

Bi-Directional Coupler

ZABDC10-25HP

50Ω Up to 10W 1500 to 2500 MHz

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
DC Current	3.0A

* Case temperature is defined as temperature on ground leads.
Permanent damage may occur if any of these limits are exceeded.

Coaxial Connections

INPUT	1
OUTPUT	4
COUPLED (forward)	2
COUPLED (reverse)	3

Features

- excellent directivity, 26 dB typ.
- low mainline loss, 0.55 dB typ.
- high power, up to 10W
- rugged shielded case
- DC Current through input to output 3.0A Max. at 1.0 Watt RF input power.

Applications

- PCS/DCS/UMTS
- power leveling & monitoring
- VSWR measurement



CASE STYLE: DD477

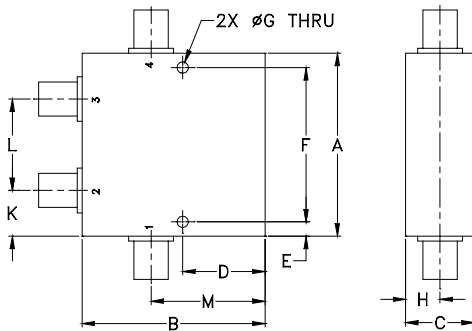
Connectors Model
SMA ZABDC10-25HP-S

Bi-Directional Coupler Electrical Specifications

FREQ. RANGE (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT (W)
	Norm.	Flatness	Typ.	Max.	Typ.	Min.		
f_L - f_U								
1500-2500	10.0±1.0	±0.5	0.55	0.9	26	18	1.1	10

1. Mainline loss includes theoretical power loss at coupled port.

Outline Drawing

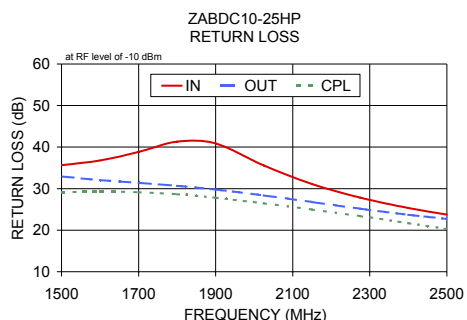
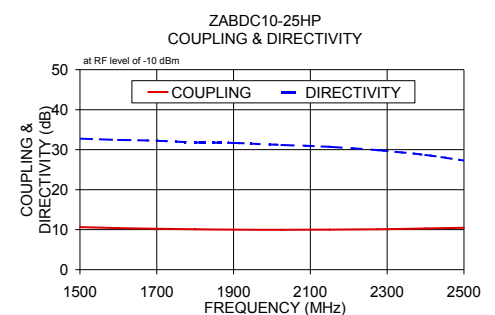
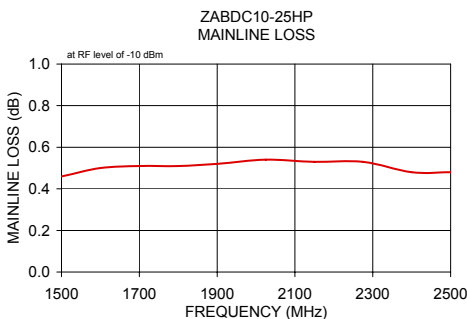


Outline Dimensions (inch/mm)

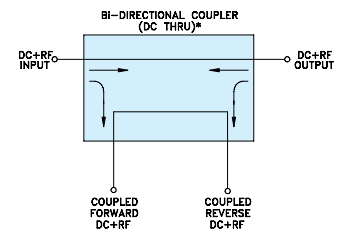
A	B	C	D	E	F	G	
2.00	2.00	.75	.90	.156	1.688	.125	
50.80	50.80	19.05	22.86	3.96	42.88	3.18	
H	J	K	L	M		wt	
.38	---	.50	1.00	1.25		grams	
9.65	---	12.70	25.40	31.75		145	

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB)		Coupling (dB)	Directivity (dB)	Return Loss (dB)		
	In-Out	In-Cpl			In	Out	Cpl
1500.00	0.46	10.63	32.78	35.66	32.94	29.14	
1600.00	0.50	10.40	32.41	36.80	32.04	29.28	
1700.00	0.51	10.22	32.23	38.86	31.39	29.14	
1800.00	0.51	10.10	31.80	41.30	30.68	28.63	
1900.00	0.52	10.02	31.67	40.85	29.79	27.81	
2025.00	0.54	9.97	31.18	35.57	28.38	26.47	
2150.00	0.53	10.01	30.70	31.10	26.78	24.97	
2275.00	0.53	10.12	29.90	27.82	25.17	23.39	
2400.00	0.48	10.30	28.68	25.32	23.70	21.69	
2500.00	0.48	10.49	27.31	23.74	22.69	20.27	



Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR BI-DIRECTIONAL COUPLER WITHOUT INTERNAL TRANSFORMERS AND RESISTORS.

