Engineering Development Model

Power Splitter/Combiner ZB4PD1-ED14818/1

4 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.

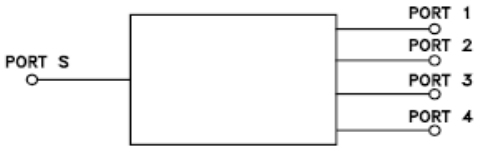
CASE STYLE : 99-01-1731

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameters		**Min.**	**Typ.**	**Max.**	**Units**
Frequency		400		2400	MHz
Isolation	**400-2400 MHz**		25		dB
Insertion Loss Above 6.0 dB	**400-2000 MHz**		0.8		dB
	2000-4000 MHz		1.1		dB
Phase Unbalance	**400-2400 MHz**		2.5		deg.
Amplitude Unbalance	**400-2400 MHz**		0.2		dB
VSWR	**SUM Port**		1.25		(:1)
	OUT Ports		1.20		(:1)

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

COAXIAL CONNECTIONS	
SUM PORT	S
PORT 1	1
PORT 2	2
PORT 3	3
PORT 4	4

Functional Diagram



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Typical Performance Data

FREQ. (MHz)	TOTAL LOSS[1] (dB)				AMP. UNBAL. (dB)	ISOLATION (dB)			PHASE UNBAL. (deg.)
	S-1	S-2	S-3	S-4		1-2	2-3	3-4	
400.0	6.41	6.39	6.26	6.30	0.15	19.04	22.92	19.43	0.47
500.0	6.47	6.47	6.34	6.37	0.13	25.30	28.08	25.72	0.49
600.0	6.44	6.44	6.32	6.34	0.12	31.62	36.17	32.12	0.53
650.0	6.43	6.44	6.32	6.33	0.12	34.87	39.67	35.47	0.46
700.0	6.44	6.45	6.33	6.34	0.12	30.78	37.71	30.87	0.56
750.0	6.46	6.48	6.34	6.36	0.14	27.34	34.96	27.38	0.47
800.0	6.47	6.50	6.36	6.37	0.14	25.75	33.05	25.84	0.60
850.0	6.51	6.53	6.37	6.40	0.16	25.57	32.08	25.77	0.65
900.0	6.52	6.54	6.40	6.42	0.15	26.43	31.74	26.87	0.71
950.0	6.55	6.57	6.42	6.45	0.14	28.12	31.98	28.99	0.88
1000.0	6.57	6.59	6.46	6.47	0.14	29.86	32.98	31.33	0.79
1050.0	6.57	6.60	6.47	6.48	0.12	31.20	34.82	33.19	0.87
1100.0	6.59	6.62	6.48	6.50	0.14	32.65	37.47	34.90	0.79
1150.0	6.59	6.63	6.50	6.50	0.13	34.99	40.76	37.82	0.80
1200.0	6.61	6.65	6.51	6.52	0.14	37.27	41.55	40.28	0.83
1300.0	6.63	6.67	6.54	6.54	0.14	30.94	36.33	31.23	0.82
1400.0	6.65	6.70	6.54	6.55	0.16	26.67	32.98	27.04	0.83
1500.0	6.68	6.74	6.56	6.57	0.18	25.40	31.50	26.05	1.09
1600.0	6.71	6.78	6.62	6.61	0.17	24.82	31.54	25.56	1.39
1700.0	6.74	6.83	6.69	6.67	0.16	24.99	33.55	25.86	1.48
1800.0	6.76	6.86	6.71	6.69	0.17	27.98	38.85	29.16	1.21
1850.0	6.75	6.86	6.70	6.69	0.17	31.61	44.67	33.67	1.16
1900.0	6.76	6.86	6.70	6.70	0.17	38.24	49.44	44.46	1.16
1950.0	6.78	6.88	6.71	6.72	0.17	44.11	43.87	41.39	1.18
2000.0	6.80	6.91	6.73	6.75	0.18	36.54	39.94	34.55	1.22
2050.0	6.82	6.93	6.74	6.76	0.19	33.12	37.50	32.12	1.23
2100.0	6.83	6.95	6.75	6.78	0.20	31.20	35.99	31.32	1.29
2150.0	6.84	6.97	6.77	6.80	0.20	29.53	34.93	30.93	1.36
2200.0	6.87	7.00	6.79	6.82	0.21	27.71	34.16	29.74	1.49
2250.0	6.89	7.04	6.83	6.86	0.21	25.76	33.28	27.38	1.62
2300.0	6.93	7.09	6.87	6.91	0.22	23.81	32.29	24.52	1.82
2350.0	6.98	7.16	6.96	6.99	0.20	21.94	30.80	21.85	1.90
2400.0	7.09	7.30	7.11	7.13	0.21	20.20	29.22	19.59	2.02

