

DC Pass, Ultra-Thin

Power Splitter/Combiner

Z2PD-622SMP+

2 Way-0° 50Ω 350 to 6200 MHz

The Big Deal

- Wideband, 350 - 6200 MHz
- Low insertion loss, 0.9 dB
- High power handling, 10W as a splitter
- Ultra-thin case, 0.43" height (10.92 mm)



CASE STYLE: UU845-2

Product Overview

Mini-Circuits' Z2PD-622SMP+ is a connectorized wideband 2-way 0° splitter/combiner supporting a wide variety of applications from 350 to 6200 MHz. This model is capable of handling up to 10W RF input power as a splitter and provides low insertion loss, good isolation and low phase and amplitude unbalance. It comes housed in an ultra-thin aluminum alloy case (1.98 x 4.41 x 0.43") with SMP snap-on connectors, saving space in crowded system layouts.

Key Features

Feature	Advantages
Wideband, 350 to 6200 MHz	Z2PD-622SMP+ supports bandwidth requirements for a wide variety of applications.
Ultra-thin case design, 1.98 x 4.41 x 0.43"	Saves space in crowded system layouts.
Blind mate , snap-on SMP connectors	Blind mate SMP connectors enable direct connection to adjacent modules; while facilitating thin overall height.
Power handling up to 10W as a splitter	Supports a wide variety of power requirements.
Low insertion loss, 0.9 dB	Provides excellent transmission of signal power, making this model an excellent candidate for signal distribution applications where low loss is a requirement.
Low unbalance: • Phase unbalance, 2° • Amplitude unbalance, 0.1 dB	Produces nearly equal output signals, ideal for parallel path / multichannel systems.
DC passing up to 600mA (300mA each port, ports 1 and 2)	Supports applications where DC power is needed through the RF line.

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



Power Splitter/Combiner

Z2PD-622SMP+

2 Way-0° 50Ω 350 to 6200 MHz

Maximum Ratings

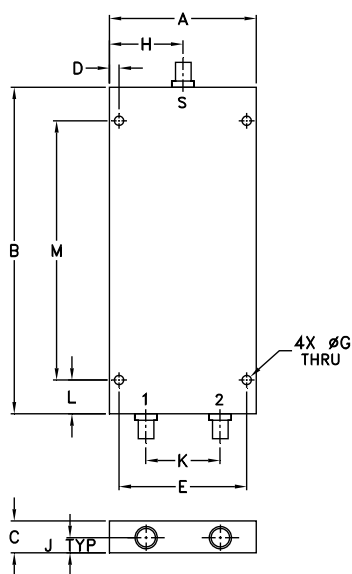
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	10W max.
Internal Dissipation	1W max.
DC Current	600 mA (300mA for each port)

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

Coaxial Connections

SUMPORT	S
PORT 1	1
PORT 2	2

Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
1.98	4.414	.43	.13	1.720	--	.125
50.29	112.12	10.92	3.30	43.69	--	3.18
H	J	K	L	M	wt	
.99	.205	1.00	.46	3.500	grams	
25.15	5.21	25.40	11.68	88.90	140	

Features

- Ultra-thin package
- Snap-on blind mate SMP connectors
- Wideband, 350-6200 MHz
- Excellent amplitude unbalance, 0.1 dB typ.
- Excellent phase unbalance, 2 deg. typ.
- Up to 10W power input as splitter

Applications

- Dense Packaging Environment
- Automated Test Systems
- Cellular/ISM/SMG/GSM
- Satellite Distribution
- GPS/L BAND (MARSAT)



CASE STYLE: UU845-2

Connectors	Model
SMP	Z2PD-622SMP+

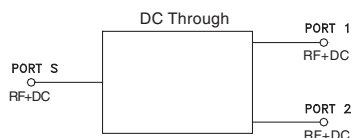
+RoHS Compliant

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

Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		350		6200	MHz
Insertion Loss Above 3.0 dB	500 - 2700	—	0.5	0.9	dB
	2700 - 3600	—	0.7	1.1	
	3600 - 6000	—	1.0	1.4	
	350 - 6200	—	0.9	1.4	
Isolation	500 - 2700	17	19	—	dB
	2700 - 6000	16	22	—	
	350 - 6200	15	20	—	
Phase Unbalance	500 - 2700	—	0.5	2.0	Degree
	2700 - 6000	—	1.0	3.0	
	350 - 6200	—	2.0	4.0	
Amplitude Unbalance	500 - 2700	—	0.1	0.3	dB
	2700 - 6000	—	0.15	0.4	
	350 - 6200	—	0.2	0.5	
VSWR (Port S)	500 - 2700	—	1.4	1.6	:1
	2700 - 6000	—	1.4	1.65	
	350 - 6200	—	1.5	1.7	
VSWR (Port 1-2)	500 - 2700	—	1.3	1.5	:1
	2700 - 6000	—	1.4	1.6	
	350 - 6200	—	1.4	1.65	

