

2 Way-90° 50Ω 2500 to 3400 MHz

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	20W* max.
* Derate linearly to 7W at 100°C ambient. Permanent damage may occur if any of these limits are exceeded.	

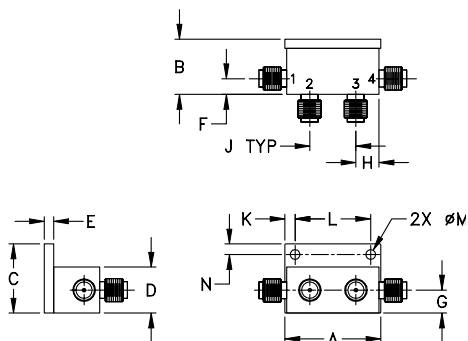
Coaxial Connections

INPUT PORT	1
PORT 1 (+90°)	2
PORT 2 (0°)	3
50 OHM TERM EXTERNAL**	4



** Recommended external termination
Mini-Circuits Part. No. ANNE-50L

Outline Drawing



Outline Dimensions (inch mm)

A	B	C	D	E	F	G
1.04	.60	.75	.50	.10	.17	.25
26.42	15.24	19.05	12.70	2.54	4.32	6.35
H	J	K	L	M	N	wt.
.25	.50	.11	.820	.106	.12	grams
6.35	12.70	2.79	20.83	2.69	3.05	21.0

Features

- low insertion loss, 0.4 dB typ.
- excellent amplitude unbalance
- very good phase unbalance
- small size
- low cost
- protected by U.S. Patent 6,790,049

Applications

- balanced amplifiers
- modulators
- MMDS
- defense communications

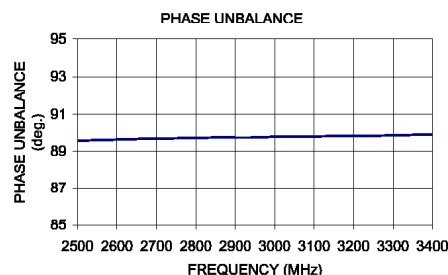
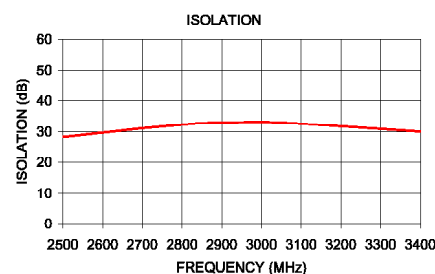
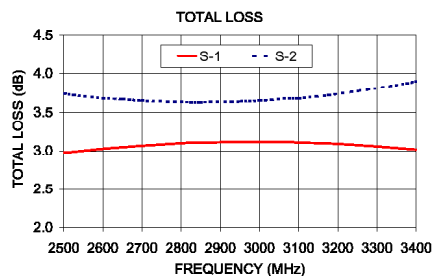
Electrical Specifications (T_{AMB}=25°C)

FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) Avg. of Coupled Outputs ABOVE 3 dB		PHASE UNBALANCE (Degrees)		AMPLITUDE UNBALANCE (dB)	
	Typ.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.
2500-3400								
2500-2800	32	20	0.4	0.6	1.0	3.0	0.4	0.9
2800-3400	26	20	0.5	0.7	1.0	4.0	0.5	1.2

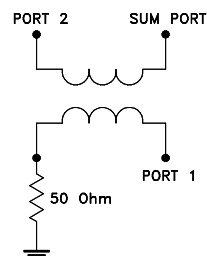
Typical Performance Data

Frequency (MHz)	Total Loss ¹ (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
2500.00	2.98	3.74	0.76	28.30	89.55	1.07	1.08	1.07
2525.00	2.99	3.72	0.73	28.62	89.57	1.07	1.08	1.07
2600.00	3.03	3.68	0.65	29.72	89.61	1.06	1.07	1.05
2650.00	3.05	3.67	0.61	30.42	89.64	1.05	1.06	1.04
2700.00	3.07	3.65	0.58	31.14	89.66	1.04	1.06	1.03
2825.00	3.11	3.63	0.52	32.59	89.71	1.03	1.05	1.02
2850.00	3.11	3.63	0.52	32.87	89.72	1.03	1.05	1.02
2950.00	3.12	3.64	0.52	33.11	89.72	1.02	1.04	1.03
3000.00	3.12	3.65	0.53	33.20	89.76	1.02	1.04	1.03
3075.00	3.12	3.68	0.56	32.83	89.78	1.02	1.03	1.04
3100.00	3.11	3.68	0.57	32.62	89.78	1.02	1.03	1.05
3175.00	3.10	3.72	0.62	32.01	89.80	1.03	1.02	1.05
3275.00	3.07	3.79	0.72	31.16	89.82	1.04	1.02	1.06
3375.00	3.03	3.87	0.84	30.26	89.87	1.05	1.01	1.07
3400.00	3.02	3.90	0.88	29.99	89.87	1.05	1.01	1.08

