COAXIAL

Directional Coupler

ZCDC10-263+

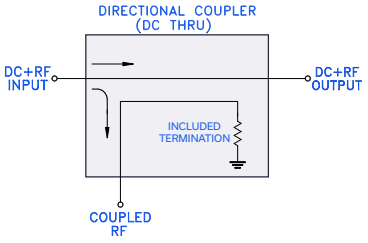
50Ω 10 dB Up to 20 W 0.5 to 26.5 GHz SMA Female

KEY FEATURES

- Wide frequency range, 0.5 to 26.5 GHz
- Useable 9 kHz to 26.5 GHz
- Excellent coupling flatness, ±1.5 dB typ.
- Excellent directivity, 28 dB typ. up to 26.5 GHz
- Excellent return loss, 31 dB typ. up to 26.5 GHz
- Power handling up to 20 W
- DC current pass-through input to output

Generic photo used for illustration purposes only

FUNCTIONAL DIAGRAM



APPLICATIONS

- 5G
- Fixed satellite
- Radar
- Instrumentation
- Lab use

PRODUCT OVERVIEW

The Mini-Circuits' ZCDC10-263+ wideband directional coupler offers exceptional performance operating over 0.5 to 26.5 GHz. This coupler has excellent coupling flatness, good directivity, and power handling. It is ideal for lab testing applications as well as for power monitoring over wide bandwidths for many different applications.

ELECTRICAL SPECIFICATIONS AT +25°C

Parameter	Frequency (GHz)	Min.	Typ.	Max.	Units
Frequency Range	-	0.5	-	26.5	GHz
Mainline Loss[1]	0.5 - 18	-	1	1.8	dB
	18 - 26.5	-	1.5	2.2	
Coupling Nominal[2]	0.5 - 26.5	-	10	-	dB
Coupling Flatness (±)[2]	0.5 - 26.5	-	1.5	-	dB
Directivity	0.5 - 18	12	30	-	dB
	18 - 26.5	10	23	-	
Return Loss (Input & Output)	0.5 - 18	16	33	-	dB
	18 - 26.5	14	28	-	
Return Loss (Coupled)	0.5 - 18	16	33	-	dB
	18 - 26.5	14	29	-	

1. Mainline loss includes coupling loss.
2. Coupling below rated frequency will vary.

ABSOLUTE MAXIMUM RATINGS[3]

Operating Case Temperature	-55° C to +100° C
Storage Temperature	-55° C to +100° C
Input Power	20 W
DC Current	0.5 A

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

REV. OR
ECO-024734
ZCDC10-263+
MCL NY
250314

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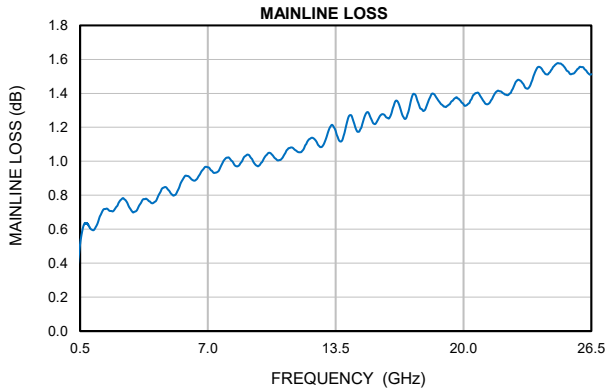
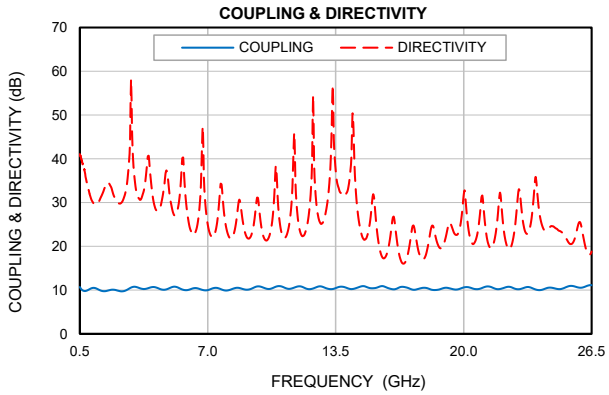
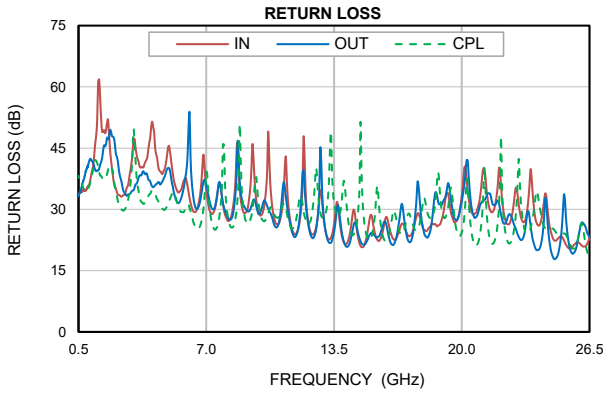
TYPICAL PERFORMANCE GRAPHS







