Coaxial DC Pass

Power Splitter/Combiner

ZB4PD1-23DC+

4 Way-0° 50Ω 1200 to 1600 MHz

SMA version shown

CASE STYLE: UU188

Connectors	Model	Price	Qty.
SMA	ZB4PD1-23DC-S+	Contact Sales Dept.	
N-TYPE	ZB4PD1-23DC-N+		

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

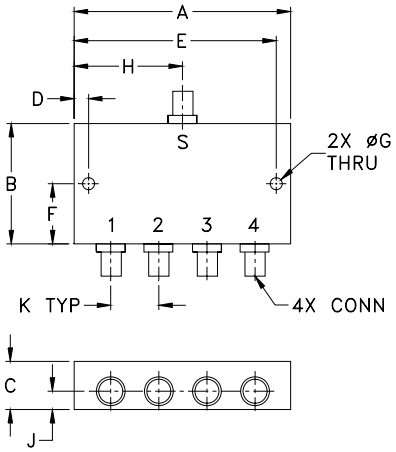
Maximum Ratings

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.
V_{DC}	50V
I_{DC}	1A

Coaxial Connections

SUM PORT (RF + DC)	S
PORT 1 (RF + DC)	1
PORT 2 (RF ONLY)	2
PORT 3 (RF ONLY)	3
PORT 4 (RF ONLY)	4

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F
3.50	2.13	.88	.150	3.350	1.06
88.90	54.10	22.35	3.81	85.09	26.92

G	H	J	K	wt
.125	1.75	.44	.89	grams
3.18	44.45	11.18	22.61	260

Features

- wideband, 1200 to 1600 MHz
- good isolation, 25 dB typ.
- excellent output VSWR, 1.1:1 typ.
- up to 10W power input as a splitter
- DC Pass from sum port to port 1

Applications

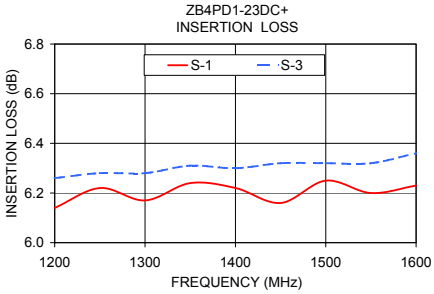
- GPS - L1, L2

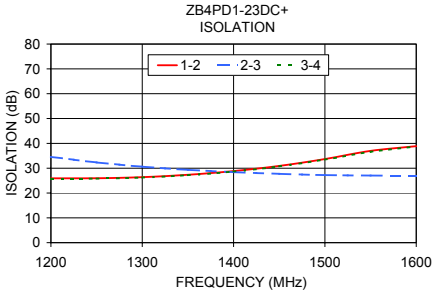
Splitter Electrical Specifications

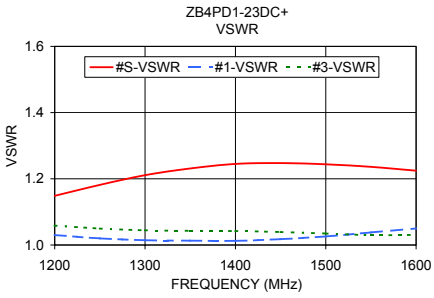
FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 6.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)	VSWR (:1)			
							S		OUT	
f_L-f_U	Typ.	Min.	Typ.	Max.	Max.	Max.	Typ.	Max.	Typ.	Max.
1200-1600	25	20	0.6	1.0	—	0.4	1.20	1.43	1.15	1.43

Typical Performance Data

Freq. (MHz)	Insertion Loss (dB)				Amp. Unbal. (dB)	Isolation (dB)			VSWR S	VSWR 1	VSWR 2	VSWR 3	VSWR 4
	S-1	S-2	S-3	S-4		1-2	2-3	3-4					
1200.00	6.14	6.27	6.26	6.23	0.13	25.92	34.55	25.81	1.15	1.03	1.05	1.06	1.07
1250.00	6.22	6.31	6.28	6.22	0.10	25.96	32.33	25.80	1.18	1.02	1.04	1.05	1.06
1300.00	6.17	6.28	6.28	6.21	0.12	26.40	30.61	26.24	1.21	1.01	1.04	1.04	1.05
1350.00	6.24	6.33	6.31	6.27	0.10	27.35	29.35	27.19	1.23	1.01	1.04	1.04	1.04
1400.00	6.22	6.32	6.30	6.19	0.13	28.85	28.39	28.66	1.25	1.01	1.04	1.04	1.05
1450.00	6.16	6.26	6.32	6.26	0.16	30.93	27.73	30.72	1.25	1.02	1.03	1.04	1.05
1500.00	6.25	6.36	6.32	6.22	0.14	33.68	27.21	33.45	1.24	1.03	1.03	1.03	1.06
1550.00	6.20	6.31	6.32	6.25	0.12	36.98	27.03	36.60	1.24	1.04	1.02	1.03	1.06
1600.00	6.23	6.34	6.36	6.24	0.14	38.87	26.99	38.71	1.22	1.05	1.02	1.03	1.06