FREQ. (MHz)	VSWR (:1)				
	S	1	2	3	4
400.0	1.25	1.12	1.11	1.11	1.11
500.0	1.34	1.09	1.09	1.10	1.10
600.0	1.21	1.04	1.06	1.08	1.08
650.0	1.14	1.05	1.07	1.07	1.08
700.0	1.11	1.06	1.07	1.06	1.07
750.0	1.12	1.06	1.06	1.04	1.05
800.0	1.13	1.04	1.05	1.03	1.03
850.0	1.13	1.03	1.04	1.02	1.03
900.0	1.11	1.02	1.04	1.03	1.04
950.0	1.09	1.02	1.04	1.04	1.04
1000.0	1.06	1.02	1.04	1.03	1.04
1050.0	1.05	1.01	1.02	1.02	1.02
1100.0	1.09	1.02	1.01	1.04	1.03
1150.0	1.13	1.05	1.03	1.06	1.06
1200.0	1.16	1.07	1.06	1.09	1.08
1300.0	1.15	1.11	1.09	1.11	1.11
1400.0	1.09	1.11	1.09	1.11	1.10
1500.0	1.05	1.09	1.08	1.10	1.10
1600.0	1.13	1.08	1.07	1.08	1.08
1700.0	1.18	1.03	1.03	1.05	1.04
1800.0	1.14	1.02	1.01	1.05	1.06
1850.0	1.11	1.05	1.03	1.07	1.08
1900.0	1.09	1.07	1.04	1.07	1.09
1950.0	1.09	1.08	1.05	1.07	1.09
2000.0	1.09	1.09	1.05	1.06	1.09
2050.0	1.08	1.09	1.05	1.05	1.08
2100.0	1.05	1.10	1.05	1.05	1.08
2150.0	1.02	1.10	1.06	1.05	1.08
2200.0	1.07	1.11	1.06	1.05	1.09
2250.0	1.14	1.12	1.08	1.06	1.10
2300.0	1.21	1.13	1.09	1.08	1.11
2350.0	1.31	1.14	1.11	1.09	1.13
2400.0	1.45	1.14	1.13	1.12	1.15

[1]Total Loss = Insertion Loss + 6dB Splitter Loss

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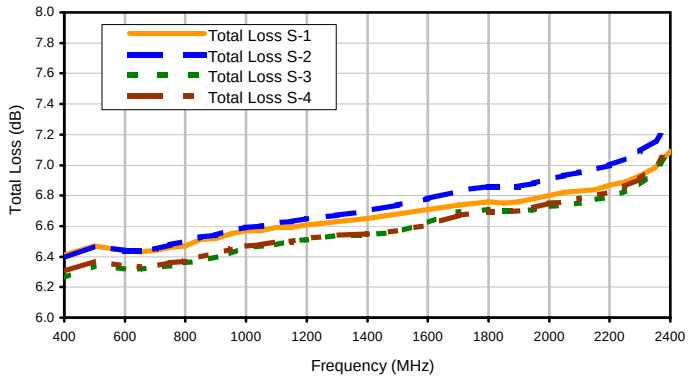
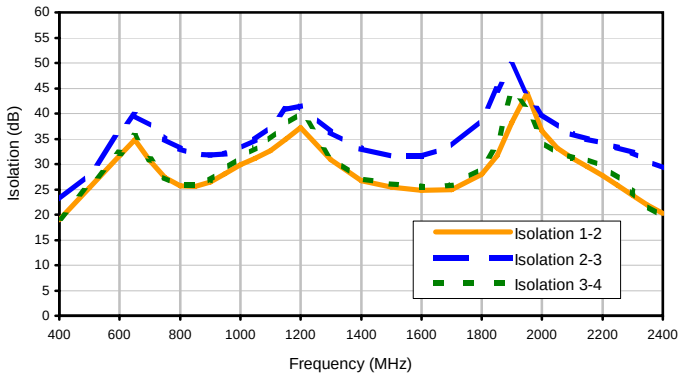
Typical Performance Curves

