

Directional Coupler

50Ω Up to 4W 2500 to 6000 MHz

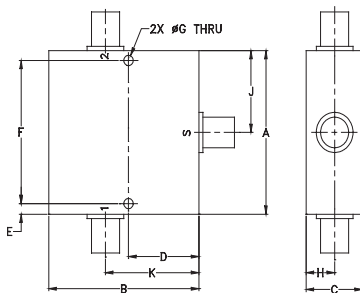
Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
DC Current	1.0A
Permanent damage may occur if any of these limits are exceeded.	

Coaxial Connections

INPUT	1
OUTPUT	2
COUPLED	S

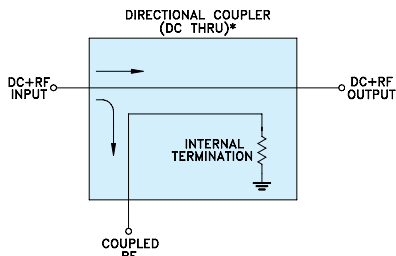
Outline Drawing



Outline Dimensions (inch/mm)

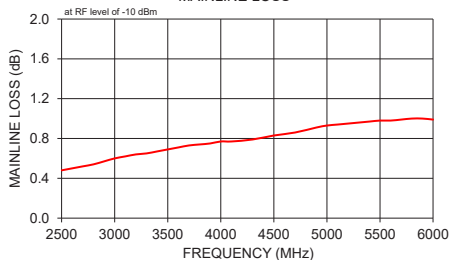
A	B	C	D	E	F
2.00	2.00	.75	.938	.13	1.750
50.80	50.80	19.05	23.83	3.30	44.45
G	H	J	K	wt	
.125	.38	1.00	1.25	grams	
3.18	9.65	25.40	31.75	200.0	

Electrical Schematic



* ELECTRICAL SCHEMATIC FOR DIRECTIONAL COUPLER THAT IS DESIGNED WITHOUT INTERNAL TRANSFORMERS.

ZADC-10-63-S+
MAINLINE LOSS



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.
 C. 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/MCLStore/terms.jsp

Features

- excellent directivity, 20 dB typ.
- good VSWR, 1.40 typ.
- power input up to 4W
- low cost
- DC current through input to output 1.0A Max.

Applications

- instrumentation
- ISM
- defense communications
- federal communications
- fixed satellite

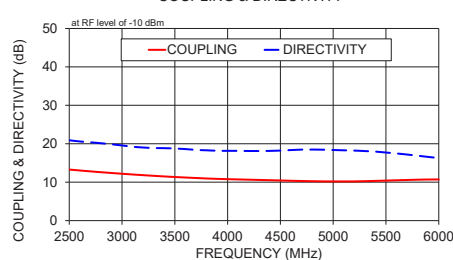
Electrical Specifications at 25°C

Parameter	Condition (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		2500	—	6000	MHz
Mainline Loss (above theoretical 0.3 dB)	2500	—	0.2	0.7	dB
	3500	—	0.4	0.9	
	5000	—	0.6	1.1	
	6000	—	0.7	1.2	
	2500 - 6000	—	11.7	—	
Coupling	2500 - 3500	10.5	—	14.5	dB
	3500 - 5000	9.5	—	12.5	
	5000 - 6000	9.3	—	11.3	
	2500 - 6000	—	11.7	—	
Coupling Flatness(±)	2500 - 3500	—	1.0	1.5	dB
	3500 - 5000	—	0.6	1.0	
	5000 - 6000	—	0.2	0.5	
	2500 - 6000	—	1.0	1.5	
Directivity	2500	17	23.0	—	dB
	3500	13	21.8	—	
	5000	12	20.6	—	
	6000	10	16.6	—	
Return Loss (Input)	2500	20	30	—	dB
	3500	18	25	—	
	5000	15	22	—	
	6000	15	22	—	
Return Loss (Output)	2500	19	31	—	dB
	3500	18	29	—	
	5000	14	19	—	
	6000	14	19	—	
Return Loss (Coupling)	2500	19	32	—	dB
	3500	18	27	—	
	5000	14	25	—	
	6000	8	11	—	
Input Power	2500 - 6000	—	—	4.0	W

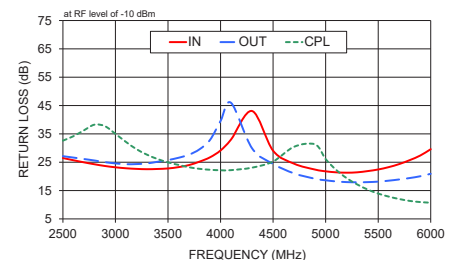
Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB) In	Return Loss (dB) Out	Cpl
2500.00	0.48	13.28	20.90	26.47	27.12	32.61
2800.00	0.54	12.59	20.13	24.27	25.60	38.24
3000.00	0.60	12.19	19.55	23.20	24.58	35.00
3500.00	0.69	11.34	18.75	22.79	25.76	24.94
4000.00	0.77	10.78	18.15	29.15	39.56	22.16
4500.00	0.83	10.44	18.22	29.05	24.41	25.25
5000.00	0.93	10.19	18.37	21.78	18.62	26.09
5500.00	0.98	10.41	17.71	22.43	18.14	13.93
5800.00	1.00	10.64	16.88	25.73	19.41	11.34
6000.00	0.99	10.71	16.27	29.59	20.91	10.70