electrical schematic

For detailed performance specs & shopping online see web site

REV. A
M121747
ZB4PD1-23DC+
ED-12323/1
HY/QL
090821

4 Way-0° Power Splitter/Combiner ZB4PD1-23DC+

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	
350.0	6.68	6.71	6.63	6.66	0.07	8.77	16.13	8.78	4.89
400.0	6.46	6.49	6.48	6.46	0.03	10.02	16.85	10.04	5.42
450.0	6.32	6.35	6.30	6.33	0.05	11.50	17.39	11.52	5.98
500.0	6.24	6.27	6.24	6.24	0.03	13.20	18.10	13.23	7.18
550.0	6.21	6.25	6.17	6.16	0.08	15.16	18.80	15.22	7.53
600.0	6.16	6.20	6.21	6.22	0.06	17.44	19.68	17.52	8.33
650.0	6.18	6.22	6.21	6.18	0.04	19.98	20.61	20.07	9.23
700.0	6.19	6.23	6.20	6.21	0.04	22.90	21.67	23.03	9.48
750.0	6.14	6.19	6.24	6.21	0.09	26.28	22.93	26.49	10.15
800.0	6.19	6.24	6.26	6.24	0.07	30.39	24.36	30.75	10.99
850.0	6.19	6.25	6.24	6.20	0.07	34.93	26.02	35.48	11.26
900.0	6.18	6.25	6.28	6.26	0.10	37.60	28.05	37.80	12.14
950.0	6.19	6.29	6.27	6.21	0.10	34.60	30.34	34.40	12.76
1000.0	6.20	6.32	6.30	6.28	0.12	31.42	33.32	31.29	13.57
1050.0	6.18	6.31	6.31	6.23	0.13	29.08	36.77	28.93	14.00
1100.0	6.16	6.31	6.28	6.25	0.15	27.48	38.78	27.35	15.15
1150.0	6.20	6.31	6.31	6.22	0.11	26.44	37.32	26.30	15.41
1200.0	6.14	6.27	6.26	6.23	0.13	25.92	34.55	25.81	16.48
1250.0	6.22	6.31	6.28	6.22	0.10	25.96	32.33	25.80	17.03
1300.0	6.17	6.28	6.28	6.21	0.12	26.40	30.61	26.24	17.47
1350.0	6.24	6.33	6.31	6.27	0.10	27.35	29.35	27.19	18.80
1400.0	6.22	6.32	6.30	6.19	0.13	28.85	28.39	28.66	18.56
1450.0	6.16	6.26	6.32	6.26	0.16	30.93	27.73	30.72	19.98
1500.0	6.25	6.36	6.32	6.22	0.14	33.68	27.21	33.45	20.33
1550.0	6.20	6.31	6.32	6.25	0.12	36.98	27.03	36.60	21.11
1600.0	6.23	6.34	6.36	6.24	0.14	38.87	26.99	38.71	21.54
1650.0	6.26	6.38	6.37	6.28	0.13	38.13	27.14	38.13	22.55
1700.0	6.31	6.44	6.47	6.31	0.16	36.61	27.60	36.80	22.91
1750.0	6.29	6.43	6.41	6.31	0.14	35.08	28.05	35.42	23.69
1800.0	6.37	6.50	6.55	6.38	0.19	33.87	29.04	34.44	24.44
1850.0	6.36	6.52	6.49	6.37	0.16	32.98	30.15	33.73	25.31
1900.0	6.37	6.54	6.56	6.39	0.19	32.33	31.79	33.21	25.85
1950.0	6.37	6.54	6.55	6.43	0.18	32.24	34.04	33.35	26.67
2000.0	6.38	6.57	6.57	6.38	0.19	32.99	37.23	34.27	27.46
2100.0	6.44	6.65	6.65	6.47	0.21	43.18	40.74	48.19	28.85
2150.0	6.48	6.60	6.62	6.49	0.14	40.10	36.04	37.74	29.41
2200.0	6.49	6.74	6.85	6.63	0.36	30.32	32.50	29.55	30.19
2250.0	6.62	6.75	6.62	6.54	0.21	25.09	29.53	24.71	30.51
2300.0	6.61	6.83	7.08	6.77	0.47	21.45	27.82	21.36	31.41
2350.0	6.61	6.87	6.88	6.63	0.27	18.92	25.95	18.94	32.45

