

# Coaxial High Power Combiner

## ZA2CS-600-10W

2 Way-0° 50Ω 100 to 600 MHz

### Maximum Ratings

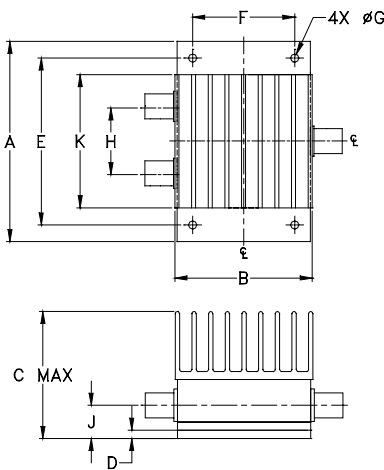
Operating Temperature	-55°C to 90°C
Storage Temperature	-55°C to 100°C

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

### Coaxial Connections

SUM PORT	S
PORT 1	1
PORT 2	2

### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	
3.00	2.06	1.92	.100	2.500	1.525	
76.20	52.32	48.77	2.54	63.50	38.74	
G	H	J	K			wt
.125	1.000	.50	2.00			grams
3.18	25.40	12.70	50.80			330

### Features

- high power, up to 10W input power
- wideband, 100 to 600 MHz
- low insertion loss, 0.4 dB typ.
- high isolation, 27 dB typ.

### Applications

- VHF/UHF
- communication receivers & transmitters



Generic photo used for illustration purposes only

BNC version shown  
CASE STYLE: AW254

Connectors	Model
BNC	ZA2CS-600-10W
N-TYPE	ZA2CS-600-10W-N
SMA	ZA2CS-600-10W-S

### High Power Combiner Electrical Specifications

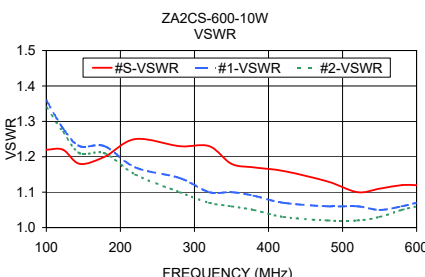
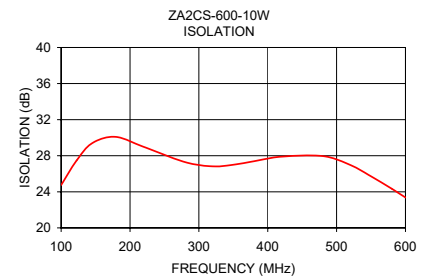
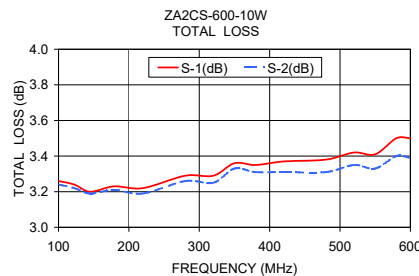
FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 3.0 dB		PHASE UNBALANCE (Degrees)		AMPLITUDE UNBALANCE (dB)		POWER INPUT <sup>1</sup> (W)	
	Typ.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.	as combiner <sup>2</sup> Max.	as splitter Max.
f <sub>L</sub> -f <sub>U</sub>										
100-600	27	15	0.4	1.3	0.4	3.0	0.15	0.5	10	10

- Over -55°C to +55°C. Derate linearly to 20% of rating at 90°C
- As a combiner of non-coherent signals, max. power per port is power rating divided by number of ports.

