

# Power Splitter/Combiner

## ZX10-2-252-S+

2 Way-0° 50Ω 500 to 2500 MHz

### Maximum Ratings

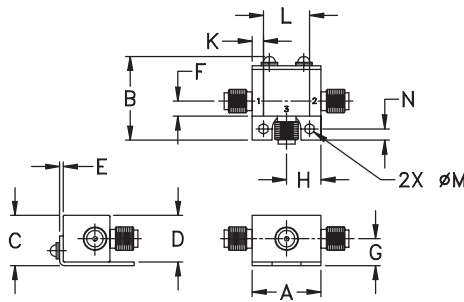
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1.5W max.
Internal Dissipation (as a combiner)	0.75W max.

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

### Coaxial Connections

SUM PORT	3
PORT 1	1
PORT 2	2

### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.74	.90	.54	.50	.04	.16	.29
18.80	22.86	13.72	12.70	1.02	4.06	7.37

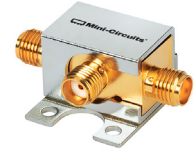
H	J	K	L	M	N	wt
.37	--	.122	.496	.106	.122	grams
9.40	--	3.10	12.60	2.69	3.10	20.0

### Features

- wide bandwidth, 500 to 2500 MHz
- excellent amplitude unbalance, 0.02 dB typ.
- very good phase unbalance, 1 deg. typ.
- small size
- low cost
- protected under U.S. Patent 6,790,049

### Applications

- PCN
- GPS
- radar
- Cellular
- DCS
- GSM
- communications
- WCDMA



Generic photo used for illustration purposes only

CASE STYLE: FL905

Connectors	Model
SMA	ZX10-2-252-S+

### +RoHS Compliant

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

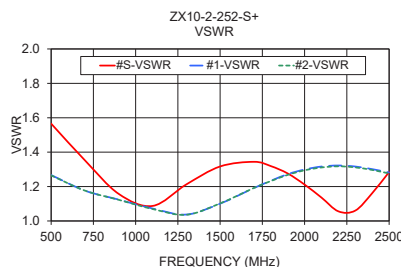
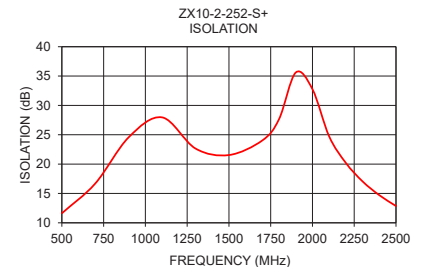
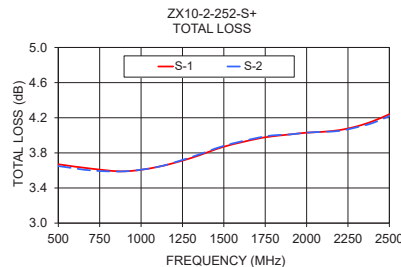
### Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 3.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)
	Typ.	Min.	Typ.	Max.	Max.	Max.
$f_c - f_u$						
500-2500	22	10	0.9	1.7	4.0	0.2

### Typical Performance Data

Frequency (MHz)	Total Loss <sup>1</sup> (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
500.0	3.67	3.65	0.01	11.62	0.29	1.57	1.27	1.26
700.0	3.62	3.60	0.02	16.70	0.36	1.35	1.18	1.18
900.0	3.59	3.59	0.01	24.57	0.43	1.16	1.12	1.12
1100.0	3.64	3.64	0.00	27.96	0.53	1.09	1.07	1.07
1300.0	3.74	3.75	0.01	22.65	0.61	1.21	1.04	1.04
1500.0	3.87	3.88	0.01	21.54	0.69	1.32	1.10	1.10
1700.0	3.96	3.97	0.01	24.03	0.77	1.34	1.19	1.19
1800.0	3.99	4.00	0.01	27.66	0.82	1.32	1.23	1.23
1900.0	4.01	4.01	0.00	35.60	0.86	1.28	1.27	1.27
2000.0	4.03	4.03	0.00	32.76	0.91	1.21	1.30	1.29
2100.0	4.04	4.04	0.01	24.72	0.96	1.14	1.32	1.31
2200.0	4.06	4.05	0.01	20.20	1.00	1.06	1.32	1.32
2300.0	4.10	4.09	0.02	17.05	1.05	1.06	1.32	1.31
2400.0	4.16	4.14	0.02	14.71	1.07	1.16	1.30	1.30
2500.0	4.24	4.22	0.02	12.86	1.12	1.28	1.28	1.28

