

Power Splitter/Combiner 4 Way-0°

JEPS-ED12966/1

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.



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CASE STYLE : 99-01-1258

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C				
Parameter		Min.	Typ.	Max. Units
Frequency		800		2200 MHz
Isolation	800 - 2200 MHz		20	
Insertion Loss Above 6.0 dB	800 - 2200 MHz		1.00	
Phase Unbalance	800 - 2200 MHz		2.75	
Amplitude Unbalance	800 - 2200 MHz		0.35	
VSWR	SUM Port		1.43	(:1)
	OUT Ports		1.17	(:1)

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

PIN CONNECTIONS	
SUM PORT	17
PORT 1	3
PORT 2	5
PORT 3	7
PORT 4	9
GROUND	ALL OTHERS

Functional Diagram



4 Way-0° Power Splitter/Combiner

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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		1-2	1-3	3-4			S	1	2	3	4
80.0	7.98	8.03	8.05	7.98	0.07	8.37	8.73	8.39	0.95	80.0	3.85	3.32	3.33	3.34	3.32
100.0	7.96	8.04	8.05	7.96	0.10	8.55	9.04	8.56	1.06	100.0	3.81	3.11	3.13	3.13	3.11
300.0	7.64	7.92	7.96	7.61	0.35	11.54	12.36	11.55	0.79	300.0	3.41	1.72	1.81	1.81	1.72
500.0	7.21	7.53	7.58	7.17	0.41	15.34	15.12	15.38	0.47	500.0	2.82	1.27	1.36	1.36	1.27
700.0	6.75	7.06	7.11	6.70	0.41	19.68	18.13	19.75	1.26	700.0	2.16	1.17	1.21	1.22	1.17
750.0	6.65	6.96	7.01	6.60	0.41	20.63	18.98	20.68	1.42	750.0	2.01	1.17	1.20	1.21	1.17
800.0	6.56	6.88	6.93	6.52	0.41	21.30	19.85	21.35	1.57	800.0	1.87	1.17	1.19	1.20	1.17
850.0	6.50	6.81	6.86	6.44	0.41	21.60	20.72	21.61	1.73	850.0	1.74	1.17	1.19	1.20	1.17
900.0	6.44	6.76	6.81	6.39	0.42	21.49	21.52	21.48	1.84	900.0	1.64	1.17	1.19	1.20	1.16
925.0	6.42	6.74	6.79	6.37	0.43	21.32	21.88	21.29	1.91	925.0	1.59	1.17	1.19	1.20	1.16
950.0	6.41	6.73	6.78	6.35	0.43	21.10	22.20	21.04	1.98	950.0	1.56	1.16	1.19	1.20	1.15
960.0	6.41	6.73	6.78	6.35	0.43	21.00	22.32	20.94	2.01	960.0	1.54	1.16	1.19	1.20	1.15
970.0	6.40	6.72	6.78	6.34	0.43	20.90	22.42	20.83	2.04	970.0	1.53	1.16	1.19	1.20	1.15
980.0	6.40	6.72	6.77	6.34	0.43	20.79	22.50	20.71	2.06	980.0	1.52	1.16	1.19	1.20	1.15
