

# Power Splitter/Combiner

## ZA4PD-2+

4 Way-0° 50Ω 1000 to 2000 MHz



Generic photo used for illustration purposes only

CASE STYLE: DD52

Connectors	Model
SMA	ZA4PD-2-S+
N-TYPE	ZA4PD-2-N+

**+RoHS Compliant**

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

### Maximum Ratings

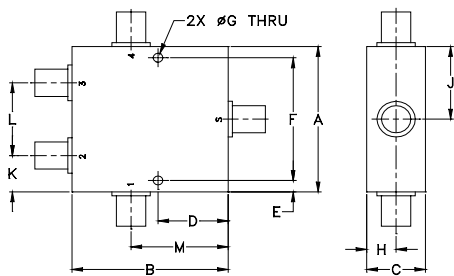
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	10W max.
Internal Dissipation	0.375W max.
DC Current	1.2 A (300mA for each port)

Permanent damage may occur if any of these limits are exceeded.

### Coaxial Connections

SUM PORT	S
PORT 1	1
PORT 2	2
PORT 3	3
PORT 4	4

### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
2.00	2.00	.75	.90	.156	1.688	.125
50.80	50.80	19.05	22.86	3.96	42.88	3.18
H	J	K	L	M		wt
.38	1.00	.50	1.00	1.25		grams
9.65	25.40	12.70	25.40	31.75		150.00

### Features

- wideband, 1000 to 2000 MHz
- good isolation, 25 dB typ.
- up to 10W power input as splitter
- good VSWR, 1.20:1 typ.

### Applications

- GPS
- communication systems

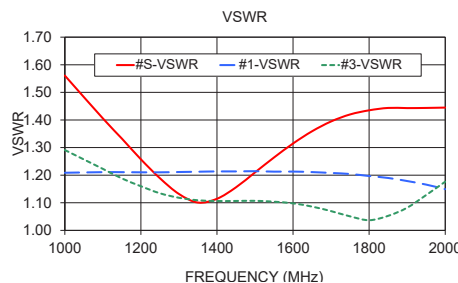
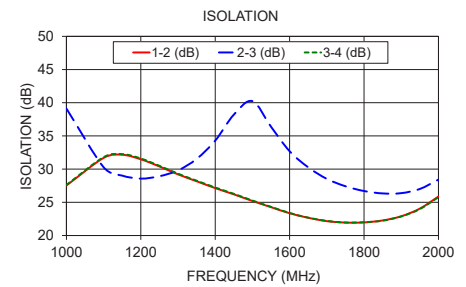
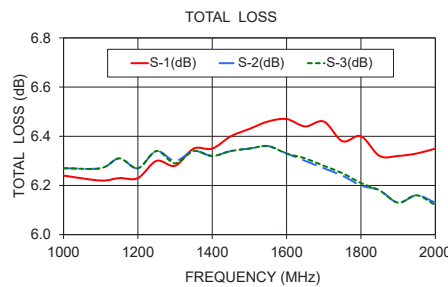
### Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 6.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)
	Typ.	Min.	Typ.	Max.	Max.	Max.
$f_c - f_u$						
1000-2000	25	16	0.3	1.0	6	0.7