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-0° Power Splitter/Combiner

# ZX10-2-252-S+

## Typical Performance Data

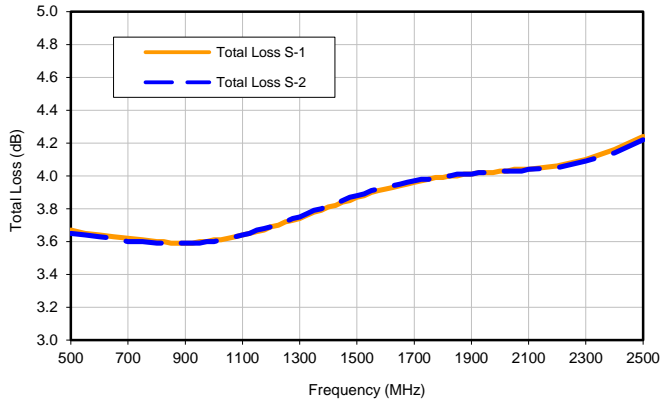
FREQUENCY (MHz)	TOTAL LOSS <sup>1</sup> (dB)		AMPLITUDE UNBALANCE (dB)	ISOLATION (dB)	PHASE UNBALANCE (deg.)	FREQUENCY (MHz)	VSWR (:1)		
	S-1	S-2					S	1	2
500	3.67	3.65	0.01	11.62	0.29	500	1.57	1.27	1.26
550	3.65	3.64	0.01	12.75	0.33	550	1.51	1.24	1.24
600	3.64	3.63	0.01	13.95	0.34	600	1.46	1.21	1.21
650	3.63	3.62	0.01	15.27	0.35	650	1.41	1.19	1.19
700	3.62	3.60	0.02	16.70	0.36	700	1.35	1.18	1.18
750	3.61	3.60	0.01	18.31	0.37	750	1.30	1.16	1.16
800	3.60	3.59	0.01	20.13	0.39	800	1.25	1.15	1.15
825	3.60	3.59	0.01	21.14	0.40	825	1.22	1.14	1.14
850	3.59	3.58	0.01	22.22	0.41	850	1.20	1.14	1.13
875	3.59	3.59	0.01	23.37	0.41	875	1.18	1.13	1.13
900	3.59	3.59	0.01	24.57	0.43	900	1.16	1.12	1.12
925	3.59	3.59	0.01	25.83	0.43	925	1.14	1.12	1.12
950	3.60	3.59	0.01	27.13	0.45	950	1.12	1.11	1.11
975	3.60	3.60	0.00	28.29	0.46	975	1.10	1.11	1.10
1000	3.61	3.60	0.00	29.17	0.48	1000	1.09	1.10	1.10
1025	3.61	3.61	0.00	29.54	0.49	1025	1.08	1.09	1.09
1050	3.62	3.62	0.00	29.34	0.50	1050	1.08	1.09	1.08
1075	3.63	3.63	0.00	28.75	0.52	1075	1.08	1.08	1.08
1100	3.64	3.64	0.00	27.96	0.53	1100	1.09	1.07	1.07
1125	3.65	3.65	0.00	27.05	0.53	1125	1.10	1.07	1.06
1150	3.66	3.67	0.00	26.20	0.54	1150	1.11	1.06	1.06
1175	3.67	3.68	0.01	25.39	0.55	1175	1.13	1.05	1.05
1200	3.69	3.69	0.01	24.66	0.56	1200	1.15	1.05	1.04
1225	3.70	3.71	0.01	24.07	0.57	1225	1.16	1.04	1.04
1250	3.72	3.72	0.01	23.53	0.58	1250	1.18	1.04	1.04
1275	3.73	3.74	0.01	23.06	0.60	1275	1.20	1.04	1.04
1300	3.74	3.75	0.01	22.65	0.61	1300	1.21	1.04	1.04
1325	3.76	3.77	0.01	22.30	0.61	1325	1.23	1.04	1.04
1350	3.78	3.79	0.01	22.04	0.62	1350	1.25	1.05	1.05