Electrical Schematic



Notes

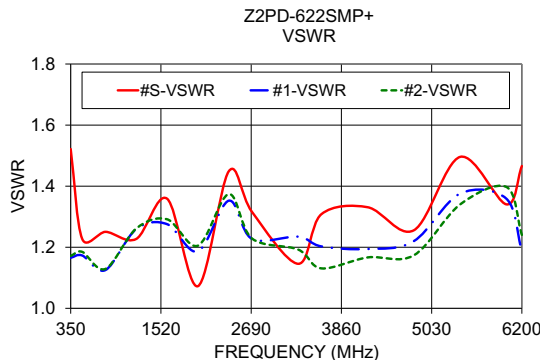
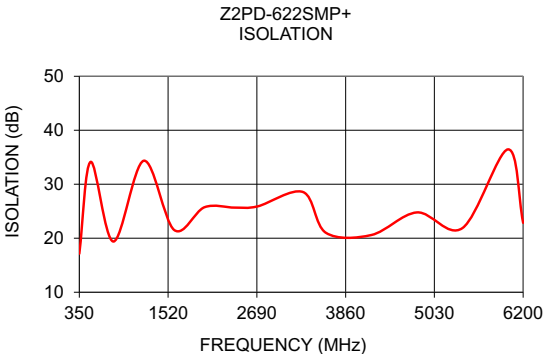
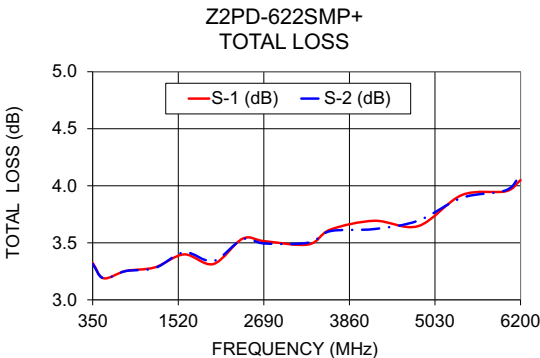
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Typical Performance Data

Frequency (MHz)	Total Loss ¹ (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
350	3.32	3.31	0.01	17.14	0.06	1.52	1.17	1.17
500	3.19	3.19	0.00	34.15	0.13	1.23	1.17	1.18
800	3.25	3.25	0.00	19.39	0.21	1.25	1.13	1.13
1200	3.28	3.28	0.01	34.36	0.24	1.23	1.26	1.26
1600	3.40	3.42	0.02	21.54	0.19	1.36	1.28	1.29
2000	3.31	3.34	0.03	25.75	0.27	1.07	1.19	1.21
2400	3.54	3.53	0.01	25.67	0.35	1.45	1.35	1.37
2700	3.51	3.49	0.02	25.90	0.34	1.32	1.23	1.23
3300	3.49	3.50	0.02	28.55	0.20	1.15	1.23	1.19
3600	3.62	3.60	0.01	21.01	0.51	1.31	1.20	1.13
4200	3.69	3.62	0.07	20.60	0.82	1.33	1.19	1.17
4800	3.65	3.69	0.05	24.79	0.63	1.26	1.22	1.17
5400	3.92	3.90	0.02	21.88	1.21	1.50	1.38	1.34
6000	3.95	3.96	0.01	36.46	0.92	1.34	1.36	1.40
6200	4.05	4.10	0.05	22.86	0.91	1.47	1.19	1.24

1. Total Loss = Insertion Loss + 3dB splitter loss.



Notes

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2 Way-0° Power Splitter/Combiner

