

Bi-Directional Coupler

ZFBDC-ED16354/1

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: JD1252

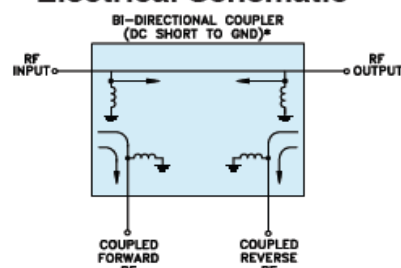
ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency		0.1		50	MHz
Coupling	Nominal		20±0.5		dB
	Flatness		±0.3		dB
Mainline Loss *	0.1-30 MHz		0.1		dB
	30-50 MHz		0.2		dB
Directivity	0.1-30 MHz		25		dB
	30-50 MHz		17		dB
VSWR	30-50 MHz		1.25		(:1)
RF Power Input	0.1-0.25 MHz			32	W
	0.25-50 MHz			50	W

Note: * Mainline loss includes theoretical coupled power loss of 0.04 dB at 20 dB coupling.

MAXIMUM RATINGS	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

COAXIAL CONNECTIONS	
INPUT	1
OUTPUT	2
COUPLED (FORWARD)	4
COUPLED (REVERSE)	3

Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR BI-DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) THAT ROUTES DC FROM RF PORTS TO GROUND.

Bi-Directional Coupler

ZFBDC-ED16354/1

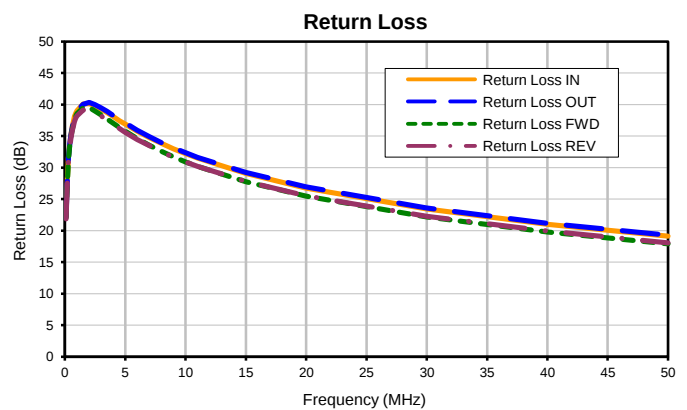
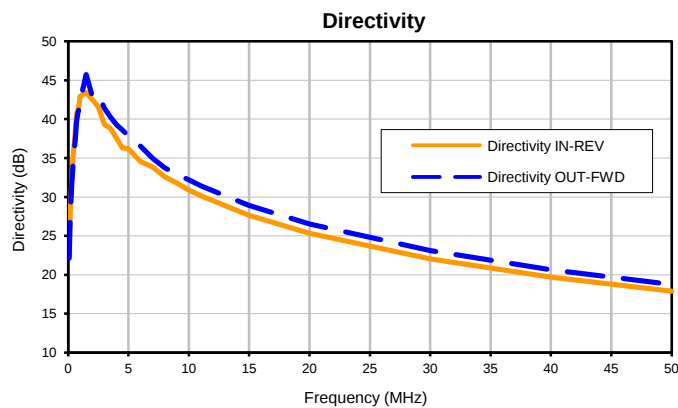
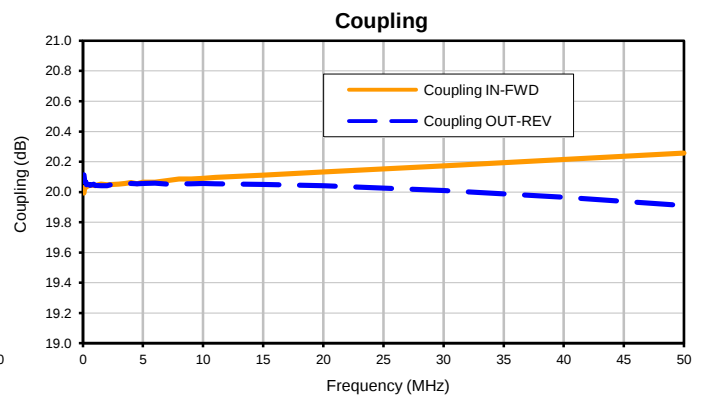
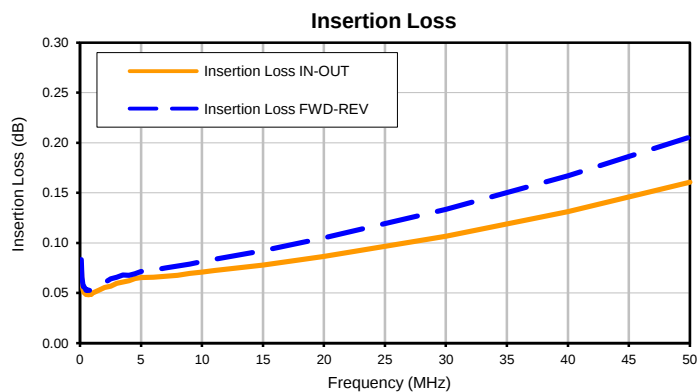
Typical Performance Data