1375	3.79	3.80	0.01	21.81	0.63	1375	1.26	1.05	1.06
1400	3.81	3.82	0.01	21.66	0.64	1400	1.27	1.06	1.06
1425	3.82	3.83	0.01	21.57	0.65	1425	1.28	1.07	1.07
1450	3.84	3.85	0.01	21.51	0.67	1450	1.30	1.08	1.08
1475	3.85	3.87	0.01	21.51	0.68	1475	1.31	1.09	1.09
1500	3.87	3.88	0.01	21.54	0.69	1500	1.32	1.10	1.10
1525	3.88	3.89	0.01	21.63	0.70	1525	1.33	1.11	1.11
1550	3.90	3.91	0.01	21.79	0.70	1550	1.33	1.12	1.12
1575	3.91	3.92	0.01	22.02	0.70	1575	1.34	1.13	1.13
1600	3.92	3.93	0.01	22.28	0.72	1600	1.34	1.15	1.15
1625	3.93	3.94	0.01	22.62	0.73	1625	1.34	1.16	1.16
1650	3.94	3.95	0.01	23.02	0.74	1650	1.34	1.17	1.17
1675	3.95	3.96	0.01	23.49	0.75	1675	1.35	1.18	1.18
1700	3.96	3.97	0.01	24.03	0.77	1700	1.34	1.19	1.19
1725	3.97	3.98	0.01	24.72	0.78	1725	1.34	1.20	1.20
1750	3.98	3.98	0.01	25.55	0.79	1750	1.33	1.21	1.21
1775	3.99	3.99	0.01	26.52	0.81	1775	1.33	1.22	1.22
1800	3.99	4.00	0.01	27.66	0.82	1800	1.32	1.23	1.23
1825	4.00	4.00	0.01	29.02	0.83	1825	1.31	1.24	1.24
1850	4.00	4.01	0.01	30.66	0.84	1850	1.30	1.25	1.25
1875	4.01	4.01	0.00	32.81	0.85	1875	1.29	1.26	1.26
1900	4.01	4.01	0.00	35.60	0.86	1900	1.28	1.27	1.27
1925	4.02	4.02	0.00	38.62	0.88	1925	1.26	1.28	1.28
1950	4.02	4.02	0.00	38.91	0.88	1950	1.25	1.29	1.28
1975	4.02	4.02	0.00	35.91	0.89	1975	1.23	1.29	1.29
2000	4.03	4.03	0.00	32.76	0.91	2000	1.21	1.30	1.29
2025	4.03	4.03	0.00	30.22	0.92	2025	1.19	1.31	1.30
2050	4.04	4.03	0.00	28.09	0.94	2050	1.18	1.31	1.31
2075	4.04	4.03	0.00	26.27	0.94	2075	1.16	1.31	1.31
2100	4.04	4.04	0.01	24.72	0.96	2100	1.14	1.32	1.31
2200	4.06	4.05	0.01	20.20	1.00	2200	1.06	1.32	1.32
2300	4.10	4.09	0.02	17.05	1.05	2300	1.06	1.32	1.31
2400	4.16	4.14	0.02	14.71	1.07	2400	1.16	1.30	1.30
2500	4.24	4.22	0.02	12.86	1.12	2500	1.28	1.28	1.28

