Coaxial

Directional Coupler

ZNDC-23-2G-S+

50Ω 23dB 800 to 2000 MHz

Generic photo used for illustration purposes only

CASE STYLE: FM587

Connectors	Model No.
SMA	ZNDC-23-2G-S+

+RoHS Compliant

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

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power input	3W Max.

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

Coaxial Connections

INPUT	1
OUTPUT	2
COUPLED	3

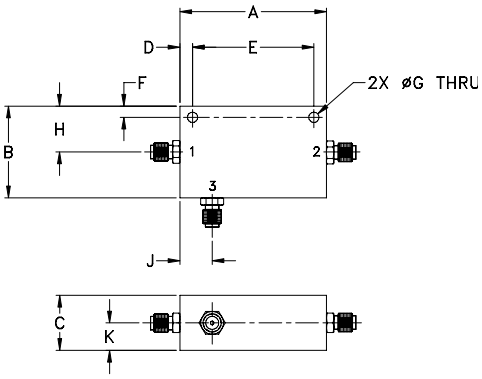
Features

- excellent mainline loss, 0.5 dB typ.
- excellent VSWR, 1.2:1 typ.
- useable over 800-2000 MHz
- very flat coupling ±0.3 dB typ.

Applications

- cellular
- PCS
- ISM

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F
2.00	1.25	0.75	0.17	1.656	0.15
50.80	31.75	19.05	4.32	42.06	3.81

G	H	J	K	wt
0.14	0.63	0.44	0.38	grams
3.56	16.00	11.18	9.65	57.0

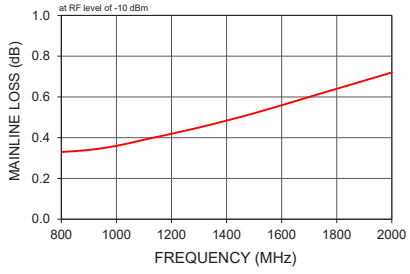
Directional Coupler Electrical Specifications

FREQ. RANGE (MHz)	COUPLING (dB)		MAINLINE LOSS (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT (W)
f_L-f_U	Nom.	Max. Flatness	Typ.	Max.	Typ.	Min.	Typ.	Max.
800-2000								
800-1000	23.2±0.5	±0.4	0.3	0.6	25	17	1.2	3
1000-1700	23.0±0.5	±0.4	0.5	0.9	22	17	1.2	3
1700-2000	22.7±0.5	±0.4	0.6	1.1	20	14	1.2	3

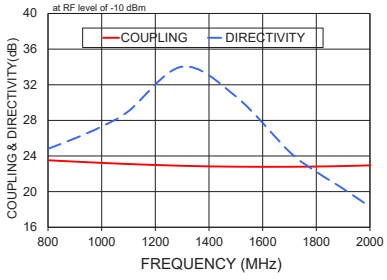
Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB) In	Return Loss (dB) Out	Return Loss (dB) Cpl
800.00	0.33	23.52	24.81	23.11	22.15	30.23
900.00	0.34	23.37	25.98	24.42	23.52	30.61
1000.00	0.36	23.23	27.31	25.52	24.59	30.96
1100.00	0.39	23.10	29.03	25.98	25.04	31.16
1300.00	0.45	22.90	34.03	24.89	24.32	32.65
1500.00	0.52	22.80	30.69	23.11	21.98	34.94
1700.00	0.60	22.79	24.47	22.07	20.06	38.33
1800.00	0.64	22.82	22.23	21.91	19.36	39.22
1900.00	0.68	22.87	20.33	21.98	18.71	37.67
2000.00	0.72	22.95	18.29	22.29	18.30	36.58

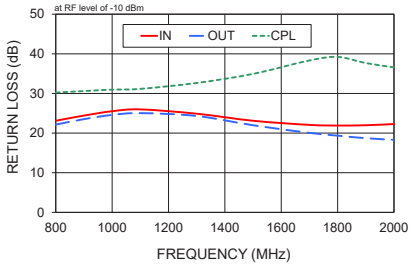
ZNDC-23-2G-S+
MAINLINE LOSS



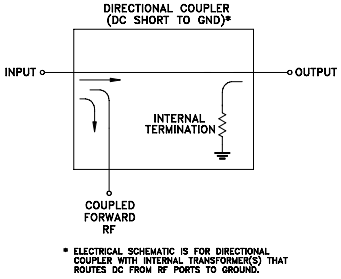
ZNDC-23-2G-S+
COUPLING & DIRECTIVITY



ZNDC-23-2G-S+
RETURN 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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Directional Coupler ZNDC-23-2G+