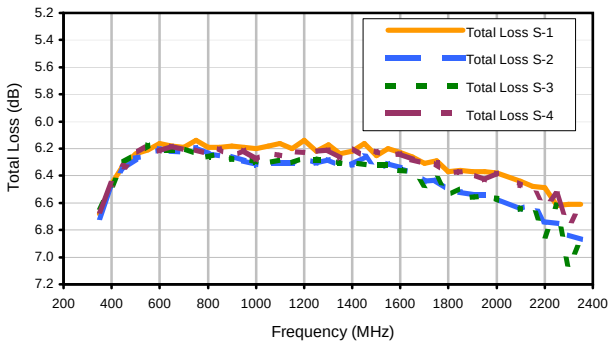
FREQ. (MHz)	VSWR (:1)				
	S	1	2	3	4
350.0	2.12	1.18	1.18	1.18	1.18
400.0	1.81	1.14	1.13	1.13	1.13
450.0	1.55	1.13	1.11	1.11	1.11
500.0	1.34	1.12	1.11	1.11	1.11
550.0	1.18	1.12	1.11	1.11	1.11
600.0	1.08	1.11	1.10	1.11	1.11
650.0	1.09	1.11	1.10	1.10	1.11
700.0	1.16	1.10	1.10	1.10	1.10
750.0	1.21	1.09	1.09	1.10	1.10
800.0	1.24	1.09	1.10	1.10	1.10
850.0	1.25	1.09	1.10	1.11	1.11
900.0	1.24	1.09	1.11	1.11	1.11
950.0	1.22	1.09	1.11	1.11	1.11
1000.0	1.19	1.08	1.10	1.11	1.11
1050.0	1.14	1.07	1.09	1.09	1.10
1100.0	1.12	1.06	1.08	1.08	1.09
1150.0	1.12	1.04	1.07	1.07	1.08
1200.0	1.15	1.03	1.05	1.06	1.07
1250.0	1.18	1.02	1.04	1.05	1.06
1300.0	1.21	1.01	1.04	1.04	1.05
1350.0	1.23	1.01	1.04	1.04	1.04
1400.0	1.25	1.01	1.04	1.04	1.05
1450.0	1.25	1.02	1.03	1.04	1.05
1500.0	1.24	1.03	1.03	1.03	1.06
1550.0	1.24	1.04	1.02	1.03	1.06
1600.0	1.22	1.05	1.02	1.03	1.06
1650.0	1.21	1.06	1.03	1.04	1.06
1700.0	1.20	1.07	1.05	1.05	1.06
1750.0	1.18	1.07	1.06	1.07	1.05
1800.0	1.16	1.07	1.08	1.08	1.04
1850.0	1.14	1.07	1.09	1.10	1.03
1900.0	1.12	1.06	1.10	1.11	1.03
1950.0	1.10	1.05	1.11	1.12	1.03
2000.0	1.09	1.04	1.12	1.13	1.03
2100.0	1.17	1.03	1.15	1.16	1.06
2150.0	1.25	1.03	1.17	1.17	1.09
2200.0	1.37	1.06	1.19	1.18	1.14
2250.0	1.54	1.11	1.20	1.20	1.20
2300.0	1.75	1.17	1.21	1.21	1.27
2350.0	2.02	1.24	1.22	1.22	1.35

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

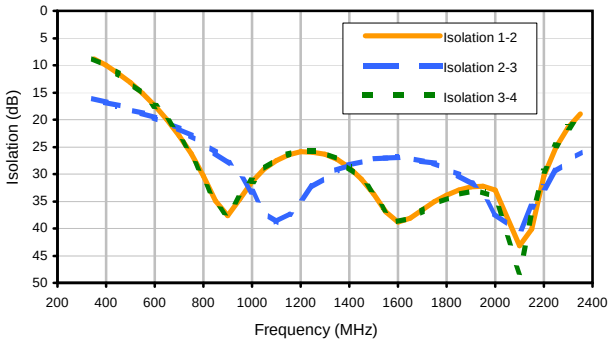
4 Way-0° Power Splitter/Combiner ZB4PD1-23DC+

