



COAXIAL STRIPLINE

Power Splitter/Combiner **ZC3PD-E18673+**

Mini-Circuits

50Ω 3 Way-0° 18 to 67 GHz 1.85mm Female 12W DC Pass

KEY FEATURES

- Wideband, 18 to 67 GHz
- Low Insertion Loss, 1.8dB typ.
- 12W Power Handling
- High Isolation, 36dB typ.
- Low Amplitude Unbalance, 0.4dB typ.

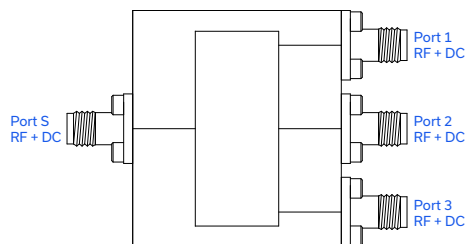


Generic photo used for illustration purposes only

PRODUCT OVERVIEW

Mini-Circuits' ZC3PD-E18673+ is a wideband 3-way 0° power splitter/combiner. It provides coverage from 18 to 67 GHz (Ka band & V band), supporting a wide range of applications including 5G, Defense, Instrumentation and many more. This model provides 12W power handling as a splitter and very low insertion loss across the entire operating frequency range, minimizing power dissipation and delivering excellent signal power transmission from input to output. The ZC3PD-E18673+ comes housed in a case measuring 1.5 x 1.7 x 0.5" with 1.85mm female connectors.

FUNCTIONAL DIAGRAM



ELECTRICAL SPECIFICATIONS AT +25°C

Parameter	Frequency (GHz)	Min.	Typ.	Max.	Units
Frequency Range		18		67	GHz
Insertion Loss (above theoretical 4.8 dB)	18-40	—	1.3	2.0	dB
	40-50	—	1.8	2.4	
	50-67	—	2.3	3.1	
Isolation	18-40	16	35	—	dB
	40-50	16	37	—	
	50-67	16	38	—	
Phase Unbalance (Relative to 0°)	18-40	—	4	—	(±) Degree
	40-50	—	4	—	
	50-67	—	10	—	
Amplitude Unbalance	18-40	—	0.3	—	(±) dB
	40-50	—	0.4	—	
	50-67	—	0.5	—	
VSWR (Port S)	18-40	—	1.13	1.7	:1
	40-50	—	1.12	1.8	
	50-67	—	1.10	1.9	
VSWR (Ports 1-3)	18-40	—	1.12	1.7	:1
	40-50	—	1.13	1.8	
	50-67	—	1.11	1.9	

Absolute Maximum Ratings are on page 3.