ZADC-10-63-S+
COUPLING & DIRECTIVITY



ZADC-10-63-S+
RETURN LOSS



ZADC-10-63-S+



Generic photo used for illustration purposes only

CASE STYLE: CC1266

Connectors	Model
SMA	ZADC-10-63-S+

+RoHS Compliant

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

Directional Coupler

ZADC-10-63-S+

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	COUPLING (dB)	DIRECTIVITY (dB)	RETURN LOSS		
				(dB)		
				IN	OUT	CPL
2500	0.48	13.28	20.90	26.47	27.12	32.61
2600	0.50	13.04	20.59	25.69	26.63	34.17
2700	0.52	12.81	20.37	24.95	26.12	36.25
2800	0.54	12.59	20.13	24.27	25.60	38.24
2900	0.57	12.39	19.86	23.66	25.00	37.70
3000	0.60	12.19	19.55	23.20	24.58	35.00
3100	0.62	12.00	19.22	22.86	24.30	32.15
3200	0.64	11.82	19.02	22.64	24.34	29.60
3300	0.65	11.65	18.88	22.53	24.57	27.65
3400	0.67	11.49	18.85	22.61	25.15	26.13
3500	0.69	11.34	18.75	22.79	25.76	24.94
3600	0.71	11.21	18.61	23.26	26.56	24.04
3700	0.73	11.08	18.40	23.99	27.65	23.22
3800	0.74	10.96	18.29	25.20	29.56	22.66
3900	0.75	10.86	18.18	26.73	32.87	22.33
4000	0.77	10.78	18.15	29.15	39.56	22.16
4100	0.77	10.71	18.15	33.01	45.94	22.20
4300	0.79	10.58	18.10	43.06	29.89	23.08
4500	0.83	10.44	18.22	29.05	24.41	25.25
4700	0.86	10.30	18.47	24.47	21.05	30.45
4900	0.91	10.21	18.45	22.39	19.16	31.27
5000	0.93	10.19	18.37	21.78	18.62	26.09
5100	0.94	10.19	18.29	21.43	18.21	22.29
5200	0.95	10.20	18.22	21.30	17.98	19.37
5300	0.96	10.26	18.09	21.43	17.91	17.15
5400	0.97	10.33	17.95	21.86	17.97	15.35
5500	0.98	10.41	17.71	22.43	18.14	13.93
5600	0.98	10.49	17.47	23.26	18.48	12.86
5700	0.99	10.57	17.19	24.34	18.91	12.01
5800	1.00	10.64	16.88	25.73	19.41	11.34
5900	1.00	10.69	16.57	27.35	20.04	10.93
6000	0.99	10.71	16.27	29.59	20.91	10.70



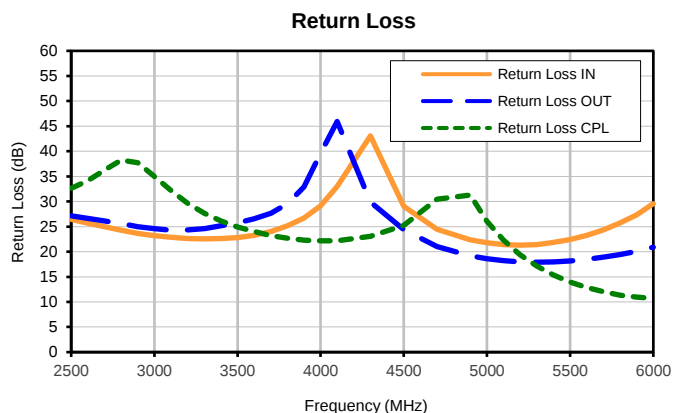
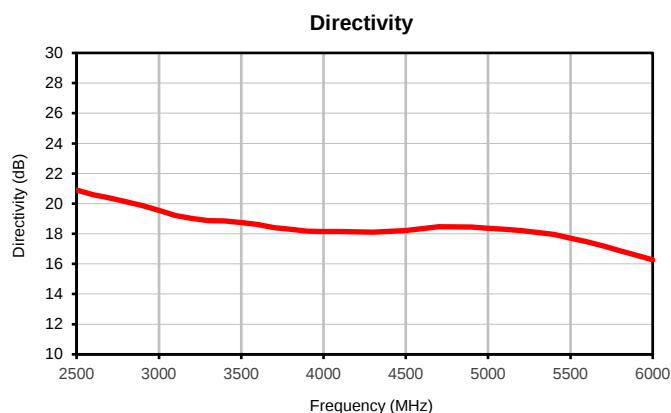
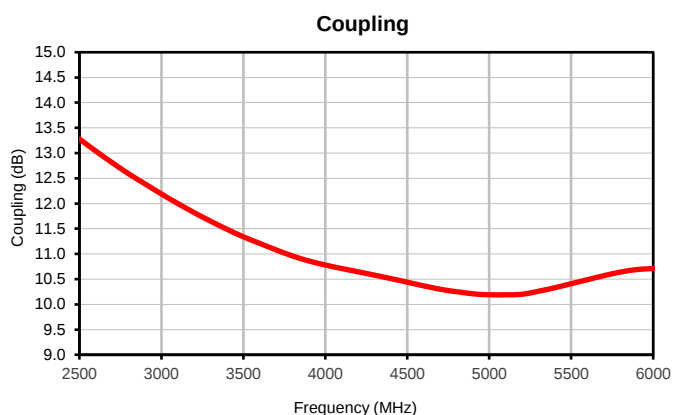
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IF/RF MICROWAVE COMPONENTS