FREQ. (MHz)	INSERTION LOSS		COUPLING		DIRECTIVITY		RETURN LOSS			
	(dB)		(dB)		(dB)		(dB)			
	IN-OUT	FWD-REV	IN-FWD	OUT-REV	IN-REV	OUT-FWD	IN	OUT	FWD	REV
0.10	0.08	0.08	19.99	20.11	22.40	22.14	22.49	22.24	22.05	21.88
0.15	0.06	0.07	20.02	20.08	26.11	25.59	25.90	25.67	25.49	25.28
0.20	0.06	0.06	20.03	20.06	28.57	28.10	28.28	28.05	27.86	27.69
0.25	0.05	0.06	20.03	20.06	30.60	29.88	30.08	29.88	29.67	29.49
0.30	0.05	0.06	20.04	20.05	31.90	31.69	31.53	31.39	31.14	30.91
0.40	0.05	0.05	20.04	20.05	35.31	34.07	33.69	33.55	33.34	33.10
0.50	0.05	0.05	20.04	20.05	36.92	36.21	35.23	35.16	34.85	34.68
0.60	0.05	0.05	20.04	20.04	38.37	37.33	36.49	36.29	36.00	35.82
0.70	0.05	0.05	20.04	20.05	40.64	39.68	37.37	37.22	36.95	36.66
0.80	0.05	0.05	20.05	20.05	41.15	40.75	38.10	37.93	37.59	37.30
0.90	0.05	0.05	20.05	20.05	41.95	41.43	38.60	38.57	38.17	37.84
1.00	0.05	0.05	20.04	20.04	42.95	42.33	39.00	38.98	38.58	38.20
1.50	0.05	0.06	20.05	20.04	43.44	45.74	40.11	40.04	39.50	39.10
2.00	0.06	0.06	20.05	20.04	42.51	42.99	40.14	40.36	39.53	39.22
2.50	0.06	0.06	20.05	20.05	41.59	43.21	39.83	39.97	38.99	38.78
3.00	0.06	0.07	20.05	20.05	39.32	41.41	39.28	39.47	38.38	38.20
3.50	0.06	0.07	20.06	20.05	38.81	40.27	38.72	38.92	37.71	37.50
4.00	0.06	0.07	20.06	20.06	37.54	39.26	38.13	38.27	37.05	36.81
4.50	0.06	0.07	20.05	20.05	36.32	38.63	37.45	37.73	36.37	36.22
5.00	0.07	0.07	20.06	20.06	36.21	37.84	36.90	37.07	35.78	35.58
6.00	0.07	0.07	20.06	20.06	34.56	36.50	35.79	35.92	34.62	34.48
7.00	0.07	0.08	20.07	20.05	33.86	34.98	34.78	34.91	33.52	33.47
8.00	0.07	0.08	20.09	20.05	32.63	33.77	33.86	33.97	32.59	32.50
9.00	0.07	0.08	20.09	20.05	31.81	32.92	33.01	33.13	31.71	31.69
10.00	0.07	0.08	20.09	20.06	30.88	32.21	32.23	32.37	30.92	30.91
11.00	0.07	0.08	20.10	20.05	30.14	31.40	31.51	31.64	30.18	30.19
15.00	0.08	0.09	20.11	20.05	27.65	28.93	29.07	29.24	27.76	27.82
20.00	0.09	0.11	20.13	20.04	25.33	26.51	26.76	26.95	25.46	25.55
30.00	0.11	0.13	20.17	20.01	22.03	23.13	23.42	23.60	22.15	22.27
40.00	0.13	0.17	20.22	19.97	19.70	20.66	21.01	21.18	19.78	19.93
50.00	0.16	0.21	20.26	19.91	17.88	18.74	19.12	19.29	17.93	18.08