1. Total Loss = Insertion Loss + 3dB 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.
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2 Way-90° Power Splitter/Combiner

ZX10Q-2-34

Typical Performance Data

FREQ. (MHz)	TOTAL LOSS ¹ (dB)		AMP. UNBAL. (dB)	ISOLATION (dB) 1-2	PHASE UNBAL. (deg.)	FREQ. (MHz)	VSWR (:1)		
	S-1	S-2					S	1	2
2500.0	2.98	3.74	0.76	28.30	89.55	2500.0	1.07	1.08	1.07
2525.0	2.99	3.72	0.73	28.62	89.57	2525.0	1.07	1.08	1.07
2600.0	3.03	3.68	0.65	29.72	89.61	2600.0	1.06	1.07	1.05
2650.0	3.05	3.67	0.61	30.42	89.64	2650.0	1.05	1.06	1.04
2700.0	3.07	3.65	0.58	31.14	89.66	2700.0	1.04	1.06	1.03
2825.0	3.11	3.63	0.52	32.59	89.71	2825.0	1.03	1.05	1.02
2850.0	3.11	3.63	0.52	32.87	89.72	2850.0	1.03	1.05	1.02
2950.0	3.12	3.64	0.52	33.11	89.72	2950.0	1.02	1.04	1.03
3000.0	3.12	3.65	0.53	33.20	89.76	3000.0	1.02	1.04	1.03
3075.0	3.12	3.68	0.56	32.83	89.78	3075.0	1.02	1.03	1.04
3100.0	3.11	3.68	0.57	32.62	89.78	3100.0	1.02	1.03	1.05
3175.0	3.10	3.72	0.62	32.01	89.80	3175.0	1.03	1.02	1.05
3275.0	3.07	3.79	0.72	31.16	89.82	3275.0	1.04	1.02	1.06
3375.0	3.03	3.87	0.84	30.26	89.87	3375.0	1.05	1.01	1.07
3400.0	3.02	3.90	0.88	29.99	89.87	3400.0	1.05	1.01	1.08

¹ Total Loss = Insertion Loss + 3dB Splitter Loss

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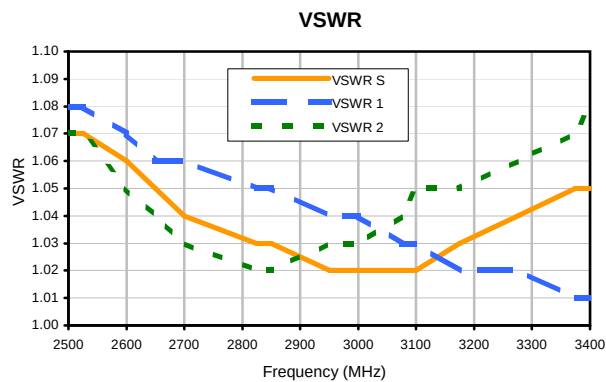
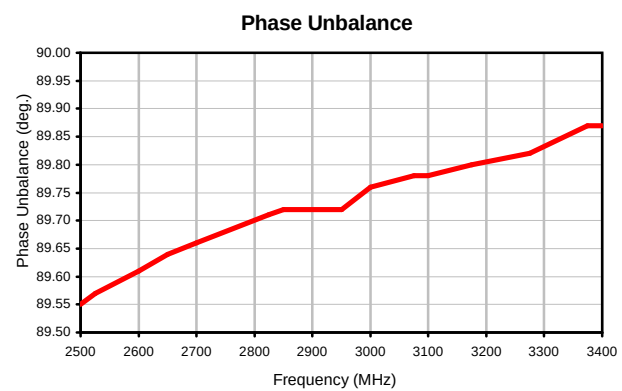
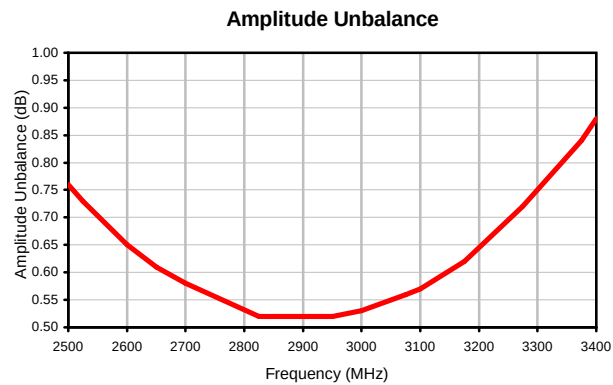
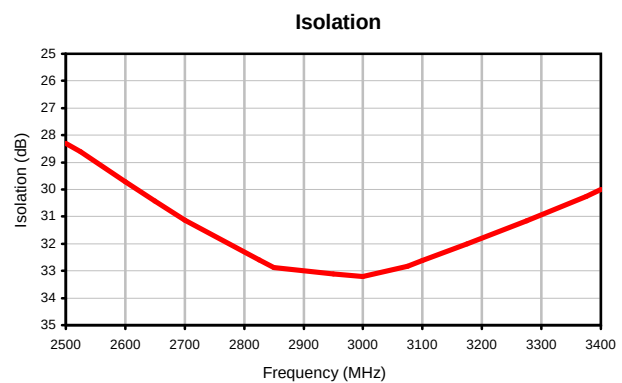
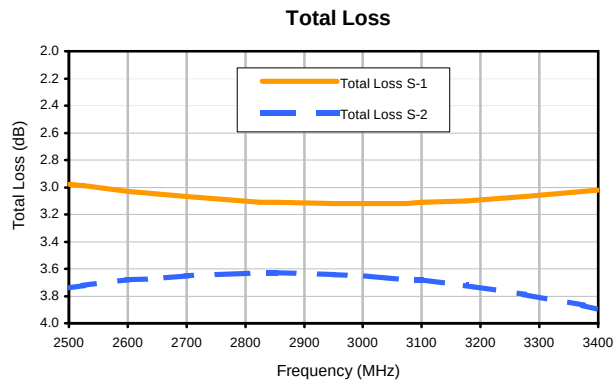
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2 Way-90° Power Splitter/Combiner

