Engineering Development Model

Directional Coupler TRDC-ED12601/2

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 : 99-01-1215

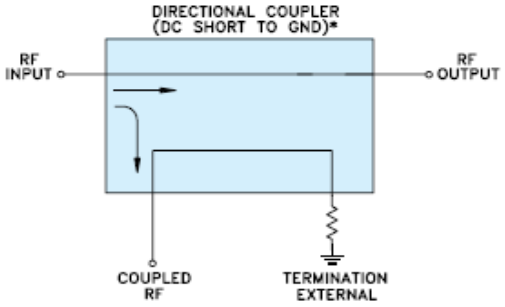
ELECTRICAL SPECIFICATIONS 75Ω @ +25°C					
Parameter		**Min.**	**Typ.**	**Max.**	**Units**
Frequency		5		1200	MHz
Coupling	**Nominal**		17.00		dB
	Flatness		± 0.44		dB
Mainline Loss **	**5-50 MHz**		0.70		dB
	50-600 MHz		0.45		dB
	600-1200 MHz		0.70		dB
Directivity	**5-50 MHz**		33		dB
	50-600 MHz		28		dB
	600-1200 MHz		14		dB
VSWR	**5-1200 MHz**		1.18		(:1)
RF Power Input	**5-1200 MHz**			1.0	W

Note: ** Mainline loss includes theoretical coupled power loss of 0.088dB at 17dB coupling.

MAXIMUM RATINGS	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

PIN CONNECTIONS	
INPUT	1
OUTPUT	6
COUPLED FORWARD	3
NOT USED	5
75Ω TERM. EXTERNAL	4
GROUND	2

Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) AND EXTERNAL TERMINATION.