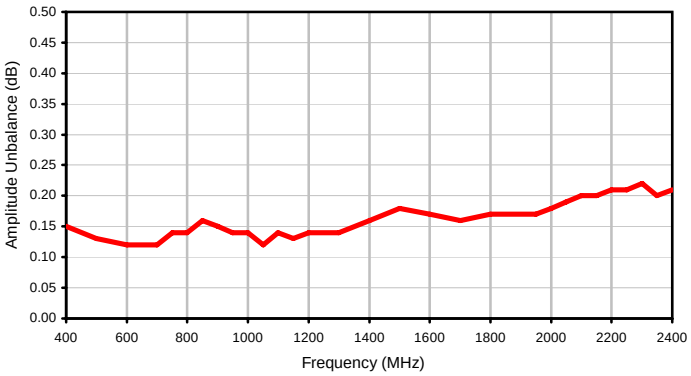
Total Loss



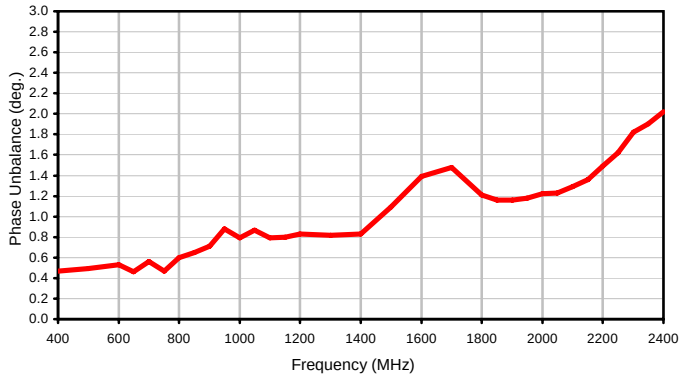
Isolation



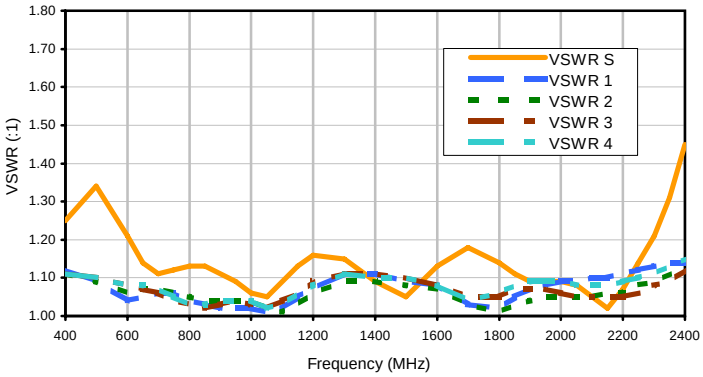
Amplitude Unbalance



Phase Unbalance



VSWR



Mini-Circuits

Environmental Specifications ENV28

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	-55° to 100°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D
Humidity	90% RH, 65°C Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103
Thermal Shock	-65° to 125°C, 5 cycles	MIL-STD-202, Method 107, Condition B
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	100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)	MIL-STD-202, Method 213, Condition I

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