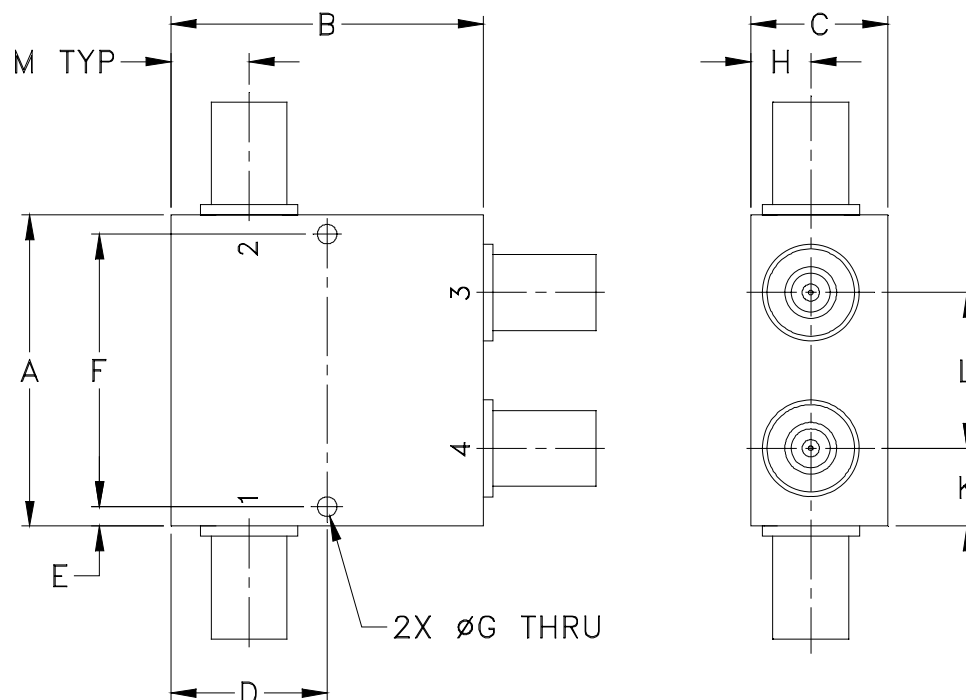
Bi-Directional Coupler

ZFBDC-ED16354/1

Typical Performance Curves



Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	L	M	WT, GRAM
JD1252	2.00 (50.80)	2.00 (50.80)	0.88 (22.35)	1.000 (25.40)	0.13 (3.18)	1.750 (44.45)	0.125 (3.18)	0.38 (9.65)	-- --	0.50 (12.70)	1.00 (25.40)	0.50 (12.70)	250.00

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

Notes:

- Case material: Aluminum alloy.
- Case finish:

For RoHS Case Styles:

Clear chemical conversion coating, non-chrome or trivalent chrome based.



INTERNET <http://www.minicircuits.com>
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661
Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010
Mini-Circuits ISO 9001 & ISO 14001 Certified



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