REV. OR
ECO-017333
ZC3PD-E18673+
MCL NY
230331



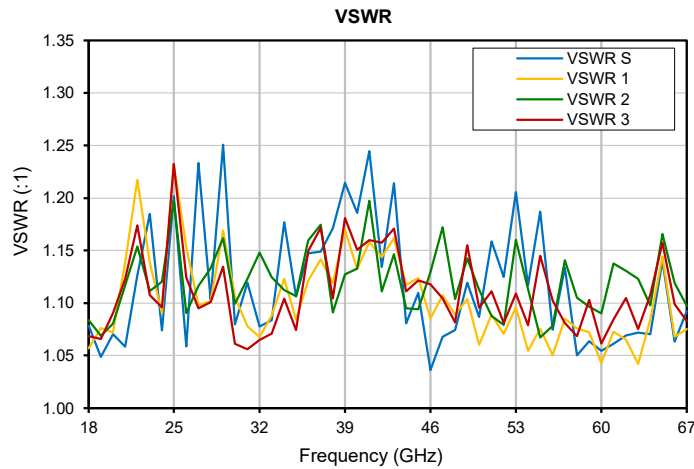
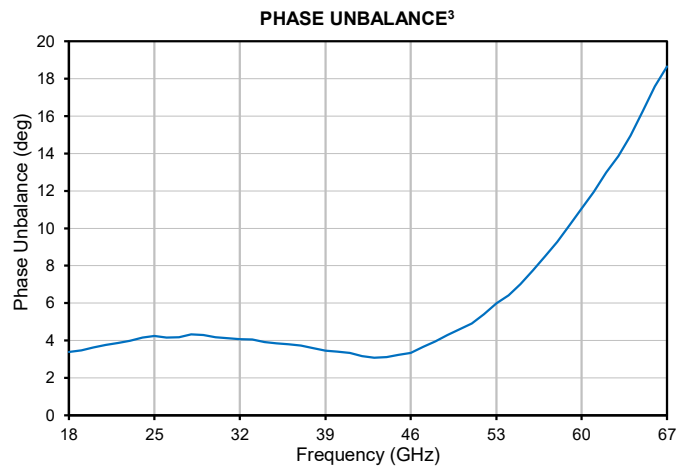
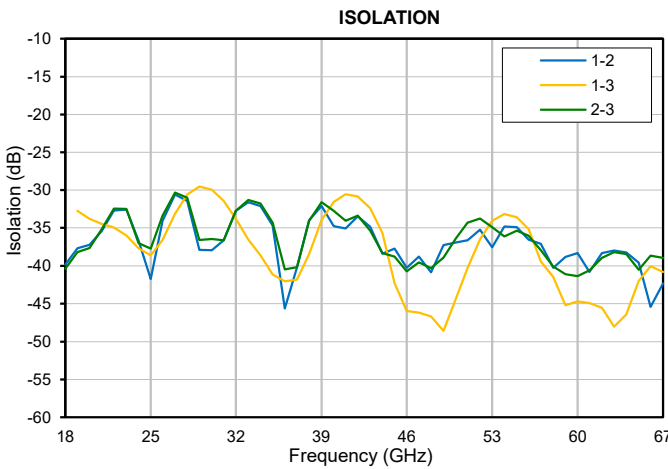
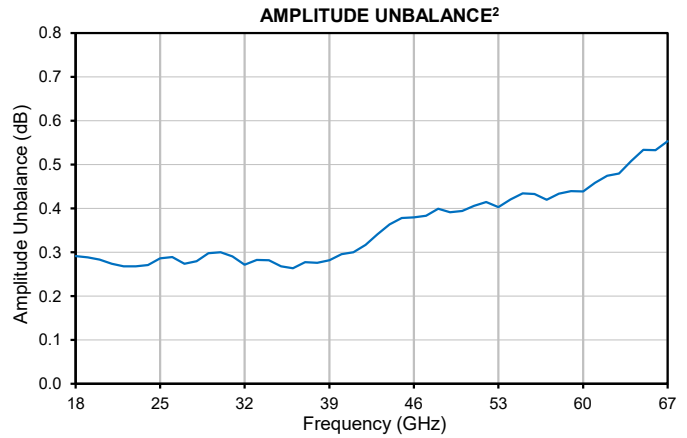
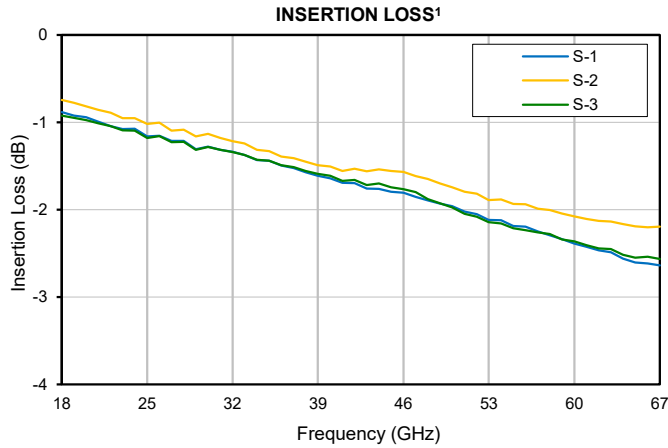


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TYPICAL PERFORMANCE GRAPHS



Note:

1. Insertion loss is loss above theoretical loss (4.8dB)
2. Amplitude unbalance is average unbalance between any ports
3. Phase unbalance is average unbalance between any ports





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Power Splitter/Combiner **ZC3PD-E18673+**

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50Ω 3 Way-0° 18 to 67 GHz 1.85mm Female 12W DC Pass