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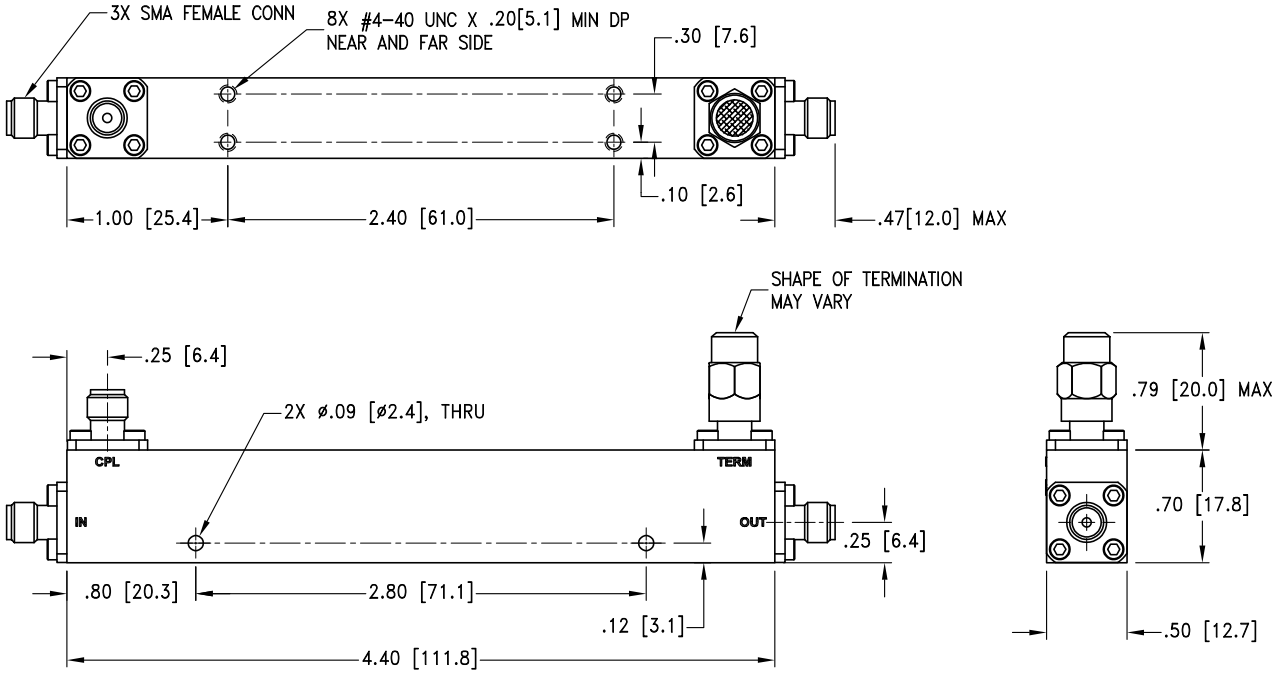
COAXIAL CONNECTIONS

Ports	Marking
Input	IN
Output	OUT
Coupled	CPL
Termination (50Ω) Included	TERM

CASE STYLE DRAWING



Weight: 90 grams
Dimensions are in inches [mm]. Tolerances: 2Pl. ± .03; 3Pl. ± .015 inches

PRODUCT MARKING*: ZCDC10-263+

*Marking may contain other features or characters for internal lot control.

