Engineering Development Model

Power Splitter/Combiner ZMSC-ED13819/1

4 Way-0°

Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability.
At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.

Please click "Back", and then click "Contact Us" for Applications support.

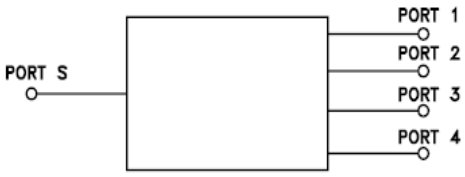
CASE STYLE : N24

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		**Min.**	**Typ.**	**Max.**	**Units**
Frequency		5		1500	MHz
Isolation	**5-50 MHz**		42		dB
	50-750 MHz		27		dB
	750-1500 MHz		21		dB
Insertion Loss Above 6.0 dB	**5-50 MHz**		0.40		dB
	50-750 MHz		0.65		dB
	750-1500 MHz		1.40		dB
Phase Unbalance	**5-50 MHz**		0.65		deg.
	50-750 MHz		0.70		deg.
	750-1500 MHz		2.20		deg.
Amplitude Unbalance	**5-50 MHz**		0.25		dB
	50-750 MHz		0.20		dB
	750-1500 MHz		0.25		dB
VSWR	**SUM Port**		1.08		(:1)
	OUT Ports		1.13		(:1)

MAXIMUM RATINGS	
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C

COAXIAL CONNECTIONS	
SUM PORT	S
PORT 1	1
PORT 2	2
PORT 3	3
PORT 4	4

Functional Diagram



4 Way-0° Power Splitter/Combiner ZMSC-ED13819/1

Typical Performance Data

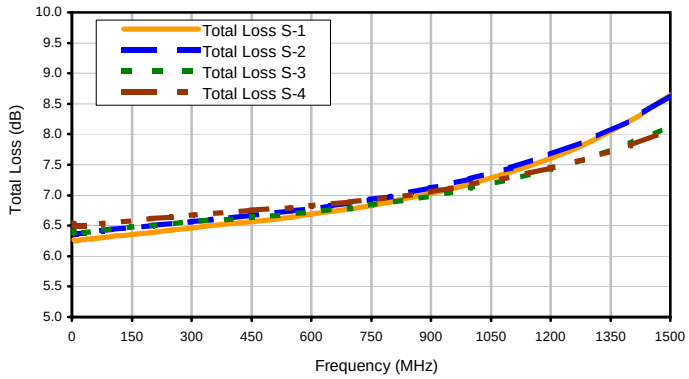
FREQ. (MHz)	TOTAL LOSS[1] (dB)				AMP. UNBAL. (dB)	ISOLATION (dB)			PHASE UNBAL. (deg.)
	S-1	S-2	S-3	S-4		1-2	2-3	3-4	
5.0	6.27	6.39	6.41	6.53	0.27	45.46	35.68	44.43	1.22
7.0	6.26	6.38	6.39	6.51	0.25	49.99	37.13	44.36	0.90
9.0	6.25	6.37	6.38	6.50	0.24	53.84	38.01	44.12	0.71
10.0	6.25	6.37	6.38	6.49	0.24	55.15	38.30	43.98	0.64
30.0	6.27	6.38	6.39	6.49	0.23	43.20	39.41	39.96	0.20
50.0	6.28	6.40	6.40	6.51	0.23	38.46	38.91	36.66	0.13
75.0	6.30	6.42	6.43	6.53	0.23	35.08	38.09	33.74	0.13
100.0	6.32	6.44	6.44	6.55	0.23	32.80	37.21	31.59	0.19
150.0	6.36	6.47	6.48	6.58	0.22	29.70	35.61	28.59	0.27
200.0	6.39	6.50	6.50	6.62	0.22	27.60	34.20	26.55	0.36
250.0	6.43	6.53	6.53	6.64	0.22	26.08	32.99	25.08	0.44
300.0	6.46	6.57	6.56	6.67	0.21	24.91	31.95	23.99	0.52
350.0	6.50	6.60	6.59	6.70	0.20	23.99	31.06	23.17	0.63
400.0	6.53	6.63	6.61	6.72	0.19	23.26	30.28	22.55	0.72
450.0	6.57	6.67	6.64	6.75	0.18	22.66	29.62	22.08	0.80
500.0	6.60	6.70	6.66	6.77	0.17	22.17	29.03	21.73	0.89
550.0	6.64	6.74	6.69	6.80	0.16	21.75	28.54	21.45	0.97
600.0	6.69	6.78	6.72	6.83	0.14	21.39	28.11	21.21	1.06
650.0	6.73	6.83	6.76	6.86	0.13	21.05	27.75	20.97	1.15
700.0	6.78	6.87	6.79	6.89	0.11	20.74	27.45	20.70	1.22
750.0	6.83	6.93	6.84	6.92	0.10	20.42	27.20	20.38	1.31
800.0	6.89	6.98	6.88	6.96	0.10	20.09	27.01	20.00	1.41
850.0	6.96	7.05	6.93	7.01	0.12	19.76	26.87	19.55	1.49
900.0	7.03	7.12	6.99	7.06	0.13	19.43	26.77	19.06	1.59
950.0	7.10	7.19	7.05	7.11	0.14	19.11	26.70	18.56	1.71
1000.0	7.19	7.27	7.12	7.17	0.16	18.81	26.67	18.07	1.84
1100.0	7.38	7.45	7.26	7.30	0.19	18.37	26.72	17.24	2.15
1200.0	7.61	7.67	7.43	7.45	0.24	18.26	26.86	16.74	2.51
1300.0	7.88	7.92	7.62	7.62	0.30	18.65	27.07	16.75	2.96
1400.0	8.22	8.24	7.85	7.82	0.42	19.75	27.32	17.48	3.43
1500.0	8.65	8.65	8.13	8.08	0.57	21.57	27.58	19.26	3.89