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	COUPLING (dB)	DIRECTIVITY (dB)	RETURN LOSS (dB)		
				IN	OUT	CPL
800.0	0.33	23.52	24.81	23.11	22.15	30.23
810.0	0.33	23.50	24.87	23.25	22.29	30.29
825.0	0.33	23.48	24.89	23.54	22.63	30.30
850.0	0.33	23.44	25.06	23.98	23.25	30.34
875.0	0.34	23.40	25.62	24.18	23.39	30.56
900.0	0.34	23.37	25.98	24.42	23.52	30.61
925.0	0.35	23.33	26.11	24.84	24.08	30.45
950.0	0.35	23.29	26.51	25.07	24.44	30.63
975.0	0.36	23.26	27.11	25.18	24.34	30.99
1000.0	0.36	23.23	27.31	25.52	24.59	30.96
1025.0	0.37	23.19	27.54	25.81	25.14	30.87
1050.0	0.38	23.16	28.28	25.75	25.08	31.05
1075.0	0.38	23.13	28.91	25.77	24.79	31.14
1100.0	0.39	23.10	29.03	25.98	25.04	31.16
1150.0	0.40	23.04	30.47	25.78	24.88	31.77
1200.0	0.42	22.99	30.64	25.84	25.04	31.98
1250.0	0.44	22.94	32.57	25.34	24.41	32.54
1300.0	0.45	22.90	34.03	24.89	24.32	32.65
1350.0	0.47	22.87	36.03	24.47	23.35	33.05
1400.0	0.49	22.84	34.20	24.01	23.16	34.11
1450.0	0.50	22.81	34.38	23.66	22.32	34.11
1500.0	0.52	22.80	30.69	23.11	21.98	34.94
1550.0	0.54	22.79	29.43	22.87	21.37	35.74
1600.0	0.56	22.78	27.27	22.47	20.88	36.74
1625.0	0.57	22.78	26.94	22.46	20.60	37.26
1650.0	0.58	22.78	26.03	22.30	20.54	38.23
1675.0	0.59	22.79	24.98	22.10	20.37	37.88
1700.0	0.60	22.79	24.47	22.07	20.06	38.33
1725.0	0.61	22.80	24.08	22.00	19.84	40.88
1750.0	0.62	22.80	23.36	21.79	19.71	39.43
1775.0	0.63	22.81	22.56	21.80	19.55	38.86
1800.0	0.64	22.82	22.23	21.91	19.36	39.22
1825.0	0.65	22.83	21.77	21.84	19.19	38.54
1850.0	0.65	22.84	21.05	21.80	19.05	37.65
1875.0	0.67	22.85	20.58	21.96	18.90	37.73
1900.0	0.68	22.87	20.33	21.98	18.71	37.67
1925.0	0.69	22.89	19.66	21.85	18.58	36.98
1950.0	0.70	22.90	19.01	22.04	18.55	37.04
1975.0	0.71	22.93	18.71	22.30	18.48	37.34
2000.0	0.72	22.95	18.29	22.29	18.30	36.58

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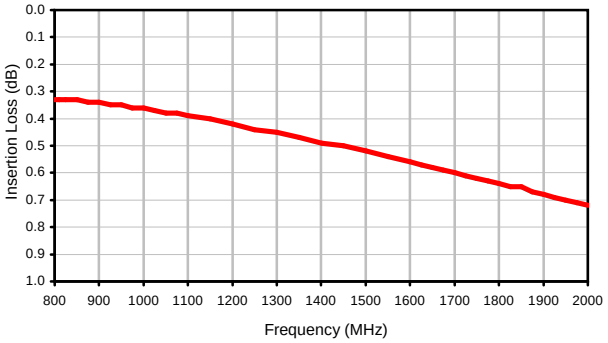
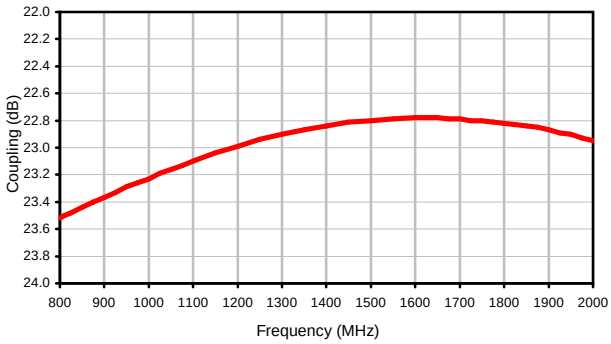
Directional Coupler ZNDC-23-2G+