Directional Coupler ZCDC10-263+

50Ω 10 dB Up to 20 W 0.5 to 26.5 GHz SMA Female

ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD CLICK HERE

Performance Data & Graphs	Data Graphs S-Parameter (S3P Files) Data Set (.zip file)
Case Style	HT2626-2
Connectors	SMA Female
RoHS Status	Compliant
Environmental Ratings	ENV148

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/terms/viewterm.html

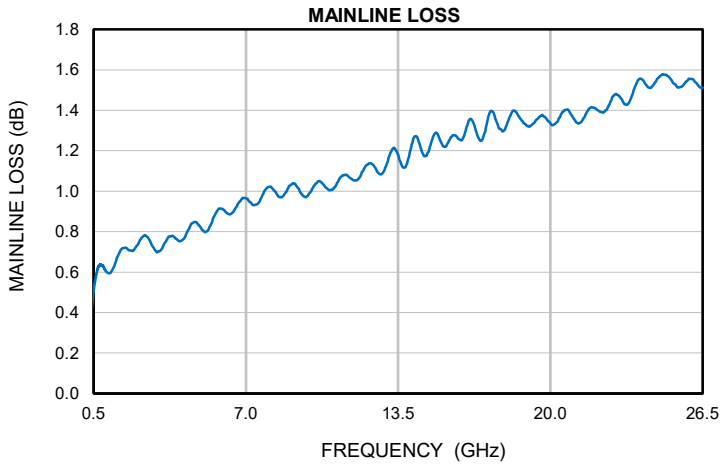
Wideband, DC Pass Directional Coupler

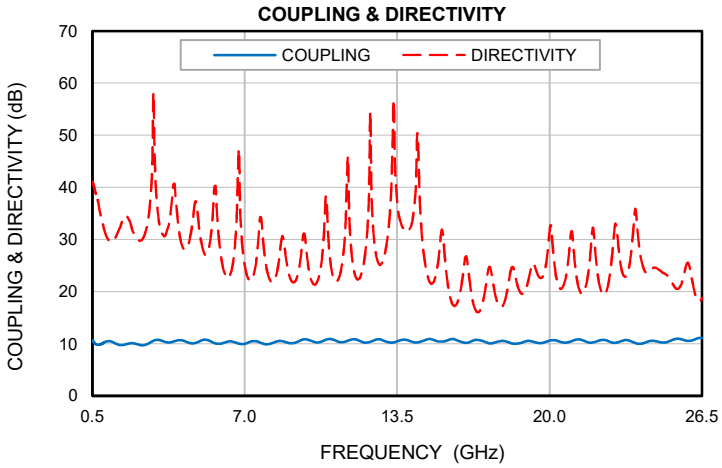
ZCDC10-263+

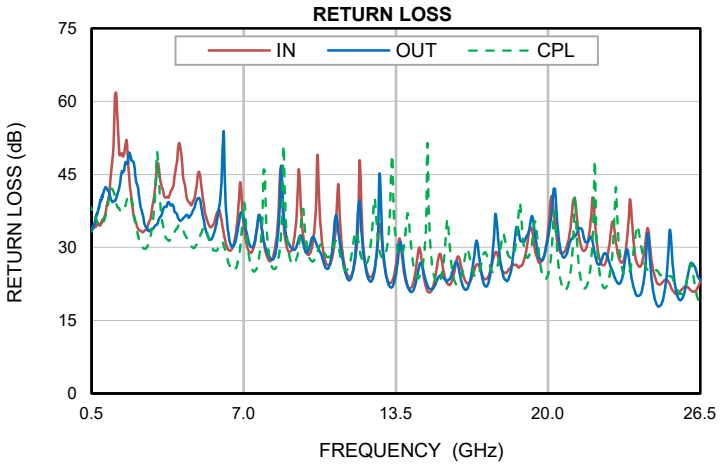
Typical Performance Data

FREQ.	MAINLINE LOSS	COUPLING	DIRECTIVITY	RETURN LOSS (IN)	RETURN LOSS (OUT)	RETURN LOSS (CPL)
(GHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
0.5	0.51	10.70	41.07	33.56	33.55	37.91
1.0	0.61	10.23	31.89	35.77	41.05	35.08
2.0	0.71	9.98	34.26	51.98	47.16	39.65
3.0	0.73	10.33	39.52	35.65	33.58	31.83
4.0	0.77	10.48	40.67	42.78	38.37	32.42
5.0	0.83	10.34	34.38	43.06	39.79	30.61
6.0	0.91	10.04	26.29	36.90	40.01	30.63
7.0	0.96	10.00	24.92	34.70	36.12	39.31
8.0	1.02	9.93	23.07	28.13	28.96	32.44
9.0	1.04	10.10	21.96	29.20	30.09	27.29
10.0	1.04	10.30	21.35	32.83	31.92	27.31
11.0	1.06	10.38	22.49	40.50	35.29	30.81
12.0	1.10	10.34	23.91	43.23	35.36	28.39
13.0	1.13	10.45	27.96	26.70	27.18	27.90
14.0	1.19	10.60	31.83	21.94	22.12	37.03
15.0	1.27	10.83	21.61	20.92	21.38	28.84
16.0	1.27	10.76	17.42	25.01	26.27	23.21
17.0	1.25	10.69	16.19	26.51	30.37	24.27
18.0	1.30	10.53	17.26	25.77	26.20	30.78
19.0	1.32	10.48	20.61	27.84	31.23	29.51
20.0	1.34	10.61	31.71	33.29	31.89	24.38
21.0	1.36	10.61	29.44	35.87	31.68	26.58
22.0	1.40	10.44	25.16	35.65	28.73	47.88
23.0	1.46	10.41	26.00	28.25	22.54	32.28
24.0	1.54	10.10	24.57	26.62	20.90	29.68
25.0	1.57	10.32	23.16	23.36	21.51	23.74
26.0	1.55	10.56	24.05	21.67	24.91	24.92
26.50	1.51	11.12	18.82	22.89	23.28	18.35