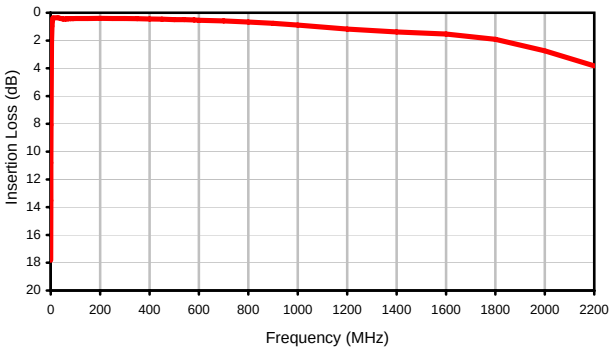
Directional Coupler TRDC-ED12601/2

Typical Performance Data

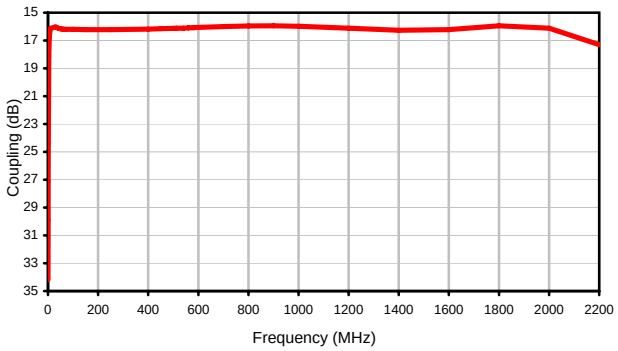
FREQUENCY (MHz)	INSERTION LOSS (dB)	COUPLING (dB)	DIRECTIVITY (dB)	RETURN LOSS (dB)		
				IN	OUT	CPL
0.3	17.82	34.18	25.05	0.09	0.09	0.09
0.5	13.53	29.90	26.01	0.23	0.23	0.22
0.7	10.81	27.13	26.48	0.42	0.42	0.41
1.0	8.08	24.37	27.08	0.79	0.80	0.78
3.0	2.14	18.12	30.08	4.38	4.40	4.34
5.0	0.97	16.82	31.97	7.67	7.70	7.62
7.0	0.58	16.38	33.18	10.28	10.30	10.22
9.0	0.42	16.18	33.62	12.39	12.42	12.33
10.0	0.37	16.13	33.75	13.31	13.35	13.25
30.0	0.36	16.02	35.98	23.53	24.73	23.52
40.0	0.42	16.11	36.32	24.27	26.30	24.19
50.0	0.45	16.16	36.56	24.57	26.95	24.48
60.0	0.45	16.18	36.60	24.90	27.41	24.77
70.0	0.44	16.19	36.44	25.25	27.83	25.12
80.0	0.43	16.20	35.81	25.54	28.25	25.44
90.0	0.43	16.20	35.82	25.82	28.53	25.76
100.0	0.42	16.20	35.46	26.12	28.84	26.05
150.0	0.41	16.22	33.78	27.01	29.74	26.90
200.0	0.40	16.22	32.14	26.56	29.72	26.80
250.0	0.41	16.22	30.29	26.24	30.38	26.44
300.0	0.42	16.21	28.01	25.83	29.97	26.09
350.0	0.43	16.19	26.31	25.96	28.93	26.53
400.0	0.45	16.18	25.11	25.79	29.19	26.60
450.0	0.46	16.15	22.59	26.35	27.70	27.12
500.0	0.49	16.13	21.67	26.37	26.24	26.44
512.0	0.49	16.12	21.46	26.20	26.26	26.21
520.0	0.50	16.12	21.20	26.01	26.32	26.11
540.0	0.50	16.11	20.50	25.79	26.28	25.92
560.0	0.51	16.09	19.92	25.60	25.83	25.77
580.0	0.52	16.08	19.38	25.46	25.03	25.51
600.0	0.54	16.06	18.82	25.00	24.30	25.17
700.0	0.59	16.00	17.51	23.75	23.75	25.09
800.0	0.67	15.95	15.98	23.42	22.36	25.84
900.0	0.76	15.94	14.47	22.74	20.14	24.55
1000.0	0.89	15.98	13.70	20.63	18.87	23.22
1200.0	1.18	16.11	11.18	18.85	16.71	23.81
1400.0	1.38	16.27	7.99	16.36	15.02	21.05
1600.0	1.53	16.22	4.86	14.55	13.44	21.10
1800.0	1.91	15.94	3.05	12.78	12.73	18.88
2000.0	2.74	16.12	1.97	11.34	12.15	18.68
2200.0	3.82	17.30	0.18	10.37	12.86	17.97

Typical Performance Curves

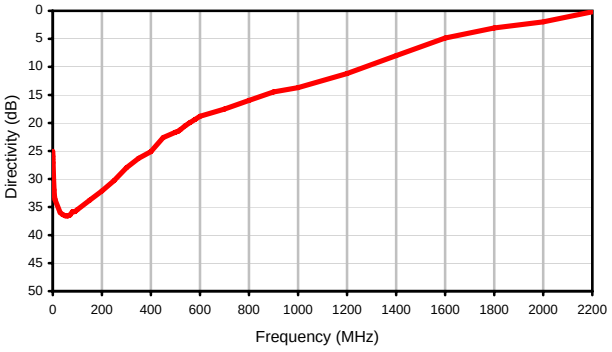
Insertion Loss



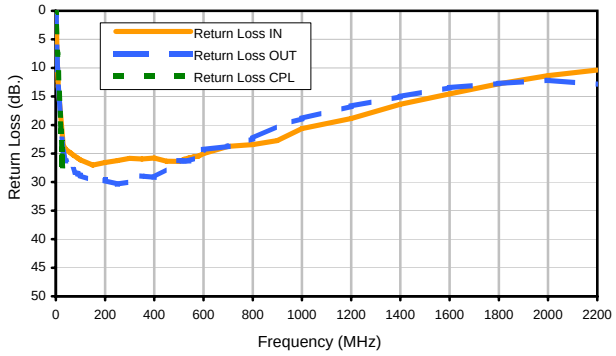
Coupling



Directivity



Return Loss



Mini-Circuits

Environmental Specifications ENV02T1

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	-40° to 85°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Humidity	90 to 95% RH, 240 hours, 50°C	MIL-STD-202, Method 103, Condition A, Except 50°C and end-point electrical test done within 12 hours
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
Solder Reflow Heat	Sn-Pb Eutetic Process: 225°C peak Pb-Free Process 245° - 250°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, 95% Coverage
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	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C	MIL-STD-202, Method 215