FREQ. (MHz)	VSWR (:1)				
	S	1	2	3	4
5.0	1.06	1.22	1.26	1.25	1.29
7.0	1.05	1.20	1.23	1.22	1.26
9.0	1.05	1.19	1.22	1.21	1.24
10.0	1.05	1.18	1.21	1.20	1.24
30.0	1.04	1.16	1.19	1.18	1.21
50.0	1.05	1.15	1.18	1.17	1.20
75.0	1.06	1.15	1.18	1.17	1.19
100.0	1.07	1.14	1.17	1.16	1.19
150.0	1.08	1.13	1.16	1.15	1.17
200.0	1.09	1.12	1.15	1.13	1.16
250.0	1.10	1.11	1.13	1.12	1.15
300.0	1.11	1.10	1.12	1.11	1.13
350.0	1.11	1.09	1.10	1.09	1.11
400.0	1.11	1.08	1.09	1.08	1.09
450.0	1.11	1.07	1.07	1.07	1.08
500.0	1.11	1.07	1.06	1.06	1.06
550.0	1.10	1.06	1.05	1.06	1.05
600.0	1.09	1.06	1.04	1.06	1.04
650.0	1.08	1.06	1.03	1.06	1.03
700.0	1.07	1.07	1.03	1.07	1.03
750.0	1.05	1.07	1.04	1.07	1.03
800.0	1.04	1.07	1.05	1.08	1.03
850.0	1.03	1.07	1.06	1.08	1.04
900.0	1.03	1.08	1.07	1.08	1.04
950.0	1.04	1.08	1.08	1.08	1.04
1000.0	1.06	1.08	1.10	1.07	1.04
1100.0	1.09	1.09	1.14	1.07	1.07
1200.0	1.13	1.12	1.19	1.09	1.11
1300.0	1.15	1.16	1.26	1.14	1.18
1400.0	1.17	1.22	1.34	1.20	1.26
1500.0	1.17	1.28	1.44	1.28	1.37

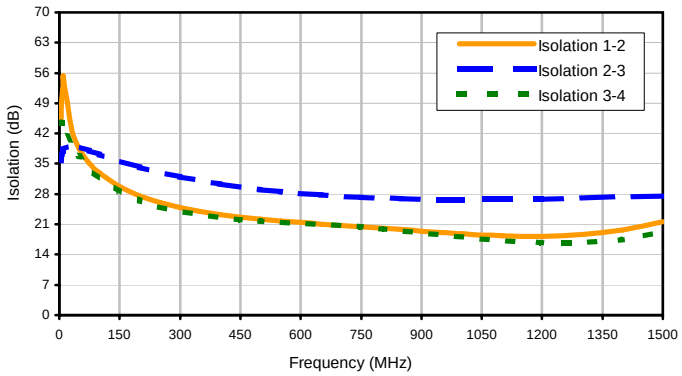
[1]Total Loss = Insertion Loss + 6dB Splitter Loss