Typical Performance Curves



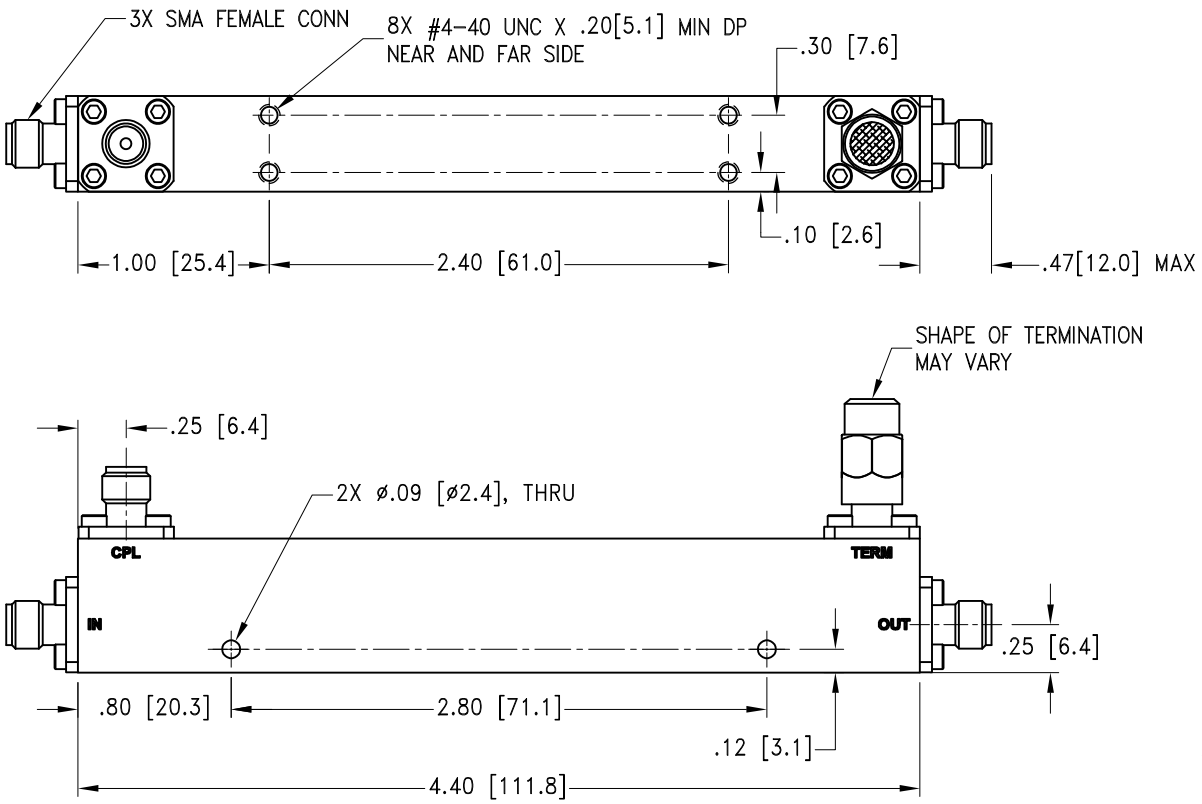




Case Style HT

Outline Dimensions

HT2626-2



Weight: 90 grams

Dimensions are in inches [mm]. Tolerances: 2Pl. ± .03; 3Pl. ± .015 inches

Notes:

1. Case material: Aluminum 7075
2. Case Finish: Nickel plating

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Mini-Circuits

Environmental Specifications ENV148

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
Thermal Shock	-55° to 125°C, 15 min dwell time, 10 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 213B, Condition I
Connector Durability	500 mating cycles	MIL-PRF-39012E, PARAGRAPH 4.6.12

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