990.0	6.39	6.72	6.77	6.34	0.44	20.67	22.58	20.60	2.09	990.0	1.51	1.16	1.19	1.20	1.15
1000.0	6.39	6.72	6.77	6.33	0.44	20.55	22.65	20.47	2.12	1000.0	1.50	1.16	1.19	1.20	1.15
1100.0	6.42	6.75	6.81	6.35	0.46	19.47	22.89	19.35	2.38	1100.0	1.48	1.14	1.19	1.20	1.13
1300.0	6.61	6.95	7.01	6.52	0.49	18.56	21.98	18.37	3.02	1300.0	1.63	1.12	1.19	1.20	1.12
1500.0	6.83	7.11	7.15	6.71	0.44	19.75	21.61	19.46	3.63	1500.0	1.73	1.12	1.16	1.16	1.13
1700.0	6.93	7.07	7.11	6.79	0.31	23.69	22.71	23.20	3.80	1700.0	1.61	1.12	1.11	1.09	1.16
1725.0	6.93	7.06	7.09	6.79	0.30	24.48	23.00	23.95	3.78	1725.0	1.58	1.12	1.10	1.08	1.17
1750.0	6.94	7.04	7.07	6.80	0.28	25.34	23.31	24.76	3.75	1750.0	1.55	1.12	1.09	1.07	1.17
1800.0	6.95	7.00	7.04	6.80	0.24	27.20	24.05	26.51	3.69	1800.0	1.48	1.13	1.08	1.05	1.18
1850.0	6.94	6.96	7.00	6.79	0.21	29.04	25.02	28.29	3.58	1850.0	1.40	1.14	1.07	1.04	1.19
1900.0	6.95	6.93	6.97	6.79	0.18	29.61	26.11	29.04	3.45	1900.0	1.32	1.15	1.06	1.03	1.21
1950.0	6.96	6.90	6.93	6.78	0.17	28.50	27.40	28.25	3.29	1950.0	1.24	1.17	1.07	1.05	1.22
2000.0	6.98	6.88	6.92	6.79	0.19	26.39	28.61	26.32	3.12	2000.0	1.18	1.19	1.08	1.07	1.24
2010.0	6.99	6.88	6.92	6.80	0.19	25.97	28.83	25.91	3.09	2010.0	1.17	1.19	1.08	1.08	1.25
2020.0	6.99	6.88	6.92	6.80	0.20	25.55	29.04	25.50	3.05	2020.0	1.16	1.20	1.08	1.08	1.25
2030.0	7.00	6.88	6.92	6.80	0.20	25.14	29.23	25.10	2.99	2030.0	1.16	1.20	1.09	1.09	1.25
2040.0	7.01	6.88	6.92	6.80	0.20	24.74	29.39	24.71	2.94	2040.0	1.16	1.21	1.09	1.10	1.26
2050.0	7.02	6.88	6.92	6.81	0.21	24.36	29.53	24.34	2.90	2050.0	1.16	1.22	1.10	1.10	1.26
2060.0	7.02	6.88	6.93	6.81	0.21	23.99	29.61	23.97	2.87	2060.0	1.16	1.22	1.10	1.11	1.27
2080.0	7.05	6.89	6.94	6.83	0.22	23.28	29.64	23.25	2.76	2080.0	1.17	1.24	1.11	1.12	1.28
2100.0	7.07	6.90	6.95	6.84	0.23	22.61	29.45	22.56	2.67	2100.0	1.19	1.25	1.12	1.13	1.29
2200.0	7.25	7.02	7.07	6.96	0.29	19.97	26.79	19.85	2.10	2200.0	1.39	1.34	1.19	1.21	1.37
2300.0	7.52	7.25	7.28	7.15	0.37	18.28	23.58	18.06	1.42	2300.0	1.66	1.48	1.29	1.32	1.49
2500.0	8.32	8.03	7.98	7.65	0.67	17.29	18.73	16.56	1.41	2500.0	2.39	1.98	1.67	1.67	1.93