ABSOLUTE MAXIMUM RATINGS¹

Parameter	Ratings	
Operating Case Temperature	-50 °C to +100 °C	
Storage Temperature	-50 °C to +100 °C	
Input Power	as splitter ²	12 W
	as combiner	0.8 W
DC Passing as splitter	350mA	

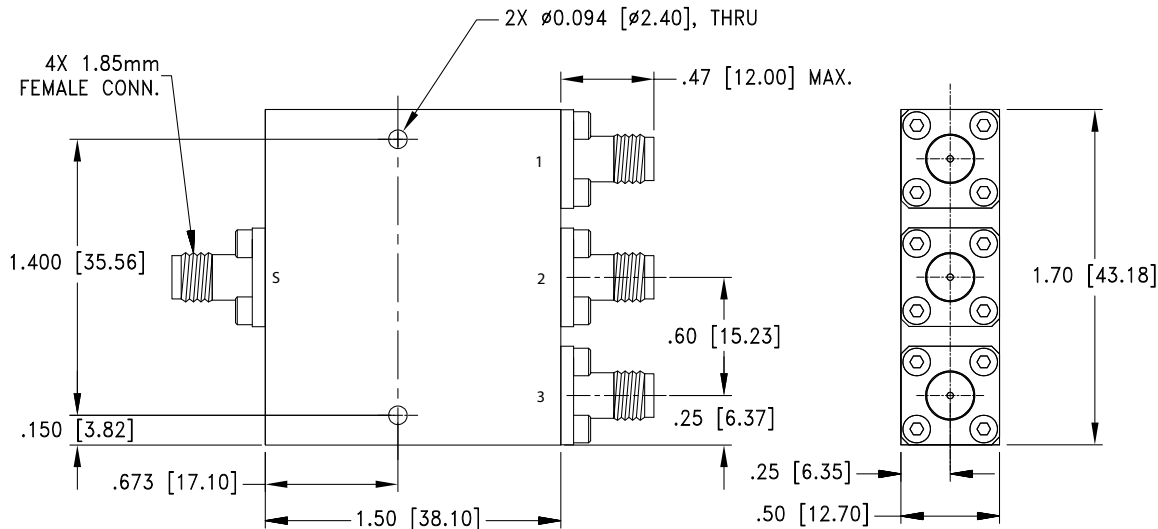
1. Permanent damage may occur if any of these limits are exceeded.

2. At 25°C. Derate linearly to 2.8 W at +100 °C

CONNECTOR SPECIFICATIONS

Description	Marking on DUT	Connector
S (Sum Port)	S	1.85 mm Female
Port (1 to 3)	1,2,3	1.85 mm Female

CASE STYLE DRAWING



Weight: 80 grams

Dimensions are in inches [mm]. Tolerances: 2 Pl. \pm .03; 3 Pl. \pm .015 inches

PRODUCT MARKING*: ZC3PD-E18673+

*Marking may contain other features or characters for internal lot control.

ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD

[CLICK HERE](#)

Performance Data	Data Table
	Swept Graphs
Case Style	UU2412-3
RoHs Status	Compliant
Environmental Ratings	ENV103

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-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/terms/viewterm.html



