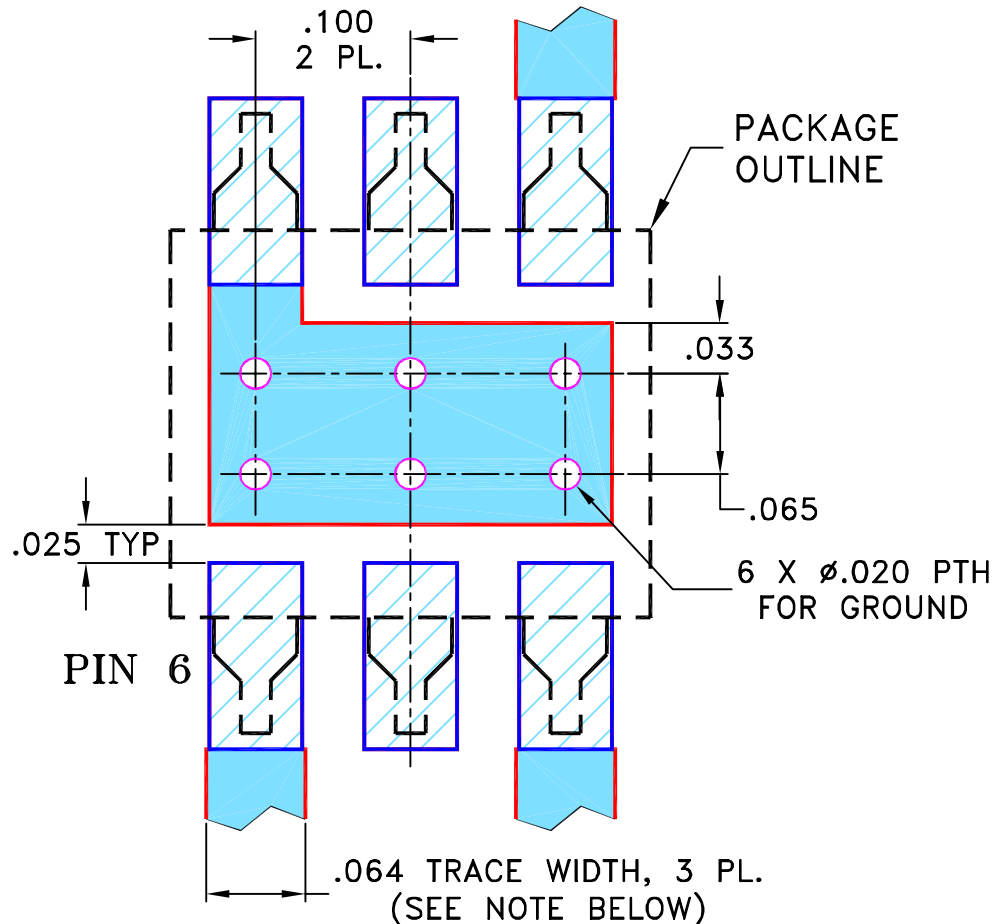
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M102713	NEW RELEASE	01/18/06	MMG	IL

SUGGESTED MOUNTING CONFIGURATION FOR
QQQ130 CASE STYLE, "am" PIN CONNECTION.



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

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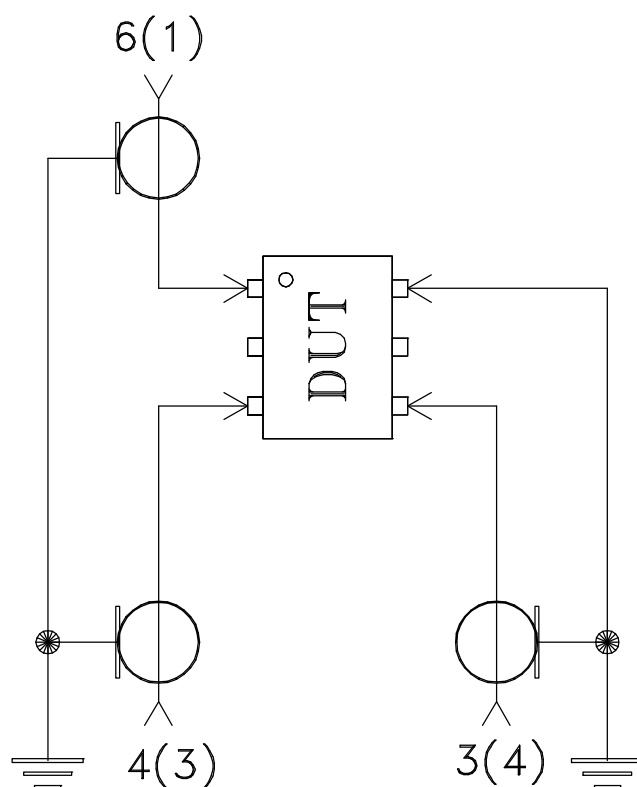
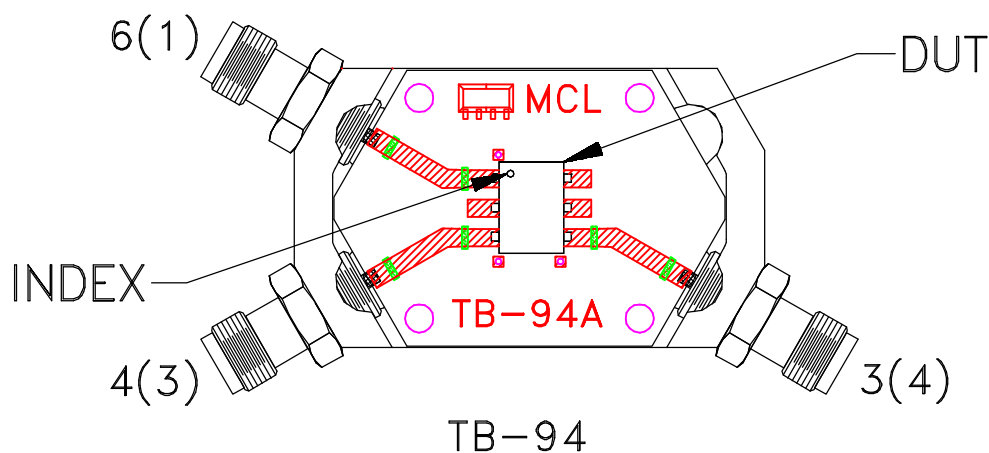
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1 OF 1

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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.
3. Port Identifications are given for Case Styles QQQ130/569 and CD542 (in parenthesis).

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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