

Power Splitter/Combiner

ZB3PD1-222+

3 Way-0° 50Ω 500 to 2200 MHz

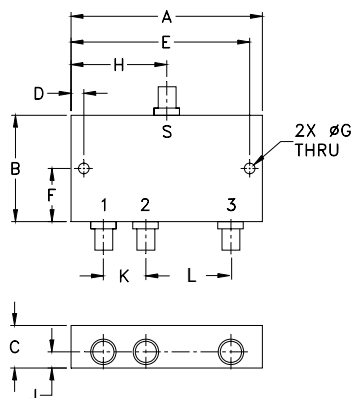
Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	10W max.
Internal Dissipation	0.5W max.
DC Current	900 mA (300 mA 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

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	L	wt
.125	1.75	.44	.89	1.78	grams
3.18	44.45	11.18	22.61	45.21	240

Features

- wideband, 500-2200 MHz
- good isolation, 25 dB typ.
- excellent input VSWR, 1.15:1 typ.
- excellent output VSWR, 1.1:1 typ.
- low insertion loss 0.3 dB typ.

Applications

- cellular
- PCN
- instrumentation



Generic photo used for illustration purposes only

CASE STYLE: UU188-1

Connectors	Model
SMA	ZB3PD1-222-S+
N-TYPE	ZB3PD1-222-N+

+RoHS Compliant

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

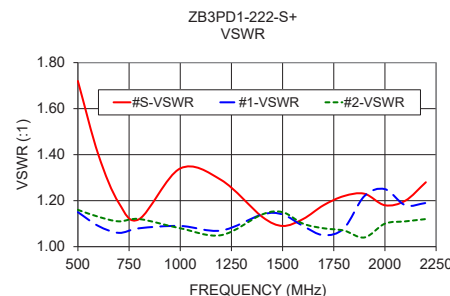
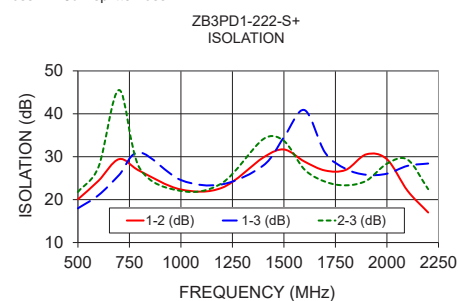
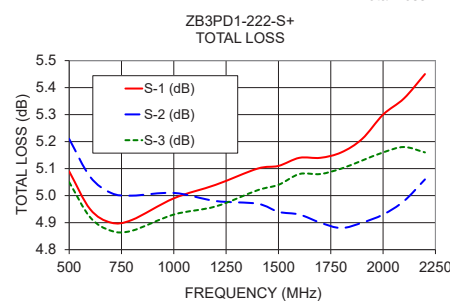
Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 4.8 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)	VSWR (:1)	
f_L - f_U	Typ.	Min.	Typ.	Max.	Max.	Max.	S Typ.	OUT Typ.
500-2200	25	14	0.3	1.0	—	0.7	1.2	1.2
700-2000	25	19	0.3	0.8	—	0.6	1.15	1.1