3 Way-0° Power Splitter/Combiner

ZC3PD-E18673+

Typical Performance Data

Data tested at 25DegC

FREQ. (GHz)	INSERTION LOSS ¹ (dB)			AMP. UNBAL. ² (dB)	ISOLATION (dB)			PHASE UNBAL. ³ (deg.)	VSWR (:1)			
	S-1	S-2	S-3		1-2	1-3	2-3		S	1	2	3
18	0.9	0.7	0.9	0.3	40	33	40	3	1.08	1.06	1.08	1.07
19	0.9	0.8	0.9	0.3	38	34	38	3	1.05	1.08	1.07	1.07
20	0.9	0.8	1.0	0.3	37	34	38	4	1.07	1.07	1.08	1.09
21	1.0	0.9	1.0	0.3	35	35	35	4	1.06	1.14	1.12	1.12
22	1.0	0.9	1.0	0.3	33	36	32	4	1.13	1.22	1.15	1.17
23	1.1	1.0	1.1	0.3	33	38	32	4	1.18	1.14	1.11	1.11
24	1.1	1.0	1.1	0.3	37	39	37	4	1.07	1.09	1.12	1.10
25	1.2	1.0	1.2	0.3	42	37	38	4	1.20	1.23	1.20	1.23
26	1.2	1.0	1.2	0.3	34	33	33	4	1.06	1.15	1.09	1.12
27	1.2	1.1	1.2	0.3	31	31	30	4	1.23	1.10	1.12	1.09
28	1.2	1.1	1.2	0.3	31	30	31	4	1.10	1.10	1.13	1.10
29	1.3	1.2	1.3	0.3	38	30	37	4	1.25	1.17	1.16	1.13
30	1.3	1.1	1.3	0.3	38	31	36	4	1.08	1.11	1.10	1.06
31	1.3	1.2	1.3	0.3	37	34	37	4	1.12	1.08	1.12	1.06
32	1.3	1.2	1.3	0.3	33	37	33	4	1.08	1.07	1.15	1.06
33	1.4	1.2	1.4	0.3	32	39	31	4	1.08	1.09	1.12	1.07
34	1.4	1.3	1.4	0.3	32	41	32	4	1.18	1.12	1.11	1.10
35	1.4	1.3	1.4	0.3	35	42	34	4	1.11	1.08	1.11	1.07
36	1.5	1.4	1.5	0.3	46	42	41	4	1.15	1.12	1.16	1.15
37	1.5	1.4	1.5	0.3	40	38	40	4	1.15	1.14	1.17	1.17
38	1.6	1.4	1.6	0.3	34	34	34	4	1.17	1.12	1.09	1.10
39	1.6	1.5	1.6	0.3	32	32	32	3	1.21	1.17	1.13	1.18
40	1.6	1.5	1.6	0.3	35	31	33	3	1.19	1.13	1.13	1.15
41	1.7	1.6	1.7	0.3	35	31	34	3	1.24	1.16	1.20	1.16
42	1.7	1.5	1.7	0.3	33	32	33	3	1.13	1.14	1.11	1.16
43	1.8	1.6	1.7	0.3	35	36	35	3	1.21	1.16	1.15	1.17
44	1.8	1.5	1.7	0.4	38	42	38	3	1.08	1.12	1.09	1.11
45	1.8	1.6	1.7	0.4	38	46	39	3	1.11	1.12	1.09	1.12
46	1.8	1.6	1.8	0.4	40	46	41	3	1.04	1.09	1.13	1.12
47	1.9	1.6	1.8	0.4	39	47	40	4	1.07	1.11	1.17	1.10
48	1.9	1.6	1.9	0.4	41	49	40	4	1.07	1.09	1.10	1.08
49	1.9	1.7	1.9	0.4	37	44	39	4	1.12	1.10	1.14	1.15
50	2.0	1.7	2.0	0.4	37	40	36	5	1.09	1.06	1.11	1.10
51	2.0	1.8	2.0	0.4	37	37	34	5	1.16	1.09	1.09	1.11
52	2.1	1.8	2.1	0.4	35	34	34	5	1.12	1.07	1.08	1.08
53	2.1	1.9	2.1	0.4	38	33	35	6	1.21	1.10	1.16	1.11
54	2.1	1.9	2.2	0.4	35	34	36	6	1.12	1.05	1.11	1.08
55	2.2	1.9	2.2	0.4	35	35	35	7	1.19	1.08	1.07	1.14
56	2.2	1.9	2.2	0.4	37	39	36	8	1.07	1.05	1.08	1.10
57	2.2	2.0	2.3	0.4	37	41	38	8	1.13	1.09	1.14	1.08
58	2.3	2.0	2.3	0.4	40	45	40	9	1.05	1.08	1.10	1.07
59	2.3	2.0	2.3	0.4	39	45	41	10	1.06	1.07	1.10	1.10
60	2.4	2.1	2.4	0.4	38	45	41	11	1.05	1.04	1.09	1.06
61	2.4	2.1	2.4	0.5	41	46	41	12	1.06	1.07	1.14	1.08
62	2.5	2.1	2.4	0.5	38	48	39	13	1.07	1.07	1.13	1.10
63	2.5	2.1	2.4	0.5	38	46	38	14	1.07	1.04	1.12	1.08
64	2.6	2.2	2.5	0.5	38	42	38	15	1.07	1.08	1.10	1.11
65	2.6	2.2	2.5	0.5	40	40	41	16	1.14	1.14	1.17	1.16
66	2.6	2.2	2.5	0.5	45	41	39	18	1.06	1.07	1.12	1.10
67	2.6	2.2	2.6	0.6	42	44	39	19	1.09	1.08	1.10	1.08

