

Directional Coupler

50Ω 10 dB Coupling 50 to 6000 MHz

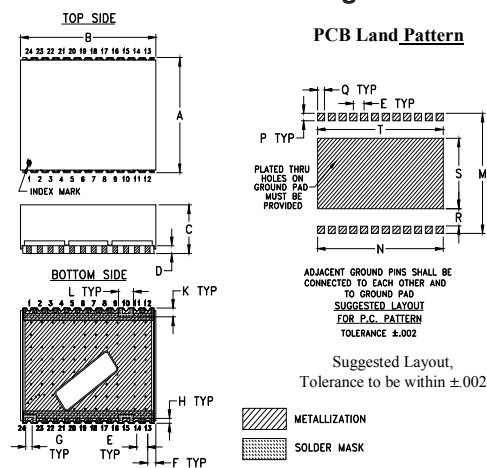
Maximum Ratings

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

Pad Connections

INPUT	10
OUTPUT	24
COUPLED	15
GROUND	ALL OTHERS

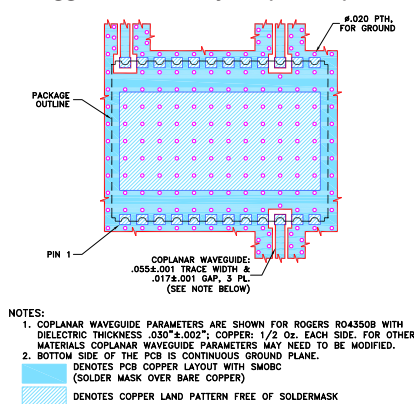
Outline Drawing



Outline Dimensions (inch)

A	B	C	D	E	F	G	H	K
.93	1.26	.39	.062	.100	.078	0.06	.040	.070
23.62	32.00	9.91	1.57	2.54	1.98	1.52	1.02	1.78
L	M	N	P	Q	R	S	T	wt grams
.140	.970	1.165	.060	.065	0.140	0.570	1.165	
3.56	24.64	29.59	1.52	1.65	3.56	14.48	29.59	7.3

Demo Board MCL P/N: TB-605+
Suggested PCB Layout (PL-437)



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-Circuits' 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/MC/Store/terms.jsp

Features

- wideband, 50-6000 MHz
- flat coupling, ± 0.5 dB typ.
- high directivity, 28 dB typ.

Applications

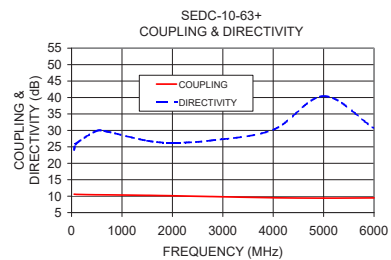
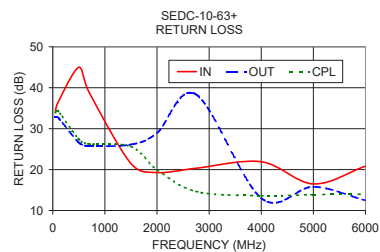
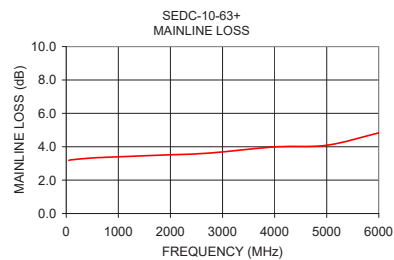
- military defense
- signal monitoring

Electrical Specifications at 25°C

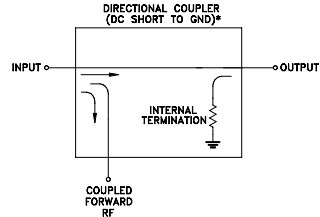
Parameter	Condition (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		50		6000	MHz
Mainline Loss (above theoretical loss, 0.4 dB)	50-6000	—	4.0	5.5	dB
Coupling	50-6000	9.0	10.0	11.0	dB
Coupling Flatness(±)	50-6000	—	0.5	1.0	dB
Directivity	50	22.5	24	—	dB
	700	26.0	29	—	
	2750	23.0	27	—	
	6000	23.0	24	—	
Return Loss (Input)	50-6000	—	18	—	dB
Return Loss (Output)	50-6000	—	14	—	dB
Return Loss (Coupling)	50-6000	—	14	—	dB
Input Power	50-6000	—	—	1.0	W

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB)	Coupling (dB)	Directivity (dB)	Return Loss (dB)		
	In-Out	In-Cpl		In	Out	Cpl
50.00	3.18	10.59	24.05	34.33	32.85	33.95
100.00	3.22	10.53	26.08	36.42	32.73	34.33
500.00	3.33	10.42	29.85	45.01	26.62	27.42
700.00	3.36	10.39	29.64	38.81	25.78	26.25
1500.00	3.46	10.25	26.85	21.47	26.12	25.64
2000.00	3.52	10.11	26.30	19.27	28.93	19.99
2750.00	3.62	9.89	26.90	20.32	38.36	14.66
4000.00	3.99	9.52	30.19	21.92	13.01	13.61
5000.00	4.09	9.40	40.39	16.49	15.79	13.89
6000.00	4.83	9.47	30.65	20.83	12.48	13.99



Electrical Schematic



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

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