### 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						
100.00	3.26	3.24	0.01	24.75	0.16	1.22	1.36	1.34
122.50	3.24	3.22	0.02	27.48	0.09	1.22	1.28	1.27
145.00	3.20	3.19	0.01	29.39	0.21	1.18	1.23	1.21
178.75	3.23	3.21	0.02	30.09	0.06	1.20	1.23	1.21
220.00	3.22	3.19	0.03	28.98	0.23	1.25	1.17	1.15
280.00	3.29	3.26	0.03	27.29	0.27	1.23	1.14	1.10
320.00	3.29	3.25	0.04	26.82	0.24	1.23	1.10	1.07
350.00	3.36	3.33	0.03	27.00	0.26	1.18	1.10	1.06
380.00	3.35	3.31	0.04	27.39	0.47	1.17	1.09	1.05
420.00	3.37	3.31	0.05	27.90	0.36	1.16	1.07	1.03
480.00	3.38	3.31	0.07	27.96	0.48	1.13	1.06	1.02
520.00	3.42	3.35	0.07	26.97	0.60	1.10	1.06	1.02
550.00	3.41	3.33	0.08	25.72	0.64	1.11	1.05	1.03
580.00	3.50	3.40	0.10	24.34	0.78	1.12	1.06	1.05
600.00	3.50	3.39	0.11	23.37	0.66	1.12	1.07	1.06

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



### electrical schematic



### 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.
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# 2 Way-0° Power Splitter/Combiner

# ZA2CS-600-10W

## Typical Performance Data

FREQ. (MHz)	TOTAL LOSS <sup>1</sup> (dB)		AMP. UNBAL. (dB)	ISOLATION (dB)	PHASE UNBAL. (deg.)	FREQ. (MHz)	VSWR (:1)		
	S-1	S-2					S	1	2
100.0	3.26	3.24	0.01	24.75	0.16	100.0	1.22	1.36	1.34
111.3	3.25	3.23	0.02	26.19	0.13	111.3	1.23	1.32	1.31
122.5	3.24	3.22	0.02	27.48	0.09	122.5	1.22	1.28	1.27
133.8	3.22	3.21	0.01	28.55	0.17	133.8	1.20	1.25	1.23
145.0	3.20	3.19	0.01	29.39	0.21	145.0	1.18	1.23	1.21
156.3	3.17	3.16	0.01	29.88	0.14	156.3	1.16	1.23	1.21
167.5	3.16	3.15	0.01	30.05	0.15	167.5	1.17	1.23	1.21
178.8	3.23	3.21	0.02	30.09	0.06	178.8	1.20	1.23	1.21
190.0	3.27	3.25	0.02	29.97	0.18	190.0	1.23	1.21	1.18
200.0	3.26	3.24	0.02	29.68	0.27	200.0	1.26	1.20	1.17
220.0	3.22	3.19	0.03	28.98	0.23	220.0	1.25	1.17	1.15
240.0	3.21	3.18	0.02	28.25	0.23	240.0	1.19	1.16	1.13
260.0	3.24	3.21	0.03	27.63	0.23	260.0	1.19	1.15	1.12
280.0	3.29	3.26	0.03	27.29	0.27	280.0	1.23	1.14	1.10
300.0	3.28	3.25	0.03	26.96	0.29	300.0	1.25	1.13	1.10
310.0	3.26	3.23	0.03	26.85	0.24	310.0	1.24	1.11	1.08
320.0	3.29	3.25	0.04	26.82	0.24	320.0	1.23	1.10	1.07
330.0	3.30	3.27	0.04	26.85	0.16	330.0	1.21	1.10	1.06
340.0	3.33	3.29	0.03	26.89	0.30	340.0	1.19	1.10	1.06
350.0	3.36	3.33	0.03	27.00	0.26	350.0	1.18	1.10	1.06
360.0	3.37	3.33	0.04	27.09	0.40	360.0	1.17	1.10	1.06
370.0	3.37	3.33	0.03	27.25	0.47	370.0	1.17	1.10	1.06
380.0	3.35	3.31	0.04	27.39	0.47	380.0	1.17	1.09	1.05
390.0	3.34	3.30	0.05	27.54	0.36	390.0	1.18	1.08	1.04
400.0	3.34	3.29	0.05	27.67	0.45	400.0	1.18	1.08	1.04
420.0	3.37	3.31	0.05	27.90	0.36	420.0	1.16	1.07	1.03
440.0	3.39	3.34	0.05	28.11	0.48	440.0	1.13	1.07	1.02
460.0	3.37	3.31	0.06	28.08	0.47	460.0	1.13	1.06	1.02
480.0	3.38	3.31	0.07	27.96	0.48	480.0	1.13	1.06	1.02
500.0	3.39	3.32	0.07	27.58	0.62	500.0	1.12	1.06	1.02
510.0	3.42	3.34	0.07	27.29	0.65	510.0	1.11	1.06	1.02
520.0	3.42	3.35	0.07	26.97	0.60	520.0	1.10	1.06	1.02
530.0	3.44	3.35	0.09	26.60	0.63	530.0	1.10	1.05	1.02
540.0	3.43	3.34	0.09	26.14	0.64	540.0	1.10	1.05	1.02
550.0	3.41	3.33	0.08	25.72	0.64	550.0	1.11	1.05	1.03
560.0	3.41	3.33	0.08	25.28	0.69	560.0	1.12	1.05	1.03
570.0	3.45	3.36	0.09	24.81	0.72	570.0	1.12	1.05	1.04
580.0	3.50	3.40	0.10	24.34	0.78	580.0	1.12	1.06	1.05
590.0	3.50	3.40	0.11	23.86	0.70	590.0	1.12	1.07	1.06
600.0	3.50	3.39	0.11	23.37	0.66	600.0	1.12	1.07	1.06