1. Insertion loss is loss above theoretical loss (4.8dB)

2. Amplitude unbalance is average unbalance between any ports

3. Phase unbalance is average unbalance between any ports



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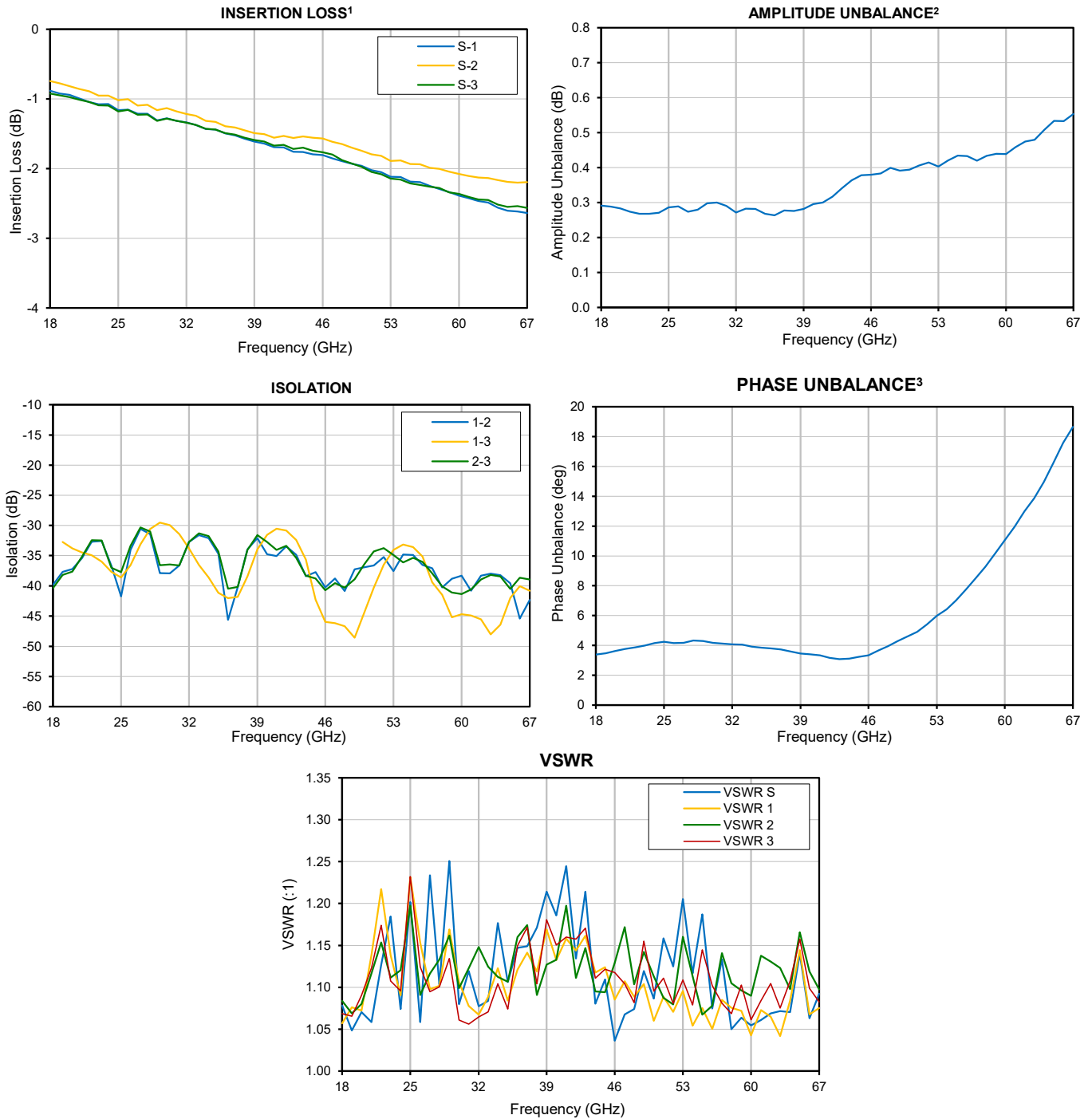


