

Surface Mount Directional Coupler

50Ω, 7dB Coupling, 10 to 1500 MHz

DBTC-7-152X+

Maximum Ratings

Operating Temperature -40°C to 85°C

Storage Temperature -55°C to 100°C

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

Pin Connections

INPUT	3
OUTPUT	4
COUPLED	1
GROUND	2
ISOLATE (DO NOT USE)	6

Features

- very flat coupling
- very broadband, multi octave
- temperature stable, LTCC base
- all welded construction
- leads attached for better solderability
- micro miniature coupler
- aqueous washable
- protected by US Patents 6,140,887 & 6,784,521

Applications

- VHF/UHF transmitters
- cellular

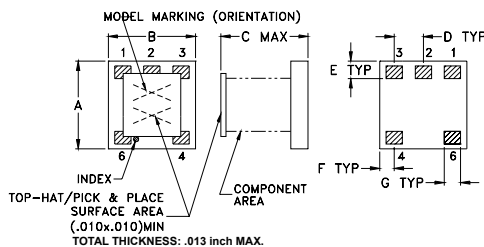
Electrical Specifications

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT (W)
	Nom.	Max. Flatness	Typ.	Max.	Typ.	Min.		
10-1500	7.0±0.5	±0.5						
10-100			2.2	2.7	32	20	1.4	0.5
100-750			2.2	2.6	29	15	1.4	1.0
750-1500			2.3	3.2	16	9	1.4	1.0

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB)		Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
	In-Out				In	Out	Cpl
5.00	2.17		7.07	27.17	12.45	21.18	21.33
50.00	2.12		6.92	33.24	13.24	21.93	26.08
150.00	2.15		6.97	32.95	13.44	21.26	25.04
300.00	2.17		6.98	29.37	13.82	19.97	23.43
500.00	2.16		6.91	24.56	14.71	18.49	22.88
700.00	2.18		6.84	20.96	15.84	17.26	24.92
1000.00	2.24		6.72	17.31	18.52	15.82	46.44
1200.00	2.33		6.69	15.48	21.27	15.02	24.76
1400.00	2.47		6.72	13.83	25.55	14.19	18.44
1500.00	2.57		6.76	13.09	28.03	13.74	16.40

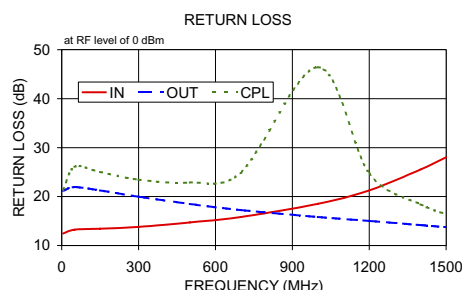
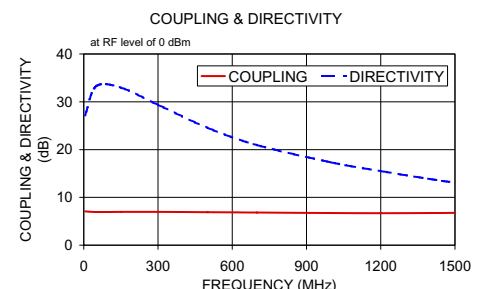
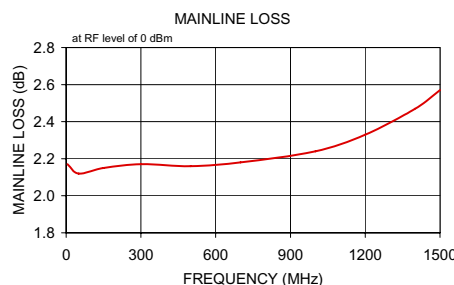
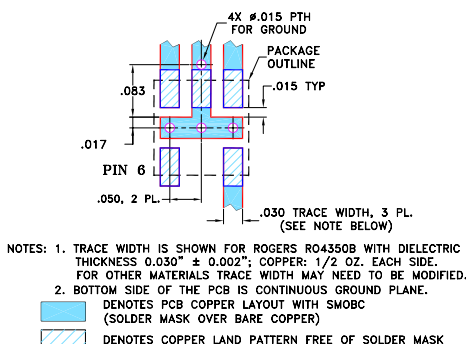
Outline Drawing



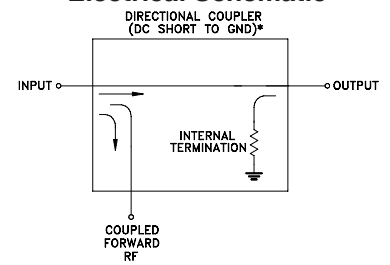
Outline Dimensions (inch/mm)

A	B	C	D	E	F
.150	.150	.150	.050	.030	.025
3.81	3.81	3.81	1.27	0.76	0.64
G	H	J	K		wt
.028	.050	.160	.030		grams
0.71	1.27	4.06	0.76		0.10

Demo Board MCL P/N: TB-278 Suggested PCB Layout (PL-150)



Electrical Schematic



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

For detailed performance specs & shipping online see web site

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REV. OR
M135592
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