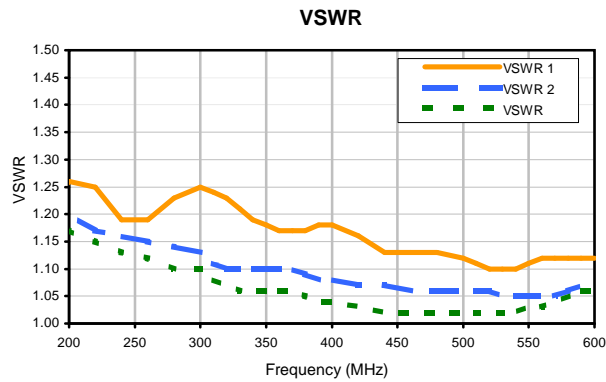
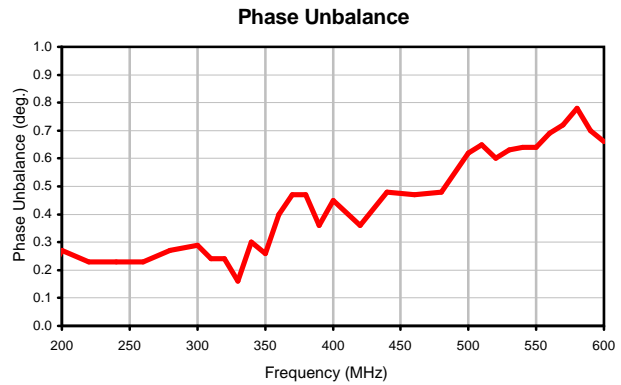
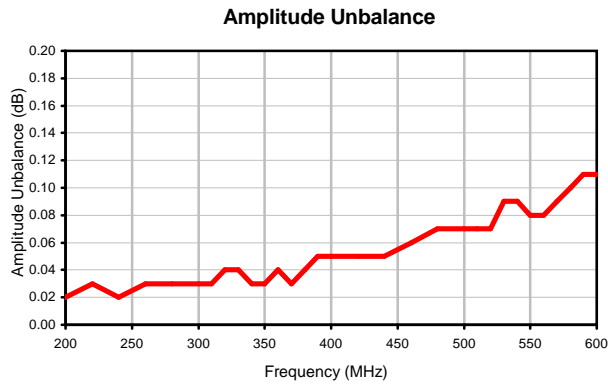
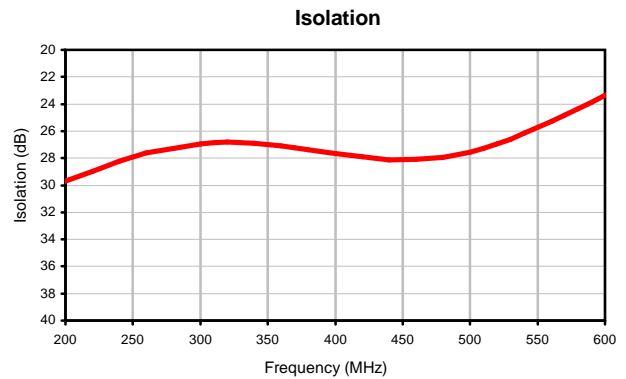
<sup>1</sup> Total Loss = Insertion Loss+ 3dB Splitter Loss