Typical Performance Curves

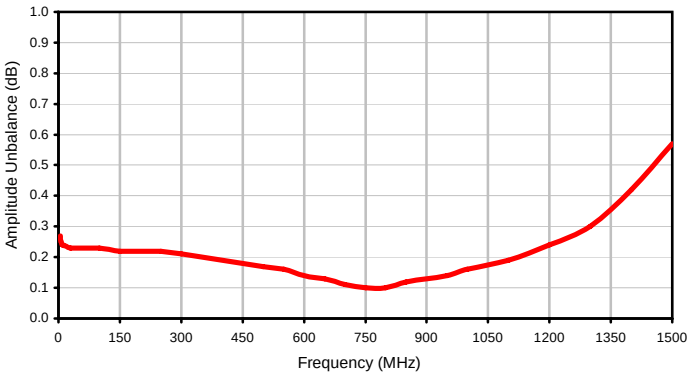
Total Loss



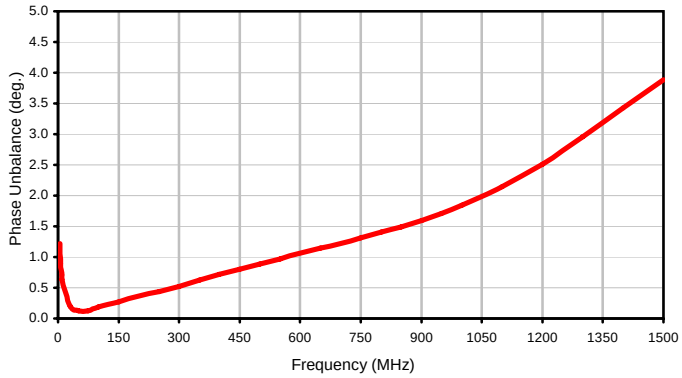
Isolation



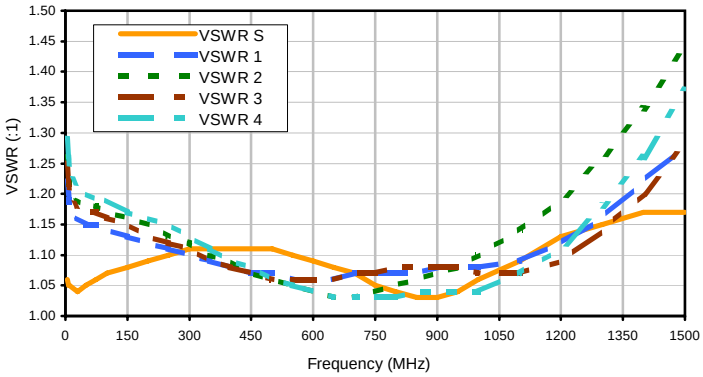
Amplitude Unbalance



Phase Unbalance



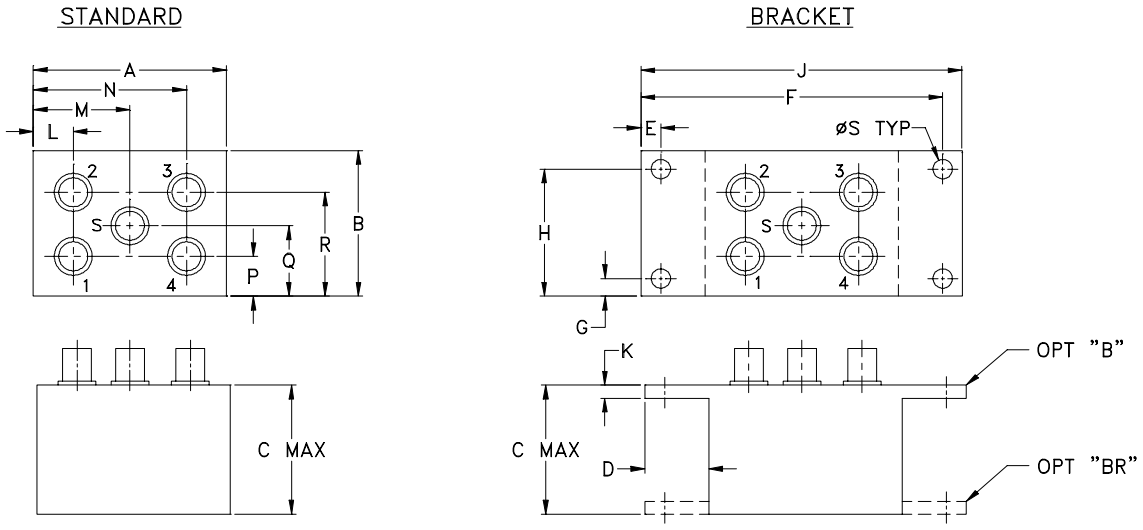
VSWR



Case Style N

N24
N27

Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	L	M	N
N24	1.50 (38.10)	1.13 (28.70)	1.00 (25.40)	.50 (12.70)	.155 (3.94)	2.345 (59.56)	.138 (3.51)	.987 (25.07)	2.50 (63.50)	.10 (2.54)	.32 (8.13)	.75 (19.05)	1.18 (29.97)
N27	2.25 (57.15)	1.38 (35.05)	1.24 (31.50)		.150 (3.81)	3.100 (78.74)		1.238 (31.45)	3.25 (82.55)		.48 (12.19)	1.13 (28.70)	1.78 (45.21)

CASE#	P	Q	R	S	WT. GRAMS
N24	.31 (7.87)	.56 (14.22)	.81 (20.57)	.150 (3.81)	45.0
N27	.36 (9.14)	.69 (17.53)	1.01 (25.65)		92.0

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

Notes:

1. Case material: Aluminum alloy.
2. Case finish:
   For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.

   For Non-RoHS Case Styles: Yellow hexavalent chrome based conversion coating.
   Due to transition from non-RoHS to RoHS, models will be supplied with either case style finish until the non-RoHS case inventory is depleted.
3. Mounting bracket available on request. For bracket mounted on connector end add suffix B to part number and add $5.00 to unit cost. For bracket mounted on the rear, add suffix BR to part number and add $1.50 to unit cost.

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Environmental Specifications ENV28

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