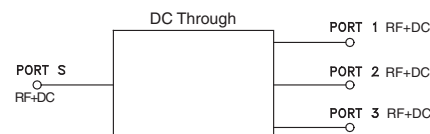
Typical Performance Data

Freq. (MHz)	Total Loss ¹ (dB)			Amp. Unbal. (dB)	Isolation (dB)			Phase Unbal. (deg.)	VSWR S	VSWR 1	VSWR 2	VSWR 3
	S-1	S-2	S-3		1-2	1-3	2-3					
500.00	5.09	5.21	5.05	0.16	20.07	17.97	21.78	39.63	1.72	1.15	1.16	1.14
600.00	4.95	5.07	4.92	0.15	24.39	21.03	27.60	47.64	1.40	1.09	1.13	1.03
700.00	4.90	5.01	4.87	0.14	29.43	25.74	45.53	55.71	1.19	1.06	1.11	1.03
800.00	4.91	5.00	4.87	0.13	26.68	31.00	27.31	63.77	1.12	1.08	1.12	1.04
1000.00	4.99	5.01	4.93	0.08	22.35	24.56	22.02	79.82	1.34	1.09	1.08	1.07
1200.00	5.04	4.98	4.96	0.08	22.77	23.56	23.87	95.78	1.29	1.07	1.05	1.11
1400.00	5.10	4.97	5.02	0.13	29.82	27.96	34.10	111.66	1.13	1.14	1.14	1.14
1500.00	5.11	4.94	5.04	0.17	31.68	34.53	33.67	119.64	1.09	1.14	1.15	1.30
1600.00	5.14	4.93	5.08	0.21	28.86	40.86	27.00	127.62	1.12	1.09	1.10	1.24
1700.00	5.14	4.90	5.08	0.24	26.78	30.93	24.18	135.63	1.18	1.05	1.08	1.08
1800.00	5.16	4.88	5.10	0.28	26.92	27.17	23.33	143.56	1.22	1.08	1.07	1.03
1900.00	5.21	4.90	5.13	0.31	30.55	25.78	24.40	151.20	1.23	1.22	1.04	1.08
2000.00	5.30	4.93	5.16	0.36	29.40	26.04	28.37	158.77	1.18	1.25	1.10	1.24
2100.00	5.36	4.98	5.18	0.38	22.06	27.87	29.32	166.51	1.20	1.18	1.11	1.41
2200.00	5.45	5.06	5.16	0.39	17.00	28.41	22.43	174.23	1.28	1.19	1.12	1.53

1. Total Loss = Insertion Loss + 4.8dB splitter loss.



electrical schematic



Notes

- A. 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.
 B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
 C. The parts covered by this specification document are subject to Mini-Circuits 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-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp



3 Way-0° Power Splitter/Combiner

ZB3PD1-222+

Typical Performance Data

FREQ. (MHz)	TOTAL LOSS ¹			AMP. UNBAL. (dB)	ISOLATION			FREQ. (MHz)	VSWR			
	S-1	S-2	S-3		1-2	1-3	2-3		S	1	2	3
100.0	6.00	6.04	5.96	0.08	5.39	5.59	5.54	100.0	2.85	2.20	2.27	2.15
200.0	5.82	5.90	5.77	0.14	9.90	9.05	9.75	200.0	2.66	1.68	1.73	1.65
300.0	5.57	5.68	5.51	0.17	14.51	12.65	14.85	300.0	2.43	1.36	1.41	1.32
400.0	5.31	5.43	5.25	0.18	17.25	15.52	18.43	400.0	2.13	1.18	1.20	1.18
500.0	5.09	5.21	5.05	0.16	20.07	17.97	21.78	500.0	1.72	1.15	1.16	1.14
550.0	5.01	5.13	4.97	0.16	21.97	19.36	24.13	550.0	1.57	1.15	1.17	1.11
600.0	4.95	5.07	4.92	0.15	24.39	21.03	27.60	600.0	1.40	1.09	1.13	1.03
650.0	4.91	5.03	4.89	0.14	27.30	23.12	33.81	650.0	1.28	1.08	1.12	1.03
700.0	4.90	5.01	4.87	0.14	29.43	25.74	45.53	700.0	1.19	1.06	1.11	1.03
750.0	4.90	5.00	4.87	0.13	28.71	28.84	32.35	750.0	1.11	1.09	1.09	1.06
800.0	4.91	5.00	4.87	0.13	26.68	31.00	27.31	800.0	1.12	1.08	1.12	1.04
900.0	4.94	5.01	4.90	0.11	23.76	27.72	23.12	900.0	1.24	1.03	1.13	1.07
1000.0	4.99	5.01	4.93	0.08	22.35	24.56	22.02	1000.0	1.34	1.09	1.08	1.07
1100.0	5.02	5.00	4.94	0.07	21.94	23.38	22.38	1100.0	1.34	1.12	1.06	1.06
1200.0	5.04	4.98	4.96	0.08	22.77	23.56	23.87	1200.0	1.29	1.07	1.05	1.11
1300.0	5.09	4.99	5.00	0.10	25.43	24.95	27.10	1300.0	1.22	1.14	1.15	1.14
1400.0	5.10	4.97	5.02	0.13	29.82	27.96	34.10	1400.0	1.13	1.14	1.14	1.14
1500.0	5.11	4.94	5.04	0.17	31.68	34.53	33.67	1500.0	1.09	1.14	1.15	1.30
1550.0	5.14	4.95	5.08	0.19	30.40	41.27	29.68	1550.0	1.10	1.06	1.07	1.25
1600.0	5.14	4.93	5.08	0.21	28.86	40.86	27.00	1600.0	1.12	1.09	1.10	1.24
1650.0	5.12	4.91	5.08	0.21	27.60	34.60	25.27	1650.0	1.18	1.05	1.01	1.23
1700.0	5.14	4.90	5.08	0.24	26.78	30.93	24.18	1700.0	1.18	1.05	1.08	1.08
1750.0	5.14	4.89	5.09	0.26	26.49	28.64	23.51	1750.0	1.20	1.10	1.05	1.12
1800.0	5.16	4.88	5.10	0.28	26.92	27.17	23.33	1800.0	1.22	1.08	1.07	1.03
1850.0	5.18	4.89	5.11	0.29	28.21	26.24	23.56	1850.0	1.21	1.21	1.07	1.05
1900.0	5.21	4.90	5.13	0.31	30.55	25.78	24.40	1900.0	1.23	1.22	1.04	1.08
1950.0	5.23	4.91	5.14	0.32	32.07	25.70	25.92	1950.0	1.21	1.19	1.06	1.15
2000.0	5.30	4.93	5.16	0.36	29.40	26.04	28.37	2000.0	1.18	1.25	1.10	1.24
2050.0	5.31	4.95	5.17	0.36	25.45	26.79	30.73	2050.0	1.20	1.12	1.18	1.42
2100.0	5.36	4.98	5.18	0.38	22.06	27.87	29.32	2100.0	1.20	1.18	1.11	1.41
2150.0	5.43	5.02	5.16	0.41	19.35	28.81	25.63	2150.0	1.21	1.14	1.18	1.53
2200.0	5.45	5.06	5.16	0.39	17.00	28.41	22.43	2200.0	1.28	1.19	1.12	1.53
2250.0	5.54	5.13	5.13	0.41	14.97	26.49	19.93	2250.0	1.33	1.23	1.04	1.45
2300.0	5.56	5.18	5.10	0.47	13.20	24.01	17.76	2300.0	1.43	1.20	1.06	1.61
2400.0	5.78	5.38	5.08	0.70	10.50	20.41	14.04	2400.0	1.72	1.17	1.19	1.78
2500.0	6.11	5.70	5.07	1.04	9.24	18.85	10.83	2500.0	2.32	1.26	1.03	1.68
2600.0	6.80	6.30	5.22	1.58	9.73	18.47	8.35	2600.0	3.15	1.41	1.24	1.56
2650.0	7.40	6.81	5.38	2.02	10.72	18.30	7.46	2650.0	3.44	1.69	1.24	1.53
2700.0	8.15	7.43	5.55	2.60	12.20	17.71	6.67	2700.0	3.78	1.95	1.40	1.53