# 2 Way-0° Power Splitter/Combiner

# ZA2CS-600-10W

## Typical Performance Curves



REV. X2  
ZA2CS-600-10W  
100627  
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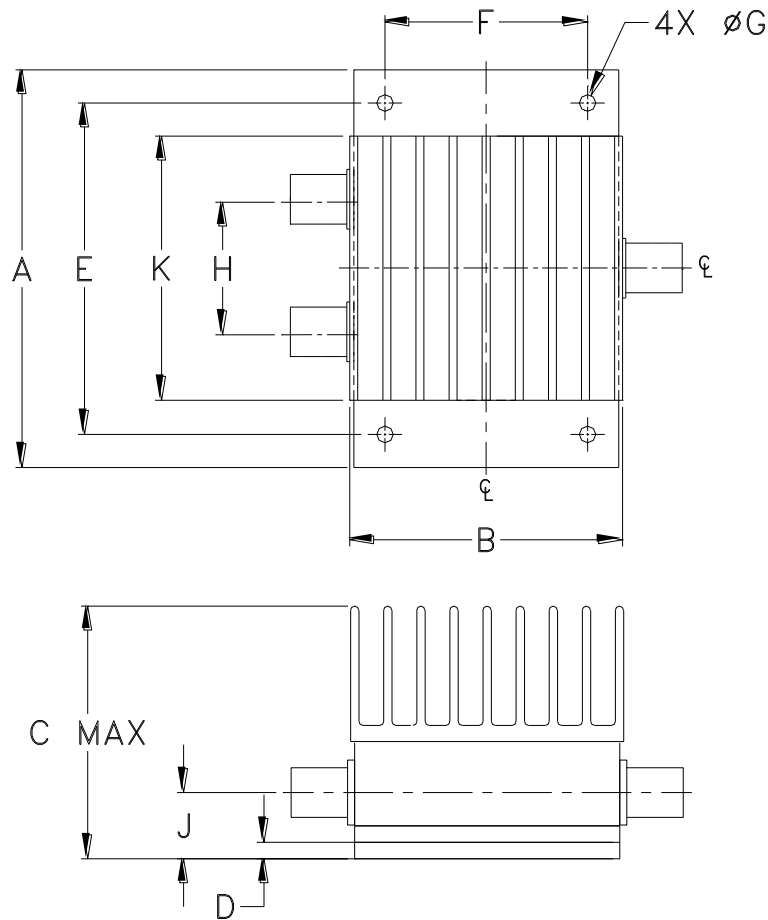


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## Outline Dimensions

AW254



CASE #	A	B	C	D	E	F	G	H	J	K	WT. GRAM
AW254	3.00 (76.20)	2.06 (52.32)	1.92 (48.77)	.100 (2.54)	2.500 (63.50)	1.525 (38.74)	.125 (3.18)	1.000 (25.40)	.50 (12.70)	2.00 (50.80)	330

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

### Notes:

- Case material: Aluminum alloy.
- Case Finish:  
For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.
- Heat sink finish: Black anodize.



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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	-55° to 90° 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