<sup>1</sup>Total Loss = Insertion Loss + 3dB Splitter Loss

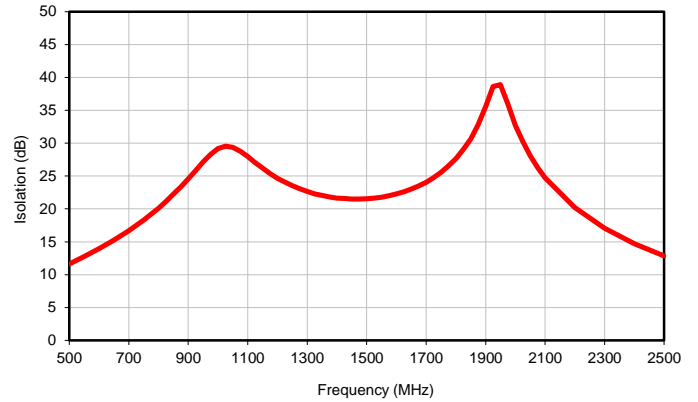


## Typical Performance Curves

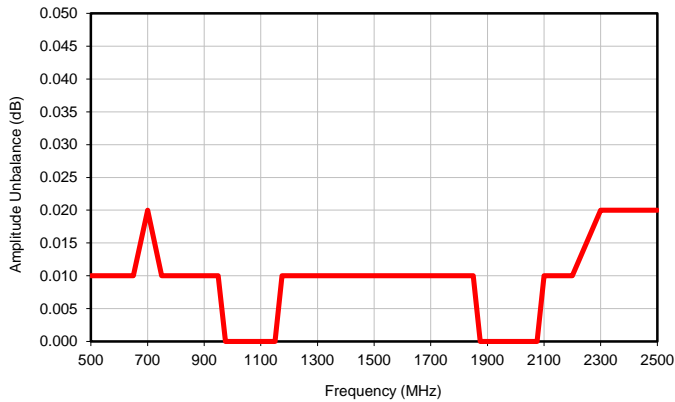
**Total Loss**



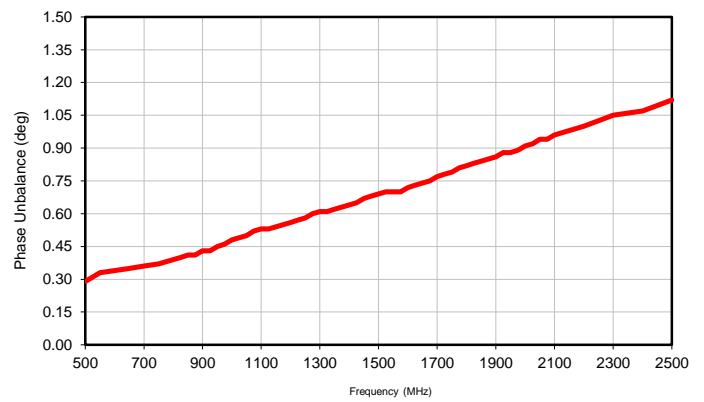
**Isolation**



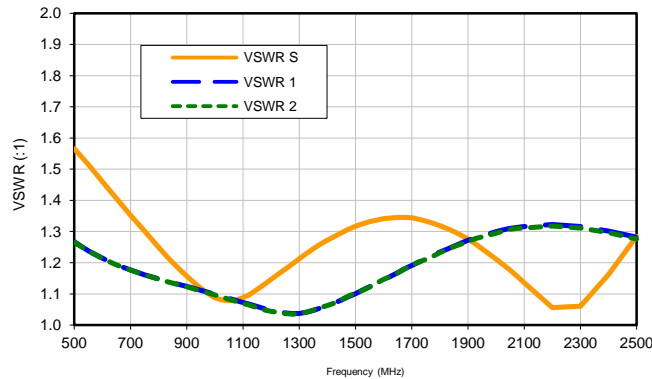
**Amplitude Unbalance**



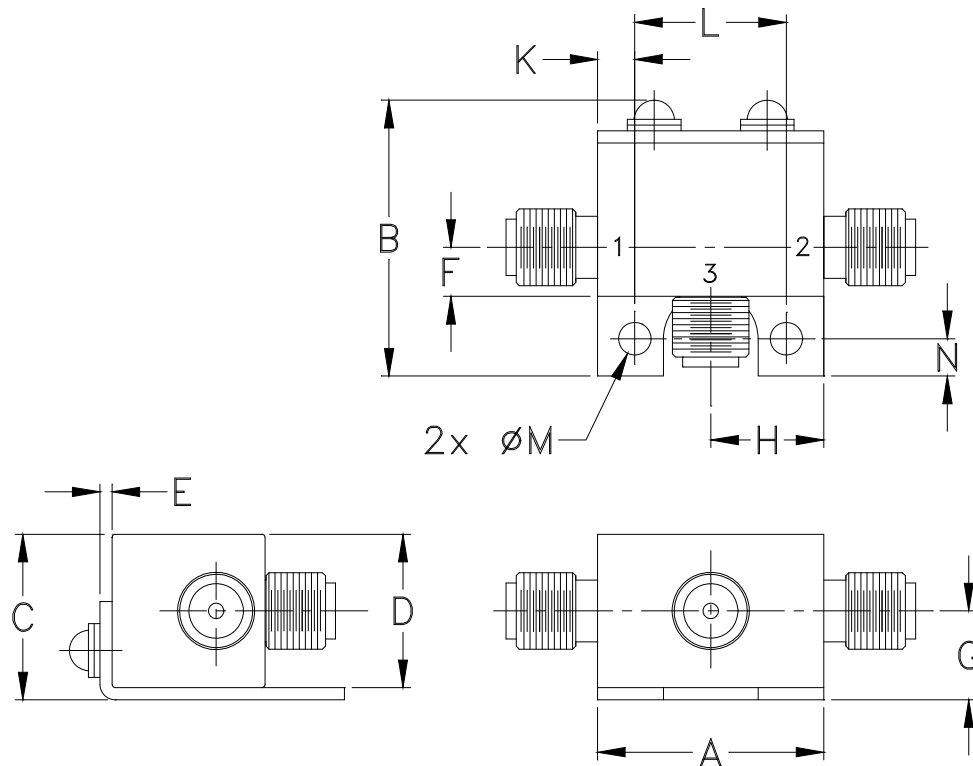
**Phase Unbalance**



**VSWR**



### Outline Dimensions



CASE #.	A	B	C	D	E	F	G	H	J	K	L	M	N	WT, GRAM
FL905	.74 (18.80)	.90 (22.86)	.54 (13.72)	.50 (12.70)	.04 (1.02)	.16 (4.06)	.29 (7.37)	.37 (9.40)	- -	.122 (3.10)	.496 (12.60)	.106 (2.69)	.122 (3.10)	20.0

**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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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