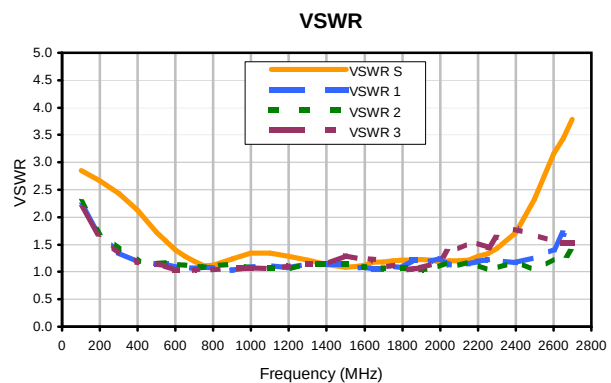
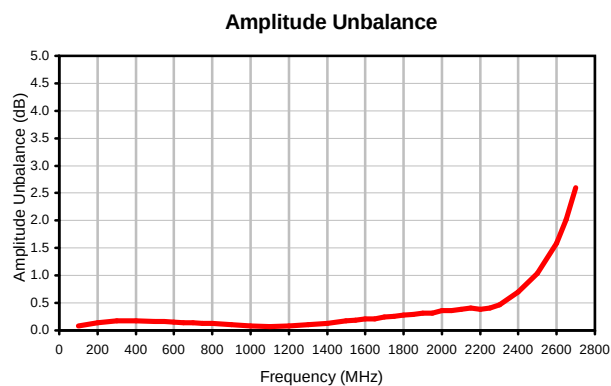
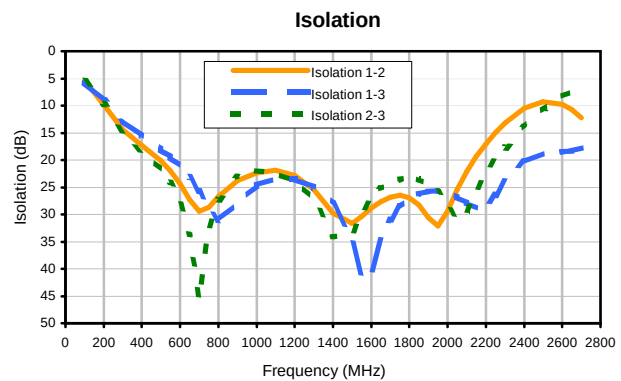
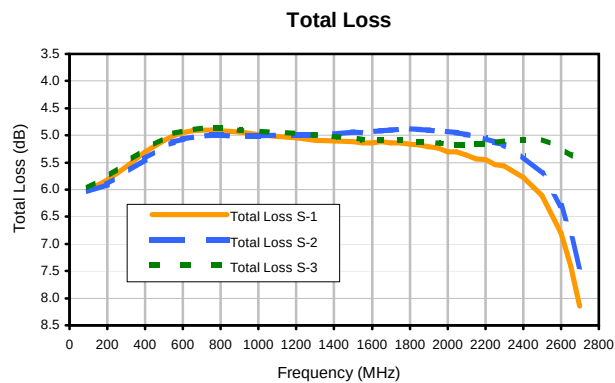
¹ Total Loss = Insertion Loss+ 4.8dB Splitter Loss

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3 Way-0° Power Splitter/Combiner

ZB3PD1-222+

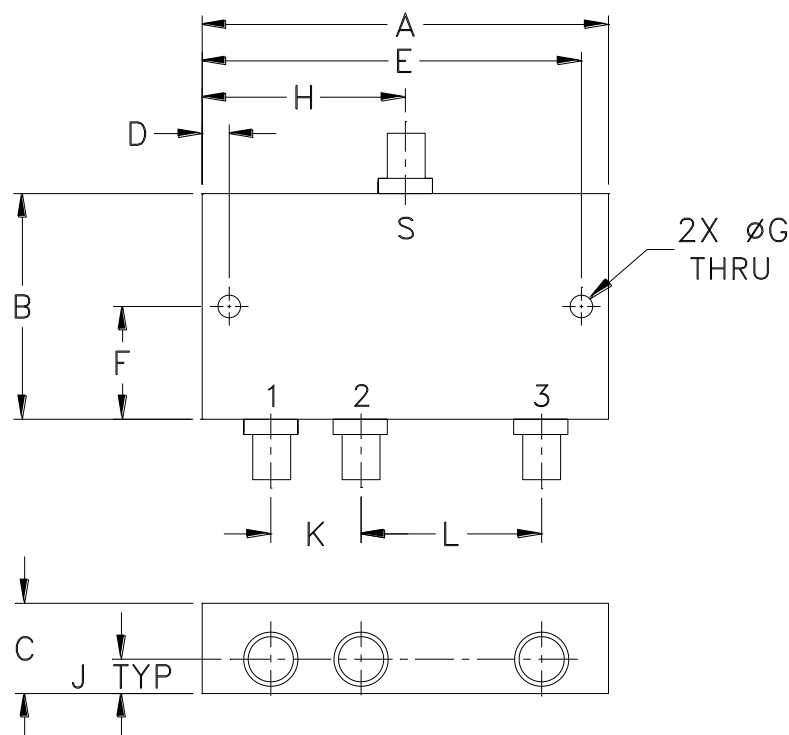
Typical Performance Curves



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Outline Dimensions

UU188-1



CASE#	A	B	C	D	E	F	G	H	J	K	L	WT. GRAMS
UU188-1	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)	1.78 (45.21)	240

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.
- Refer to the individual model data sheet for the type of connectors available.



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