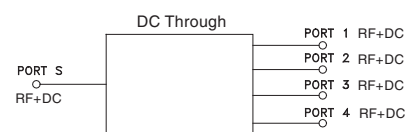
### Typical Performance Data

Freq. (MHz)	Total Loss <sup>1</sup> (dB)				Amp. Unbal. (dB)	Isolation (dB)			Phase Unbal. (deg.)	VSWR S	VSWR 1	VSWR 2	VSWR 3	VSWR 4
	S-1	S-2	S-3	S-4		1-2	2-3	3-4						
1000	6.24	6.27	6.27	6.25	0.03	27.53	39.12	27.62	1.90	1.56	1.21	1.29	1.29	1.20
1100	6.22	6.27	6.27	6.22	0.05	31.69	30.28	31.80	1.94	1.41	1.21	1.22	1.22	1.20
1150	6.23	6.31	6.31	6.22	0.09	32.16	29.02	32.26	1.75	1.33	1.21	1.19	1.19	1.20
1200	6.23	6.27	6.27	6.23	0.04	31.48	28.57	31.60	1.87	1.26	1.21	1.16	1.16	1.20
1300	6.28	6.30	6.29	6.27	0.03	29.21	29.81	29.31	1.80	1.13	1.21	1.12	1.12	1.20
1400	6.35	6.32	6.32	6.35	0.03	27.14	34.29	27.23	1.85	1.11	1.21	1.11	1.11	1.21
1450	6.40	6.34	6.34	6.40	0.06	26.20	38.20	26.28	1.94	1.16	1.21	1.11	1.11	1.21
1500	6.43	6.35	6.35	6.44	0.09	25.20	40.24	25.27	1.97	1.21	1.21	1.11	1.11	1.21
1600	6.47	6.33	6.33	6.47	0.14	23.35	32.69	23.40	2.24	1.31	1.21	1.10	1.10	1.21
1700	6.46	6.27	6.28	6.46	0.19	22.16	28.53	22.21	2.63	1.39	1.21	1.06	1.07	1.21
1750	6.38	6.24	6.25	6.38	0.14	21.95	27.42	21.95	3.03	1.42	1.20	1.05	1.05	1.21
1800	6.40	6.20	6.21	6.40	0.20	21.97	26.70	22.00	3.00	1.44	1.20	1.03	1.04	1.21
1900	6.32	6.13	6.13	6.31	0.19	22.90	26.38	22.87	3.10	1.44	1.18	1.09	1.08	1.19
1950	6.33	6.16	6.16	6.32	0.17	24.05	27.01	23.98	3.27	1.44	1.17	1.14	1.13	1.18
2000	6.35	6.13	6.12	6.32	0.23	25.87	28.42	25.77	3.05	1.44	1.15	1.19	1.18	1.16

1. Total Loss = Insertion Loss + 6dB splitter loss.



### electrical schematic



### 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-Circuit's 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-Circuit's website at [www.minicircuits.com/WCLStore/terms.jsp](http://www.minicircuits.com/WCLStore/terms.jsp)



# 4 Way-0° Power Splitter/Combiner

# ZA4PD-2+

## Typical Performance Data

FREQ. (MHz)	TOTAL LOSS <sup>1</sup> (dB)				AMP UNBAL. (dB)	ISOLATION (dB)			PHASE UNBAL. (Deg.)	FREQ. (MHz)	VSWR (:1)				
	S1	S2	S3	S4		1-2	2-3	3-4			S	1	2	3	4
1000.0	6.24	6.27	6.27	6.25	0.03	27.53	39.12	27.62	1.90	1000.0	1.56	1.21	1.29	1.29	1.20
1100.0	6.22	6.27	6.27	6.22	0.05	31.69	30.28	31.80	1.94	1100.0	1.41	1.21	1.22	1.22	1.20
1150.0	6.23	6.31	6.31	6.22	0.09	32.16	29.02	32.26	1.75	1150.0	1.33	1.21	1.19	1.19	1.20
1200.0	6.23	6.27	6.27	6.23	0.04	31.48	28.57	31.60	1.87	1200.0	1.26	1.21	1.16	1.16	1.20
1250.0	6.30	6.34	6.34	6.30	0.04	30.40	28.93	30.50	1.68	1250.0	1.19	1.21	1.13	1.13	1.20
1300.0	6.28	6.30	6.29	6.27	0.03	29.21	29.81	29.31	1.80	1300.0	1.13	1.21	1.12	1.12	1.20
1350.0	6.35	6.34	6.34	6.35	0.01	28.17	31.54	28.26	1.78	1350.0	1.10	1.21	1.11	1.11	1.20
1400.0	6.35	6.32	6.32	6.35	0.03	27.14	34.29	27.23	1.85	1400.0	1.11	1.21	1.11	1.11	1.21
1450.0	6.40	6.34	6.34	6.40	0.06	26.20	38.20	26.28	1.94	1450.0	1.16	1.21	1.11	1.11	1.21
1500.0	6.43	6.35	6.35	6.44	0.09	25.20	40.24	25.27	1.97	1500.0	1.21	1.21	1.11	1.11	1.21
1550.0	6.46	6.36	6.36	6.47	0.11	24.27	36.38	24.32	2.25	1550.0	1.26	1.21	1.10	1.10	1.21
1600.0	6.47	6.33	6.33	6.47	0.14	23.35	32.69	23.40	2.24	1600.0	1.31	1.21	1.10	1.10	1.21
1650.0	6.44	6.30	6.31	6.44	0.14	22.67	30.27	22.69	2.68	1650.0	1.36	1.21	1.08	1.09	1.21
1700.0	6.46	6.27	6.28	6.46	0.19	22.16	28.53	22.21	2.63	1700.0	1.39	1.21	1.06	1.07	1.21
1750.0	6.38	6.24	6.25	6.38	0.14	21.95	27.42	21.95	3.03	1750.0	1.42	1.20	1.05	1.05	1.21
1800.0	6.40	6.20	6.21	6.40	0.20	21.97	26.70	22.00	3.00	1800.0	1.44	1.20	1.03	1.04	1.21
1850.0	6.32	6.18	6.18	6.30	0.14	22.27	26.34	22.23	3.19	1850.0	1.44	1.19	1.05	1.05	1.20
1900.0	6.32	6.13	6.13	6.31	0.19	22.90	26.38	22.87	3.10	1900.0	1.44	1.18	1.09	1.08	1.19
1950.0	6.33	6.16	6.16	6.32	0.17	24.05	27.01	23.98	3.27	1950.0	1.44	1.17	1.14	1.13	1.18
2000.0	6.35	6.13	6.12	6.32	0.23	25.87	28.42	25.77	3.05	2000.0	1.44	1.15	1.19	1.18	1.16