ZX10Q-2-34

Typical Performance Curves



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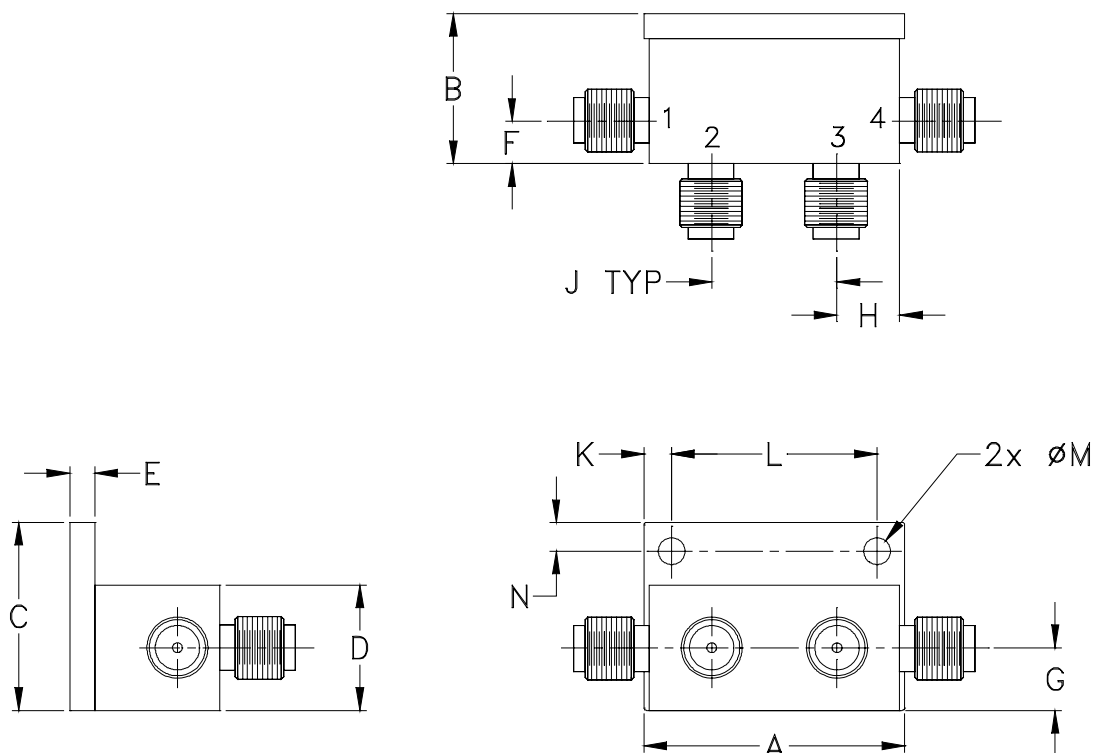
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Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	L	M	N	WT. GRAM
GW1052	1.04 (26.42)	.60 (15.24)	.75 (19.05)	.50 (12.70)	.10 (2.54)	.17 (4.32)	.25 (6.35)	.25 (6.35)	.50 (12.70)	.11 (2.79)	.820 (20.83)	.106 (2.69)	.12 (3.05)	21.0

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

Tolerance on hole size and interaxes dimensions to be $\pm .005$.

Notes:

1. Case material: Brass.
2. Case finish: Nickel plate.



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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	-40° to 85°C	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