

# DC Pass Bi-Directional Coupler

## ZABDC20-182H+

50Ω Up to 100W 700 to 1800 MHz



CASE STYLE: DD477-1

Connectors Model  
SMA ZABDC20-182H-S+

**+RoHS Compliant**

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

### Maximum Ratings

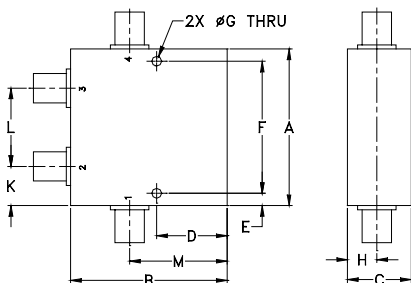
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
DC Current	2.0 A

\* 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

### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	wt
2.00	2.00	.88	.90	.156	1.688	.125	.38	---	.50	1.00	1.25	grams
50.80	50.80	22.35	22.86	3.96	42.88	3.18	9.65	---	12.70	25.40	31.75	225

### Features

- excellent mainline loss, 0.2 dB typ.
- excellent directivity, 25 dB typ.
- high power, up to 100W
- rugged shielded case
- DC current through input to output 2.0A Max. at 50 watt RF input power

### Applications

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

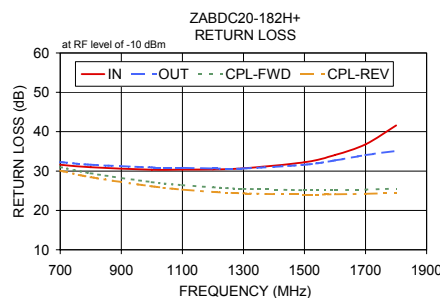
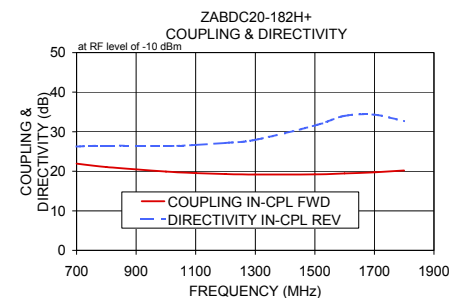
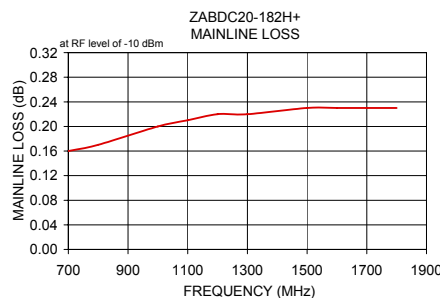
### Bi-Directional Coupler Electrical Specifications

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS <sup>1</sup> (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT (W)
	Nom.	Flatness	Typ.	Max.	Typ.	Min.		
$f_L$ - $f_U$								
700-1800			0.20	0.35	25	19	1.08	50
800-1000	20.5±1.0	±0.75	0.20	0.30	23	20	1.08	100
1000-1600	19.5±0.8	±0.6	0.25	0.35	27	20	1.08	50
1600-1800	20.0±1.0	±0.6	0.25	0.35	25	19	1.08	50

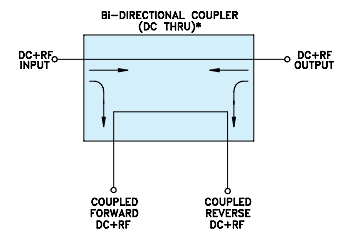
1. Mainline loss includes theoretical power loss at coupled port.

### Typical Performance Data

Frequency (MHz)	Mainline Loss (dB)		Coupling (dB)		Directivity (dB)		Return Loss (dB)		
	In-Out	In-Cpl Fwd	In-Cpl Rev	Out-Cpl Rev	In-Cpl Fwd	In-Cpl Rev	In	Out	Cpl Fwd
700.00	0.16	21.92	21.94	26.35	26.27	31.61	32.26	30.98	30.09
800.00	0.17	21.08	21.10	26.19	26.48	30.98	31.61	29.43	28.43
1000.00	0.20	19.91	19.93	25.90	26.39	30.35	30.95	27.18	26.13
1100.00	0.21	19.55	19.57	25.96	26.67	30.39	30.81	26.42	25.28
1200.00	0.22	19.30	19.32	26.55	27.18	30.40	30.67	25.87	24.71
1300.00	0.22	19.17	19.19	27.47	27.96	30.69	30.65	25.48	24.35
1500.00	0.23	19.24	19.25	29.96	31.56	32.22	31.59	25.11	24.02
1600.00	0.23	19.44	19.46	31.28	34.00	34.08	32.70	25.11	24.09
1700.00	0.23	19.75	19.77	30.63	34.30	36.77	34.05	25.28	24.21
1800.00	0.23	20.20	20.22	29.13	32.66	41.59	35.13	25.53	24.47



### 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.
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