Engineering Development Model

Directional Coupler ZADC-ED12491/1

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 : 99-01-1043

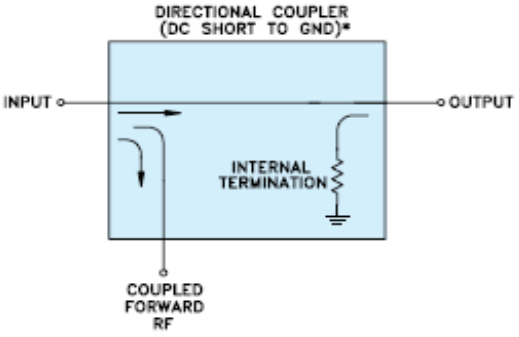
ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		**Min.**	**Typ.**	**Max.**	**Units**
Frequency		100		1500	MHz
Coupling	**Nominal**		11.50		dB
	Flatness		± 0.13		dB
Mainline Loss **	**100-1000 MHz**		0.86		dB
	750-1500 MHz		0.92		dB
Directivity	**100-1000 MHz**		25		dB
	750-1500 MHz		25		dB
VSWR	**100-1500 MHz**		1.22		(:1)
RF Power Input	**100-1500 MHz**			100	mW

Note: ** Mainline loss includes theoretical coupled power loss of 0.319dB at 11.5dB coupling.

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

COAXIAL CONNECTIONS	
INPUT	QMA male (IN)
OUTPUT	QMA Female (OUT)
COUPLED FORWARD	QMA Female (CPL)