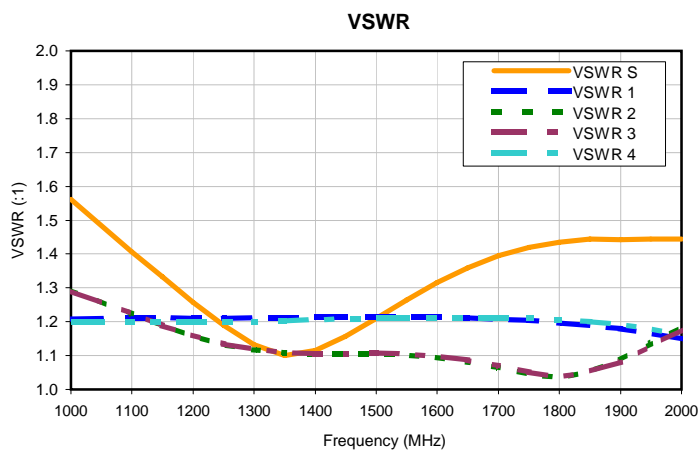
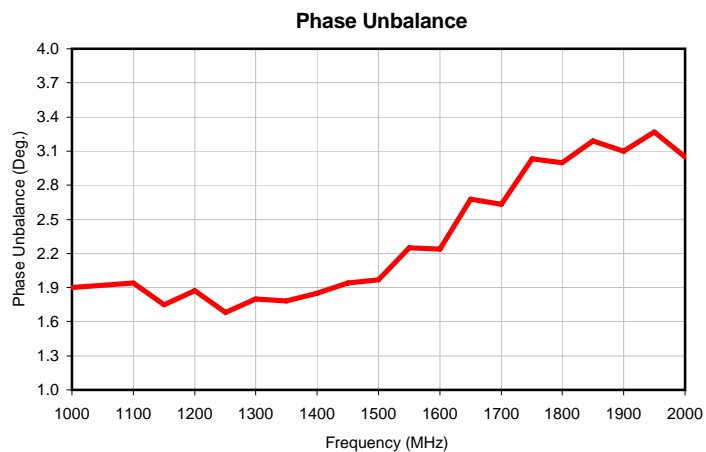
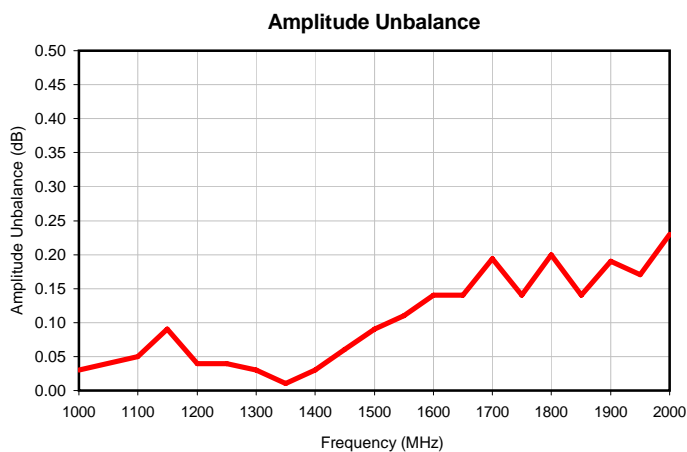
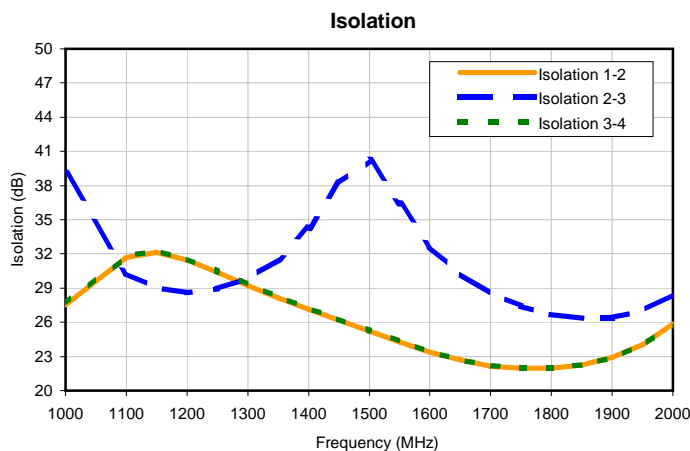
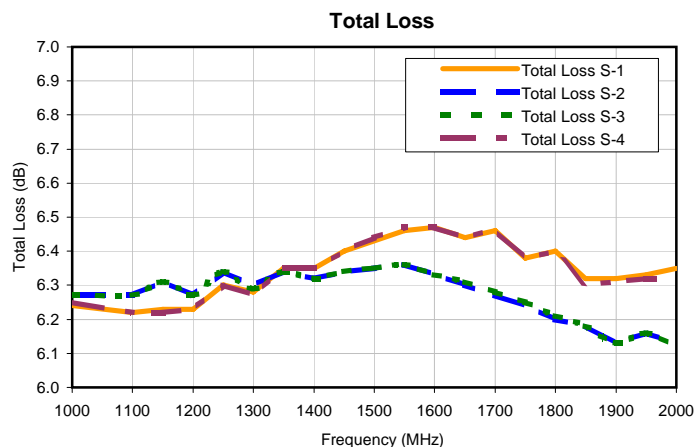
<sup>1</sup>Total Loss = Insertion Loss + 6dB Splitter Loss