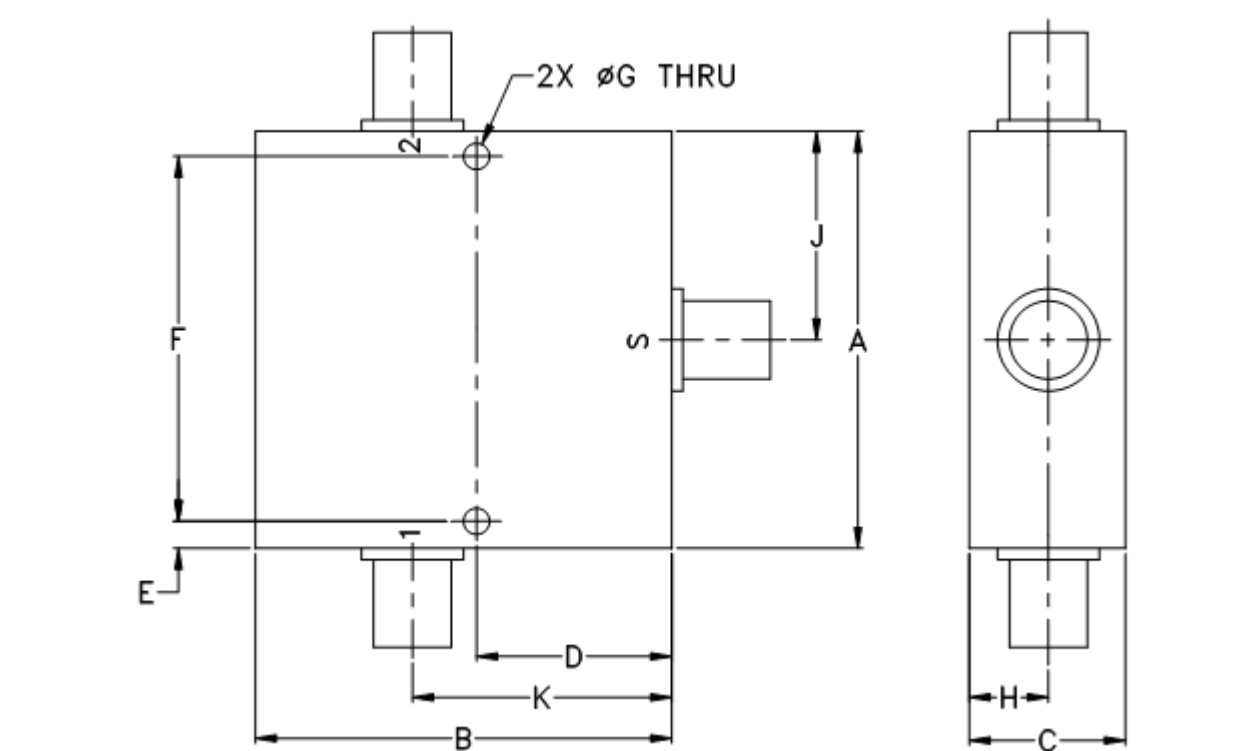
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ZADC-10-63-S+
1/15/2019
Page 1 of 1

Typical Performance Curves



Outline Dimensions

CC1266



CASE#	A	B	C	D	E	F	G	H	J	K	WT. GRAMS
CC1266	2.00 (50.80)	2.00 (50.80)	.75 (19.05)	.938 (23.83)	.13 (3.30)	1.750 (44.45)	.125 (3.17)	.38 (9.65)	1.00 (25.40)	1.25 (31.75)	200

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.
- Refer to the individual model data sheet for the type of connectors available.



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RF/IF MICROWAVE COMPONENTS



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