Electrical Schematic



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

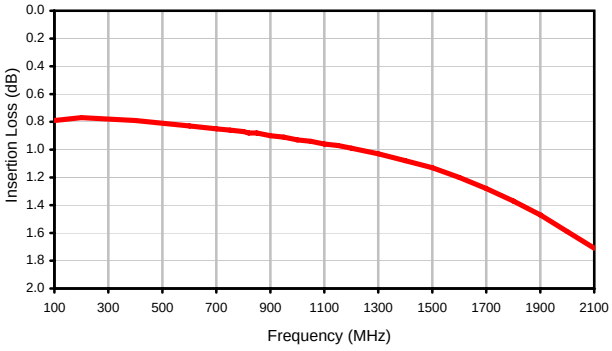
Directional Coupler ZADC-ED12491/1

Typical Performance Data

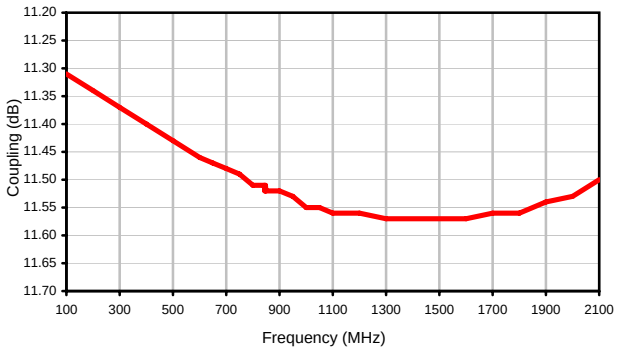
FREQUENCY (MHz)	INSERTION LOSS (dB)	COUPLING (dB)	DIRECTIVITY (dB)	RETURN LOSS (dB)		
				IN	OUT	CPL
100.0	0.79	11.31	24.72	22.68	29.40	17.71
200.0	0.77	11.34	24.60	24.07	32.78	18.64
300.0	0.78	11.37	24.75	24.59	34.00	18.97
400.0	0.79	11.40	25.04	25.01	33.57	19.14
500.0	0.81	11.43	25.43	25.37	32.16	19.30
600.0	0.83	11.46	25.66	25.78	30.55	19.42
650.0	0.84	11.47	25.76	25.93	29.69	19.50
700.0	0.85	11.48	25.85	26.18	28.76	19.52
750.0	0.86	11.49	25.77	26.51	28.02	19.53
800.0	0.87	11.51	25.70	26.81	27.28	19.43
820.0	0.88	11.51	25.64	26.92	27.01	19.42
822.0	0.88	11.51	25.64	26.92	26.95	19.42
824.0	0.88	11.51	25.60	26.95	26.96	19.42
826.0	0.88	11.51	25.60	26.96	26.93	19.42
828.0	0.88	11.51	25.58	26.96	26.90	19.42
830.0	0.88	11.51	25.61	26.99	26.84	19.42
833.0	0.88	11.51	25.58	26.99	26.83	19.41
836.0	0.88	11.51	25.56	26.99	26.78	19.41
839.0	0.88	11.51	25.56	27.03	26.73	19.41
841.0	0.88	11.51	25.55	27.05	26.71	19.40
843.0	0.88	11.51	25.55	27.05	26.66	19.39
845.0	0.88	11.52	25.55	27.09	26.66	19.39
847.0	0.88	11.51	25.53	27.09	26.64	19.38
849.0	0.88	11.52	25.55	27.10	26.61	19.38
850.0	0.88	11.52	25.54	27.14	26.59	19.38
900.0	0.90	11.52	25.30	27.56	26.04	19.14
950.0	0.91	11.53	25.04	27.97	25.43	18.88
1000.0	0.93	11.55	24.69	28.47	24.97	18.47
1050.0	0.94	11.55	24.33	29.10	24.54	18.11
1100.0	0.96	11.56	23.96	29.76	24.15	17.52
1150.0	0.97	11.56	23.49	30.65	23.89	17.01
1200.0	0.99	11.56	23.06	31.57	23.63	16.39
1300.0	1.03	11.57	22.14	33.44	23.26	15.19
1400.0	1.08	11.57	21.15	33.13	22.98	14.06
1500.0	1.13	11.57	20.16	29.68	22.52	13.01
1600.0	1.20	11.57	19.28	26.05	21.64	12.11
1700.0	1.28	11.56	18.41	22.88	20.36	11.35
1800.0	1.37	11.56	17.57	20.40	18.82	10.73
1900.0	1.47	11.54	16.88	18.45	17.20	10.25
2000.0	1.59	11.53	16.27	16.81	15.67	9.92
2100.0	1.71	11.50	15.72	15.51	14.35	9.70

Typical Performance Curves

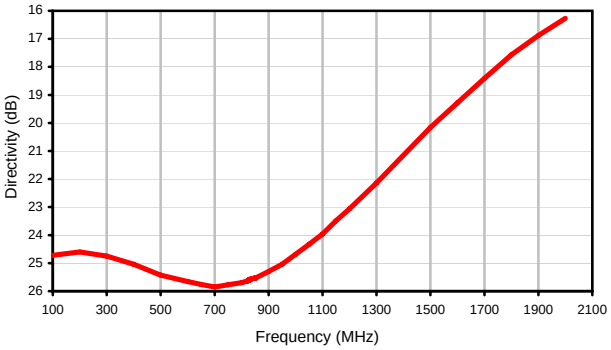
Insertion Loss



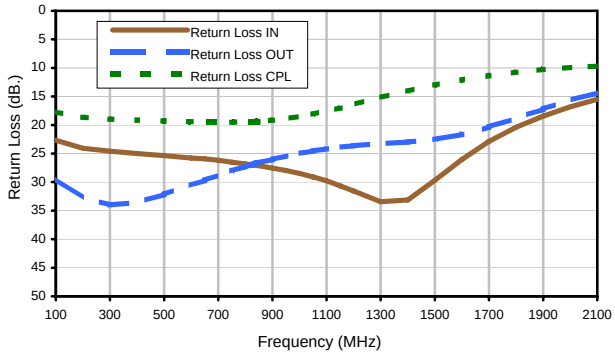
Coupling



Directivity



Return Loss



Mini-Circuits

Environmental Specifications ENV28

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

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