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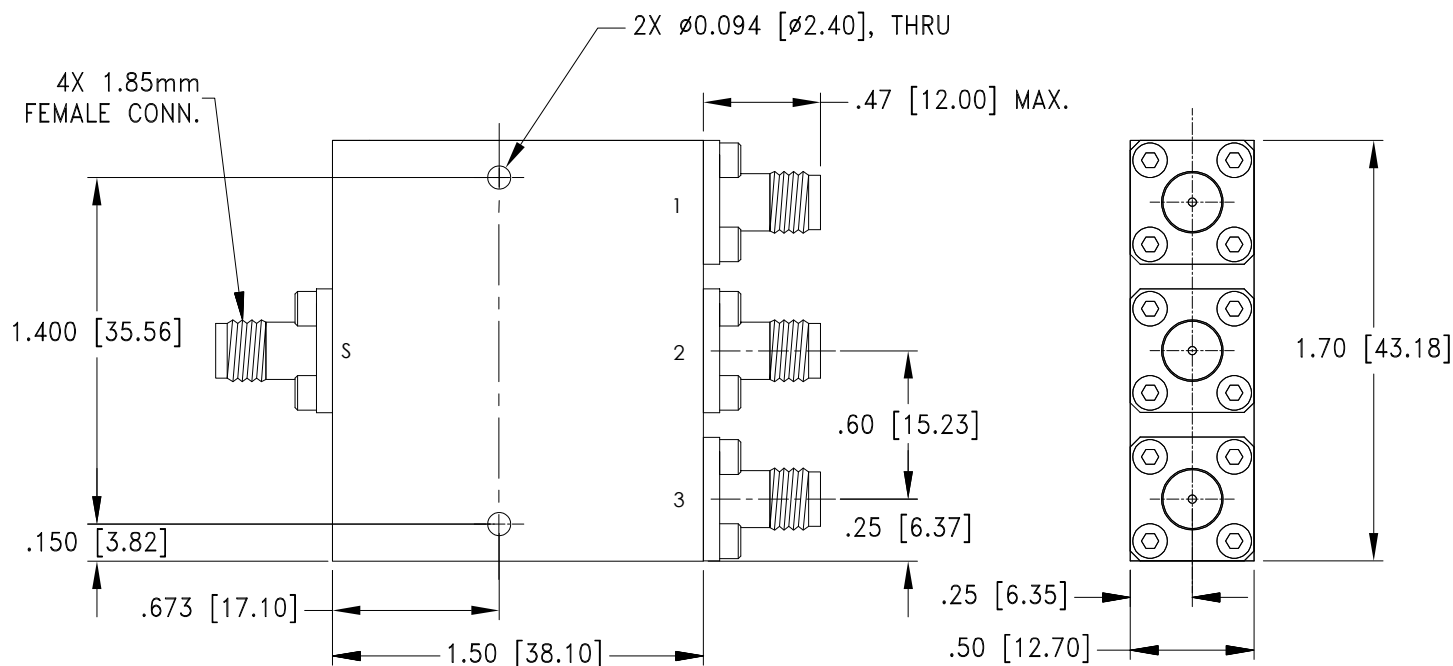
REV. OR
ZC3PD-E18673+
2/2/2023

Typical Performance Curves



Note:

1. Insertion loss is loss above theoretical loss (4.8dB)
2. Amplitude unbalance is average unbalance between any ports
3. Phase unbalance is average unbalance between any ports



Weight: 80 grams

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

Notes:

1. Case Material: Aluminum Alloy
2. Case Finish:

For RoHS Case Styles: Nickel Plating.

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ISO 9001 ISO 14001 CERTIFIED

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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
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
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