Typical Performance Curves

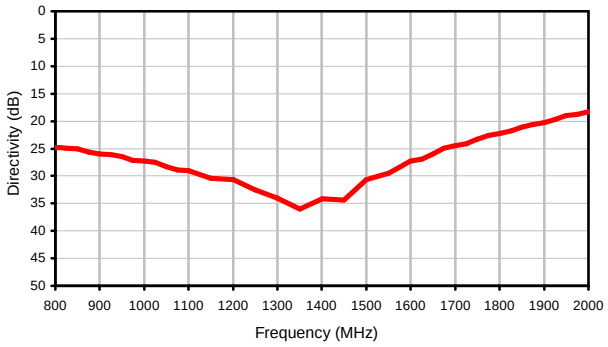
Insertion Loss



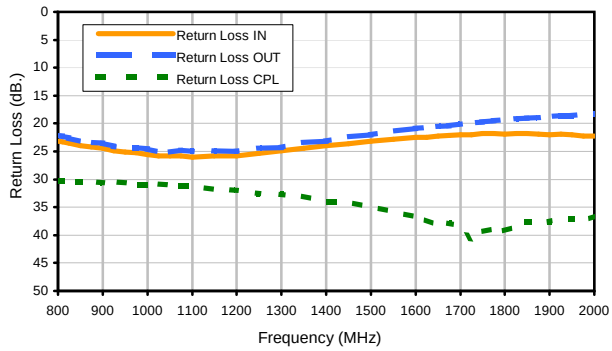
Coupling



Directivity



Return Loss



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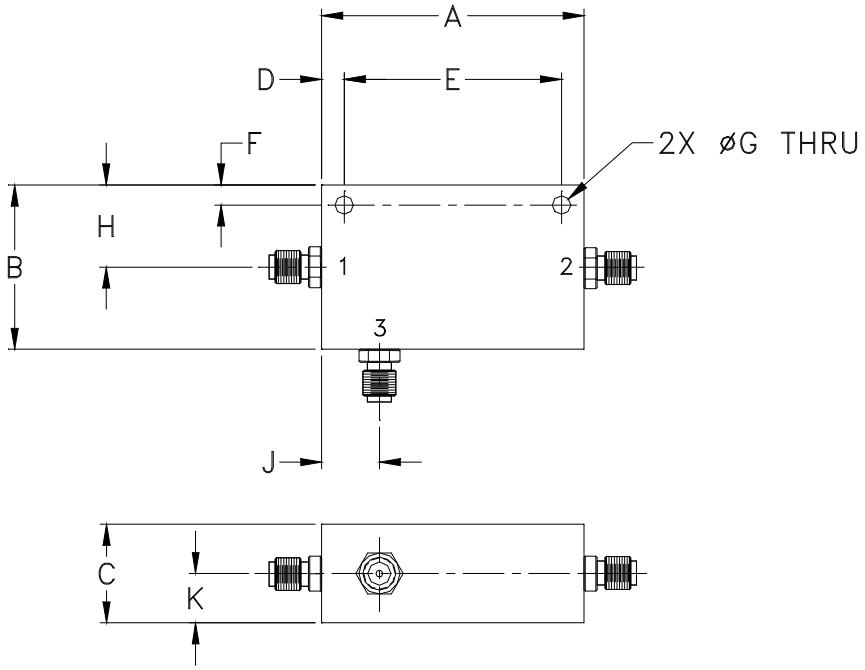
Case Style FM

FM587

Outline Dimensions



CASE #.	A	B	C	D	E	F	G	H	J	K	WT, GRAM
FM587	2.00 (50.80)	1.24 (31.50)	.75 (19.05)	.17 (4.32)	1.656 (42.06)	.15 (3.81)	.140 (3.56)	.62 (15.75)	.44 (11.18)	.38 (9.65)	57

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

Notes:

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

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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

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