Typical Performance Curves

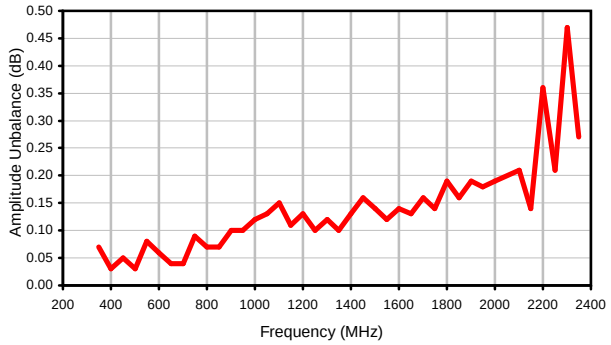
Total Loss



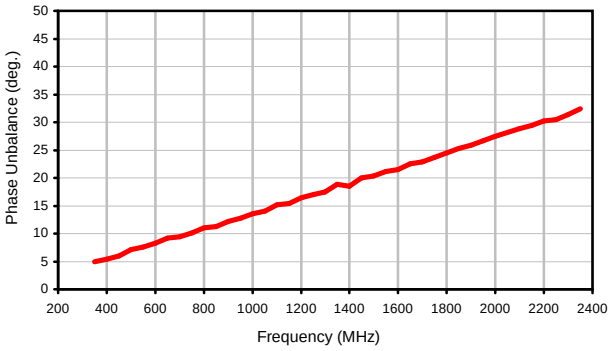
Isolation



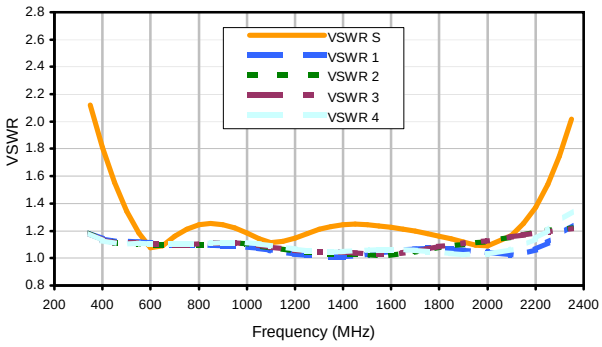
Amplitude Unbalance



Phase Unbalance

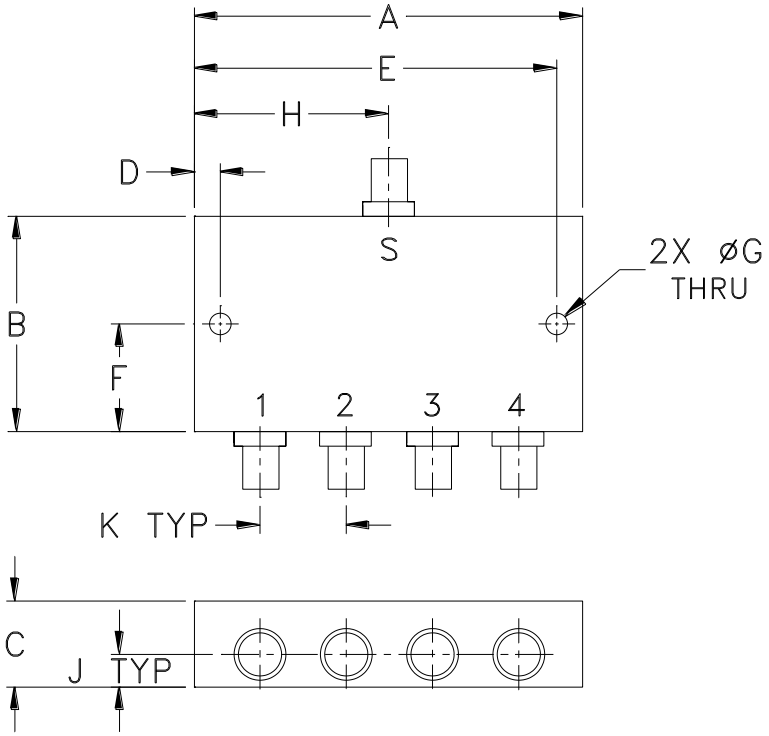


VSWR



Case Style UU

Outline Dimensions UU188



CASE#	A	B	C	D	E	F	G	H	J	K	WT. GRAMS
UU188	3.50 (88.90)	2.13 (54.10)	.88 (22.35)	.150 (3.81)	3.350 (85.09)	1.06 (26.92)	.125 (3.18)	1.75 (44.45)	.44 (11.18)	.89 (22.61)	260

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

Notes:

1. Case material: Aluminum alloy.
2. Case finish:
   For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.
3. Refer to the individual model data sheet for the type of connectors available.

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