Z2PD-622SMP+

Typical Performance Data

FREQUENCY (MHz)	TOTAL LOSS ¹ (dB)		AMPLITUDE UNBALANCE (dB)	ISOLATION (dB) 1-2	PHASE UNBALANCE (deg.)	FREQUENCY (MHz)	VSWR		
	S-1	S-2					S	(:1) 1	2
100	3.57	3.55	0.02	6.44	0.00	100	1.92	1.54	1.54
150	3.54	3.53	0.02	8.52	0.01	150	1.87	1.35	1.35
200	3.50	3.48	0.02	10.48	0.02	200	1.80	1.23	1.23
250	3.44	3.43	0.01	12.47	0.04	250	1.72	1.18	1.18
300	3.38	3.37	0.01	14.63	0.05	300	1.62	1.16	1.16
350	3.32	3.31	0.01	17.14	0.06	350	1.52	1.17	1.17
400	3.27	3.26	0.01	20.32	0.09	400	1.42	1.18	1.18
450	3.22	3.22	0.00	25.10	0.10	450	1.32	1.18	1.19
500	3.19	3.19	0.00	34.15	0.13	500	1.23	1.17	1.18
600	3.16	3.16	0.00	26.68	0.17	600	1.07	1.14	1.15
800	3.25	3.25	0.00	19.39	0.21	800	1.25	1.13	1.13
1000	3.34	3.33	0.01	22.27	0.24	1000	1.39	1.25	1.25
1200	3.28	3.28	0.01	34.36	0.24	1200	1.23	1.26	1.26
1400	3.28	3.29	0.00	22.03	0.20	1400	1.11	1.18	1.19
1600	3.40	3.42	0.02	21.54	0.19	1600	1.36	1.28	1.29
1800	3.39	3.42	0.03	30.13	0.21	1800	1.35	1.32	1.34
2000	3.31	3.34	0.03	25.75	0.27	2000	1.07	1.19	1.21
2200	3.41	3.42	0.01	21.76	0.28	2200	1.27	1.20	1.23
2400	3.54	3.53	0.01	25.67	0.35	2400	1.45	1.35	1.37
2600	3.53	3.51	0.02	32.18	0.33	2600	1.38	1.32	1.32
2700	3.51	3.49	0.02	25.90	0.34	2700	1.32	1.23	1.23
3000	3.47	3.48	0.00	23.47	0.23	3000	1.21	1.07	1.08
3300	3.49	3.50	0.02	28.55	0.20	3300	1.15	1.23	1.19
3600	3.62	3.60	0.01	21.01	0.51	3600	1.31	1.20	1.13
3900	3.58	3.54	0.04	27.50	0.81	3900	1.08	1.08	1.02
4200	3.69	3.62	0.07	20.60	0.82	4200	1.33	1.19	1.17
4500	3.65	3.62	0.03	23.91	0.81	4500	1.16	1.09	1.11
4800	3.65	3.69	0.05	24.79	0.63	4800	1.26	1.22	1.17
5100	3.62	3.65	0.03	25.50	1.01	5100	1.08	1.18	1.15
5400	3.92	3.90	0.02	21.88	1.21	5400	1.50	1.38	1.34
5700	3.90	3.85	0.05	18.48	1.01	5700	1.32	1.13	1.14
5800	3.85	3.81	0.04	21.13	1.00	5800	1.13	1.16	1.17
5900	3.87	3.85	0.02	27.81	0.95	5900	1.17	1.29	1.31
6000	3.95	3.96	0.01	36.46	0.92	6000	1.34	1.36	1.40
6100	4.02	4.06	0.04	25.98	0.89	6100	1.44	1.31	1.37
6200	4.05	4.10	0.05	22.86	0.91	6200	1.47	1.19	1.24
6300	4.11	4.18	0.07	20.69	1.02	6300	1.53	1.14	1.14
6400	4.32	4.40	0.09	16.57	1.07	6400	1.79	1.28	1.25
6500	4.78	4.87	0.09	12.36	1.09	6500	2.32	1.38	1.38