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.
- The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/WCLStore/terms.jsp



Bi-Directional Coupler

ZABDC10-25HP

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	COUPLING (dB)	DIRECTIVITY (dB)	RETURN LOSS		
				IN (dB)	OUT (dB)	CPL
1500.0	0.46	10.63	32.78	35.66	32.94	29.14
1525.0	0.46	10.54	32.73	35.89	32.70	29.19
1550.0	0.45	10.47	32.67	36.16	32.45	29.23
1575.0	0.46	10.42	32.60	36.46	32.25	29.28
1600.0	0.50	10.40	32.41	36.80	32.04	29.28
1625.0	0.46	10.32	32.38	37.17	31.89	29.27
1650.0	0.49	10.28	32.27	37.71	31.71	29.24
1675.0	0.49	10.21	32.28	38.23	31.57	29.20
1700.0	0.51	10.22	32.23	38.86	31.39	29.14
1725.0	0.49	10.17	32.09	39.43	31.20	29.05
1750.0	0.51	10.13	32.02	40.07	31.05	28.91
1775.0	0.52	10.09	31.98	40.79	30.85	28.79
1800.0	0.51	10.10	31.80	41.30	30.68	28.63
1825.0	0.50	10.06	31.72	41.62	30.47	28.42
1850.0	0.53	10.02	31.72	41.68	30.26	28.23
1875.0	0.51	10.00	31.66	41.39	30.06	28.01
1900.0	0.52	10.02	31.67	40.85	29.79	27.81
1925.0	0.53	9.99	31.56	39.83	29.55	27.54
1950.0	0.54	9.98	31.44	38.93	29.27	27.31
1975.0	0.52	9.97	31.40	37.70	28.99	27.01
2000.0	0.54	9.98	31.26	36.63	28.69	26.75
2025.0	0.54	9.97	31.18	35.57	28.38	26.47
2050.0	0.53	9.98	31.12	34.57	28.07	26.18
2075.0	0.52	9.96	31.04	33.61	27.77	25.90
2100.0	0.54	9.98	30.94	32.74	27.44	25.60
2125.0	0.53	10.03	30.80	31.91	27.12	25.30
2150.0	0.53	10.01	30.70	31.10	26.78	24.97
2175.0	0.53	10.01	30.58	30.39	26.44	24.67
2200.0	0.53	10.06	30.43	29.65	26.13	24.36
2225.0	0.51	10.08	30.28	28.99	25.82	24.04
2250.0	0.55	10.12	30.01	28.38	25.48	23.72
2275.0	0.53	10.12	29.90	27.82	25.17	23.39
2300.0	0.51	10.18	29.72	27.24	24.86	23.04
2325.0	0.49	10.20	29.40	26.70	24.57	22.71
2350.0	0.55	10.25	29.11	26.20	24.26	22.37
2375.0	0.51	10.28	28.95	25.76	23.98	22.04
2400.0	0.48	10.30	28.68	25.32	23.70	21.69
2425.0	0.52	10.39	28.29	24.89	23.45	21.33
2450.0	0.51	10.45	27.95	24.48	23.18	20.99
2475.0	0.52	10.50	27.63	24.08	22.92	20.64
2500.0	0.48	10.49	27.31	23.74	22.69	20.27