¹Total Loss = Insertion Loss + 6dB Splitter Loss



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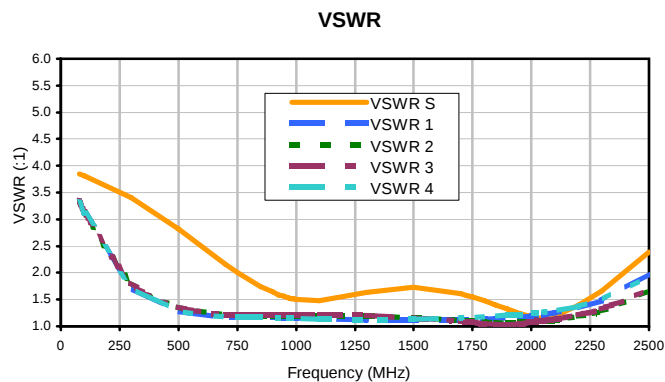
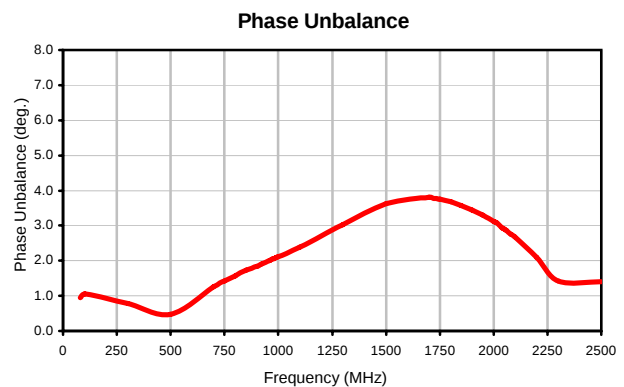
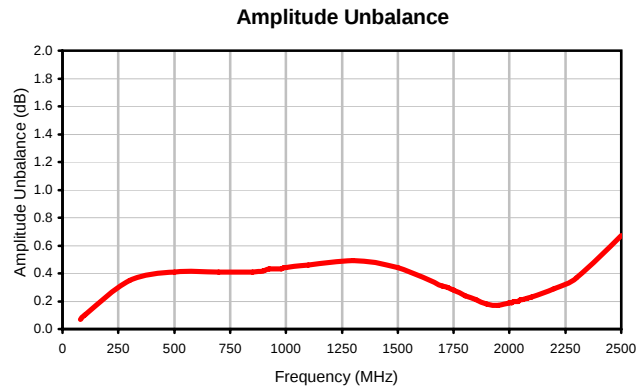
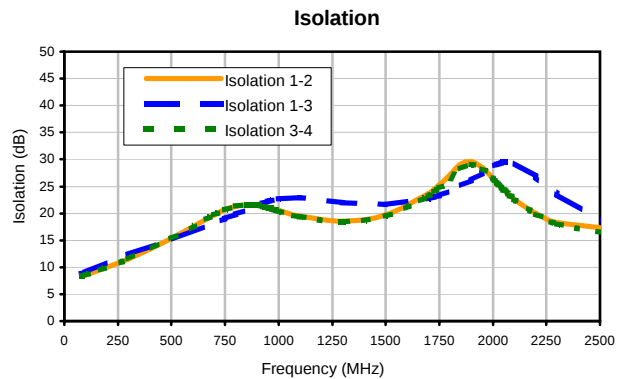
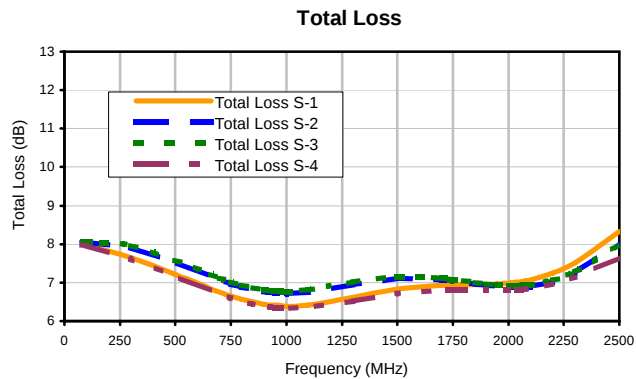
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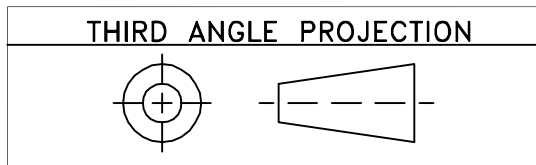
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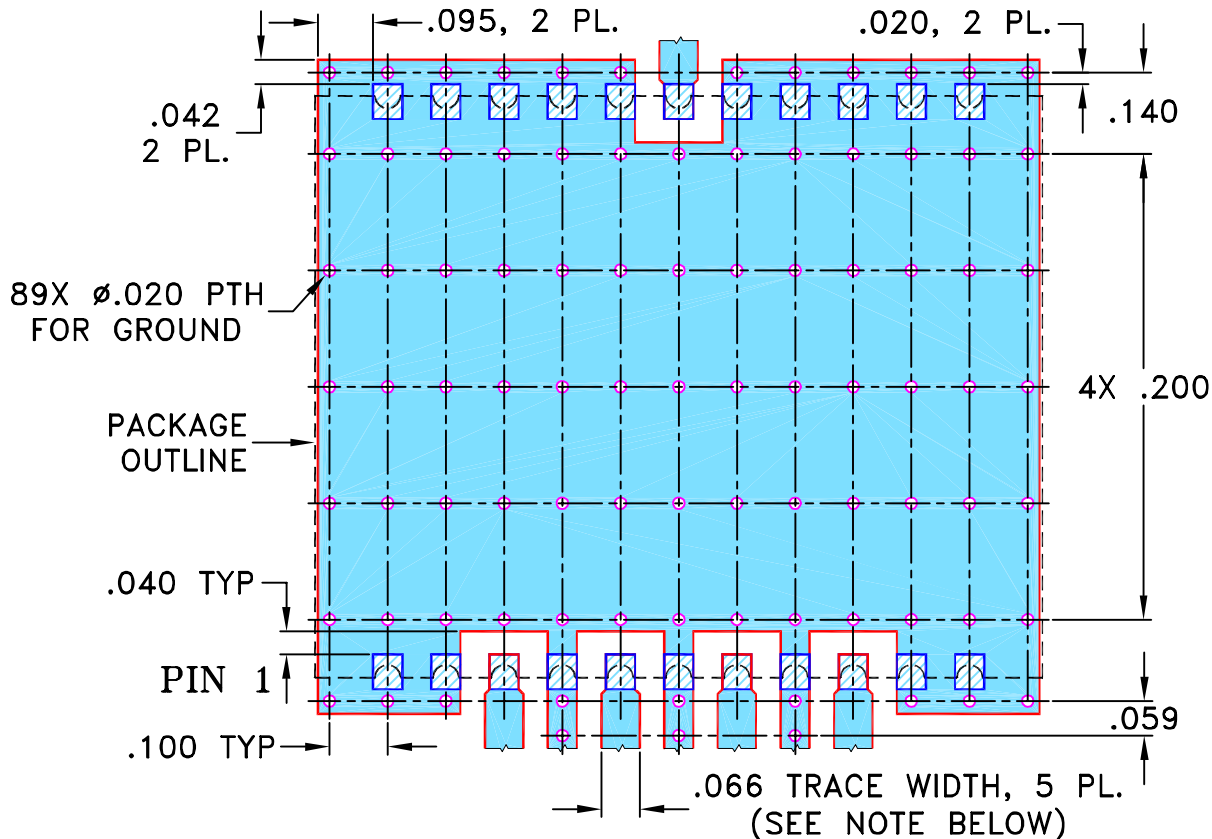
Typical Performance Curves





REVISIONS					
REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M112242	NEW RELEASE	07/05/07	MMG	HY
A	M138952	PIN CONNECTION 22SP01 WAS "sq"	10/03/12	GF	WP

SUGGESTED MOUNTING CONFIGURATION FOR
JF1258 CASE STYLE, "22SP01" PIN CONNECTION



- NOTE: 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 $\pm$.005 ANGLES $\pm$ FRACTIONS $\pm$	DRAWN	MMG	06/28/07
	CHECKED	AV	07/05/07
	APPROVED	HY	07/05/07



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		3:1	1 OF 1



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