# 4 Way-0° Power Splitter/Combiner

# ZA4PD-2+

## Typical Performance Curves



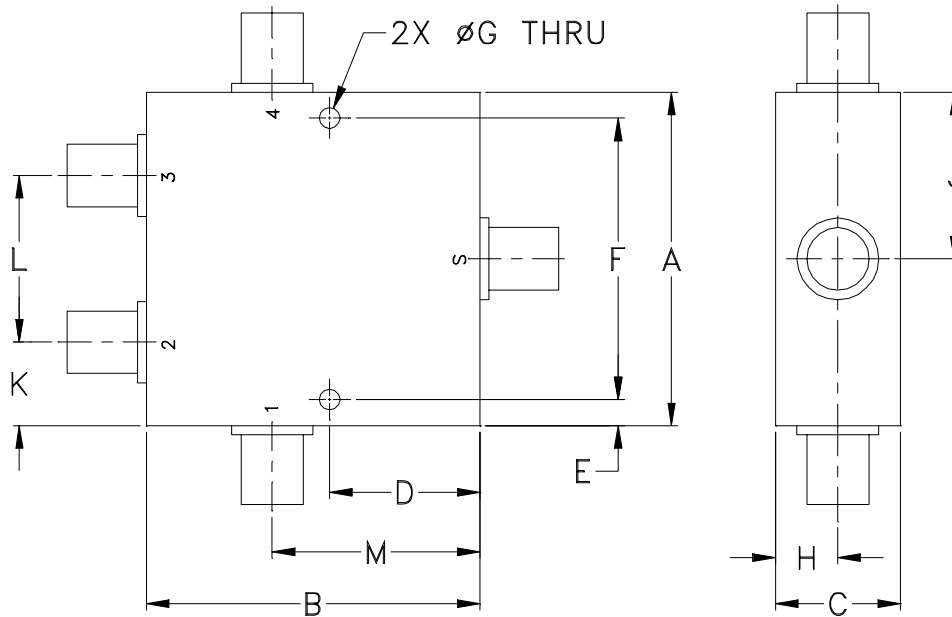
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IF/RF MICROWAVE COMPONENTS

REV. X3  
ZA4PD-2+  
6/29/2010  
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### Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	L	M	WT, GRAM
DD52	2.00 (50.80)	2.00 (50.80)	.75 (19.05)	.90 (22.86)	.156 (3.96)	1.688 (42.88)	.125 (3.18)	.38 (9.65)	1.00 (25.40)	.50 (12.70)	1.00 (25.40)	1.25 (31.75)	150

Dimensions are in inches (mm). Tolerances: 2 Pl.  $\pm .03$ ; 3 Pl.  $\pm .015$

#### Notes:

- Case material: Aluminum alloy.
- Case finish:  
For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.



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<b>Specification</b>	<b>Test/Inspection Condition</b>	<b>Reference/Spec</b>
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