REV. X1
ZABDC10-25HP
060718
Page 1 of 1



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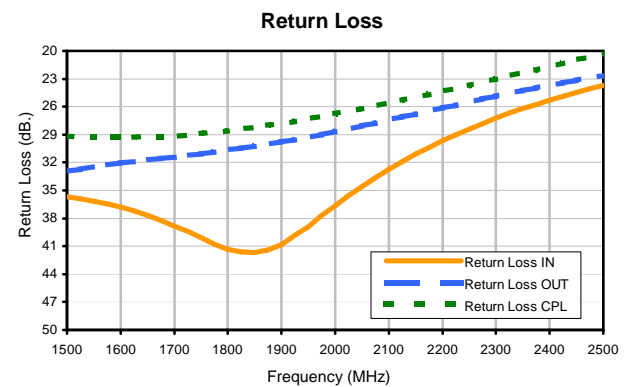
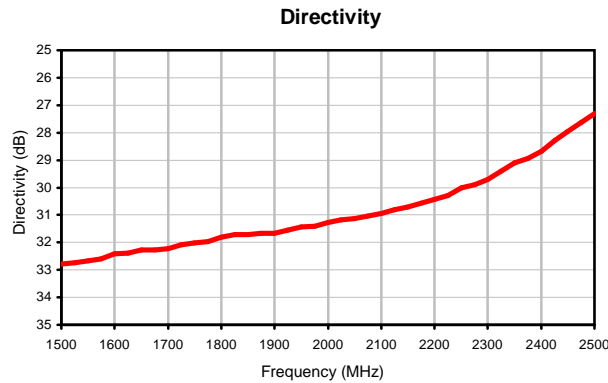
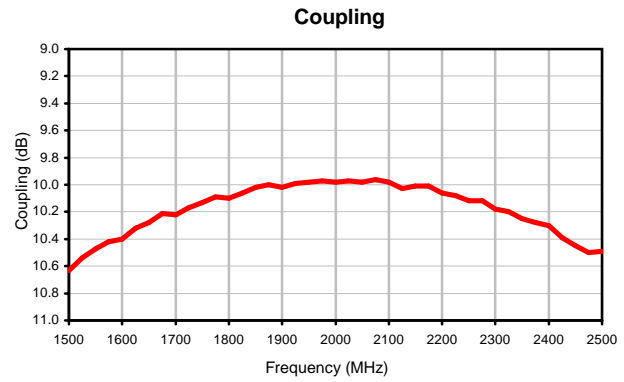
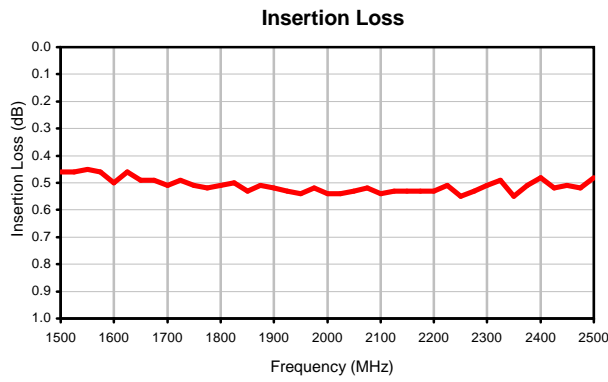
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ZABDC10-25HP

Typical Performance Curves



REV. X1
ZABDC10-25HP
060718
Page 1 of 1



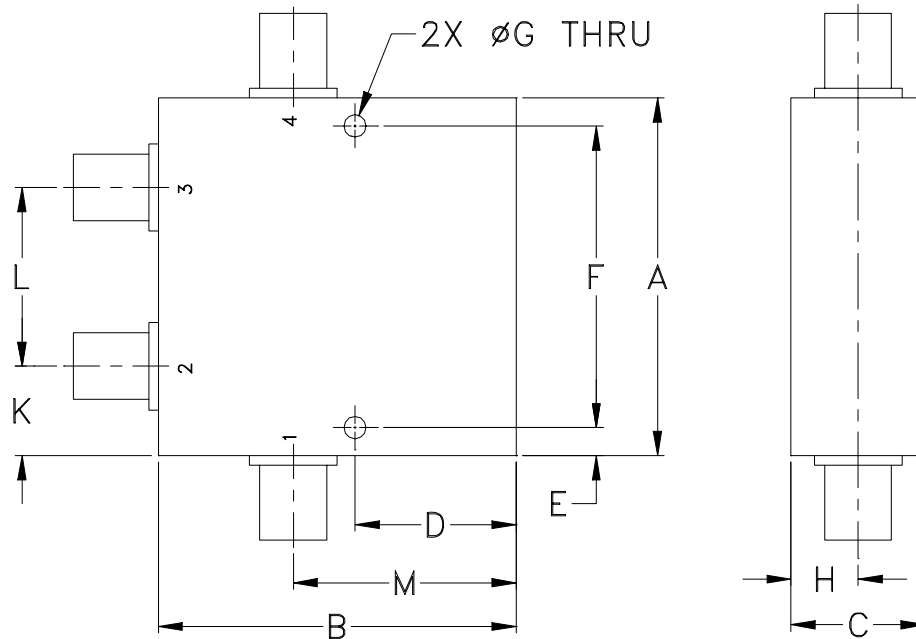
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Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	L	M	WT, GRAM
DD477	2.00 (50.80)	2.00 (50.80)	.75 (19.05)	.90 (22.86)	.156 (3.96)	1.688 (42.88)	.125 (3.18)	.38 (9.65)	-- --	.50 (12.70)	1.00 (25.40)	1.25 (31.75)	145

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.



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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 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