¹Total Loss = Insertion Loss + 3dB Splitter Loss

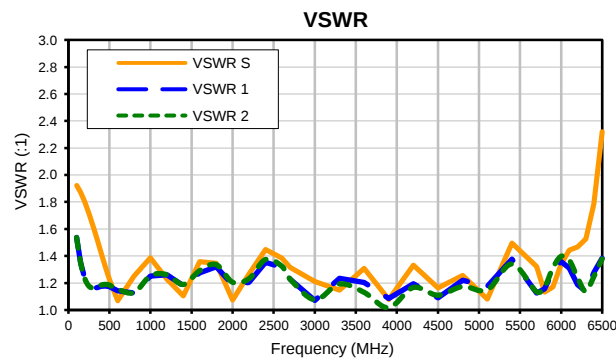
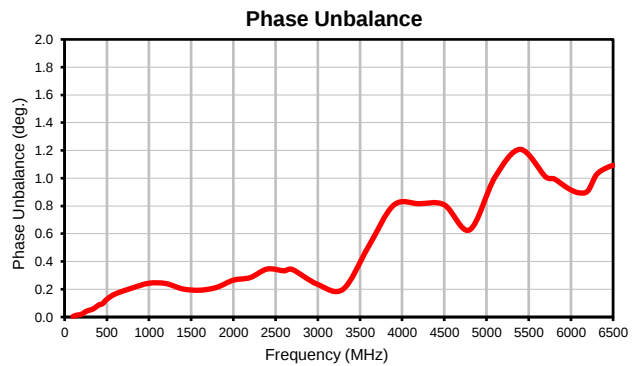
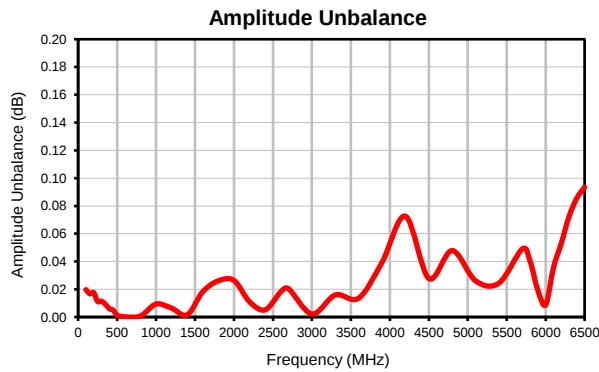
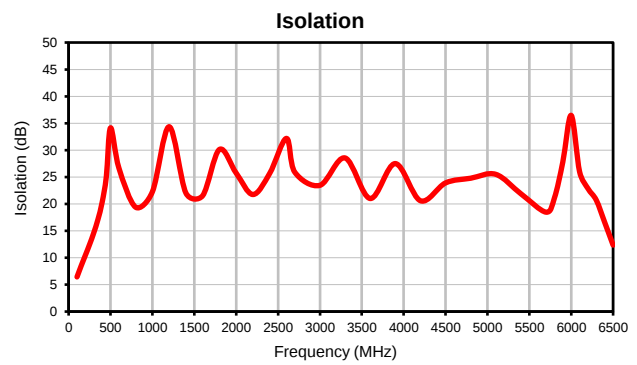
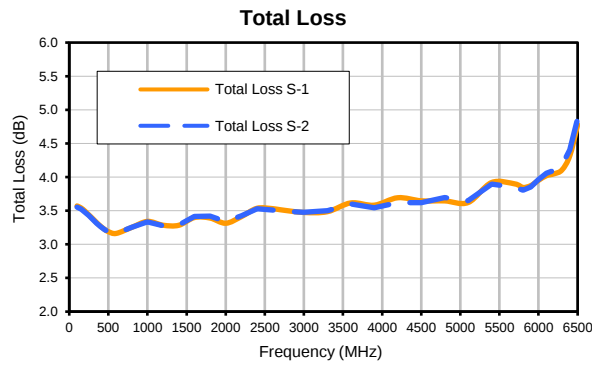


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IF/RF MICROWAVE COMPONENTS

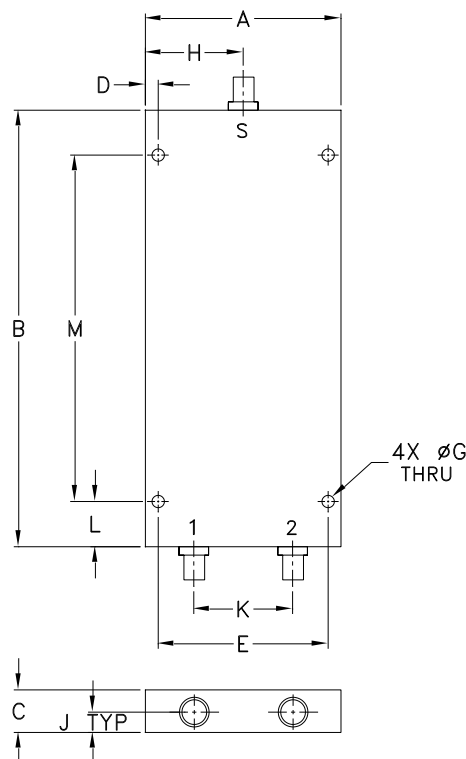
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Z2PD-622SMP+
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Typical Performance Curves



Outline Dimensions

UU845-2



CASE#	A	B	C	D	E	F	G	H	J	K	L	M	WT. GRAMS
UU845-2	1.98 (50.29)	4.41 (112.12)	.43 (10.92)	.13 (3.30)	1.720 (43.69)	-- --	.125 (3.18)	.99 (25.15)	.205 (5.21)	1.00 (25.40)	.46 (11.61)	3.500 (88.90)	140

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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RF/IF MICROWAVE COMPONENTS



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