

Directional Couplers

75Ω, 10dB coupling, 5 to 1000 MHz

Maximum Ratings

Operating Temperature -40°C to 85°C

Storage Temperature -55°C to 100°C

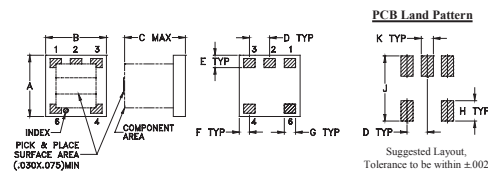
Permanent damage may occur if any of these limits are exceeded.

Pin Connections

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

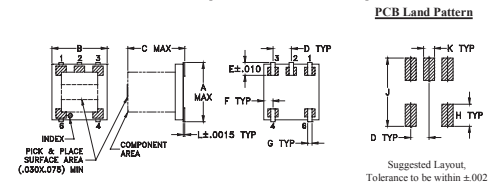
Outline Drawing / Dimensions (inch mm)

AT790-1 (DBTC-10-4-75)



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

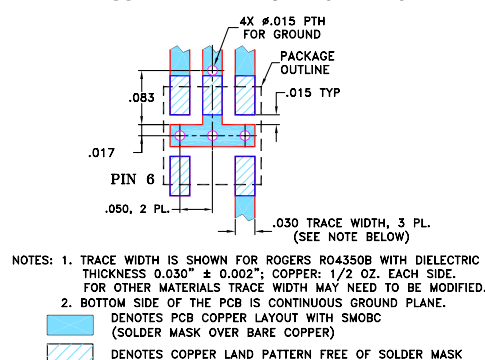
AT1030 (DBTC-10-4-75L)



A	B	C	D	E	F	G	H	J	K	L	Wt
.166	.150	.155	.050	.037	.025	.012	.060	.184	.030	.004	grams
4.22	3.81	3.94	1.27	0.94	0.64	0.30	1.52	4.67	0.76	0.10	0.10

Demo Board MCL P/N: TB-279

Suggested PCB Layout (PL-151)



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

- cable tv



No Leads

CASE STYLE:AT790-1
PRICE:\$1.99 ea. QTY (25)
\$1.69 ea. QTY (1000)



Leads

CASE STYLE:AT1030
PRICE:\$2.14 ea. QTY (25)
\$1.84 ea. QTY (1000)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

Electrical Specifications

FREQ. RANGE (MHz)	COUPLING (dB)	MAINLINE LOSS* (dB)						DIRECTIVITY (dB)						VSWR** (:1)	POWER INPUT (W)	
		Max.		L		M		U		L		M			U	
f_L - f_U	Nom. Flatness	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Max.
5-1000	10.5±0.5	±0.7	1.5	2.2	1.4	2.0	1.5	2.0	21	16	20	13	16	—	1.3	0.5 1.0

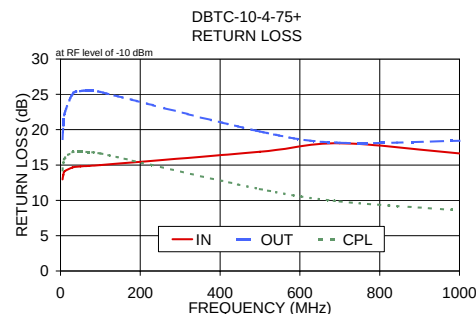
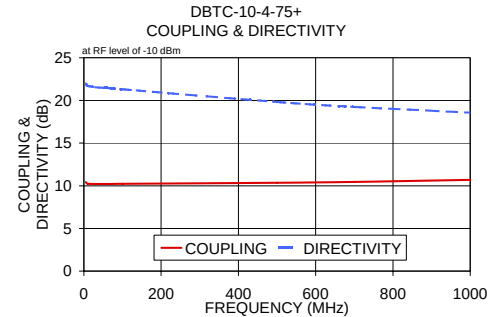
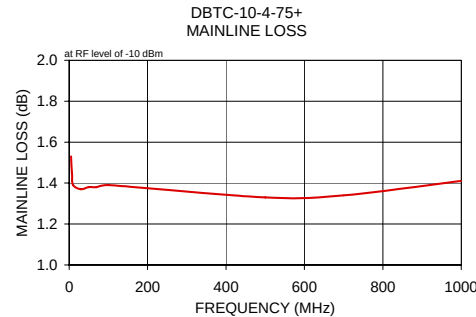
L = low range [f_L to $10 f_L$] M = mid range [$10 f_L$ to $f_U/2$] U = upper range [$f_U/2$ to f_U]

* Includes theoretical coupled power loss of 0.40 dB at 10 dB coupling

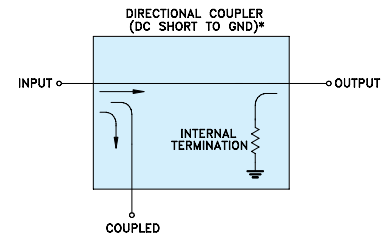
** For coupled port VSWR above 500 MHz, 1.6:1 typ.

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
5.00	1.53	10.44	21.95	12.96	18.66	14.22
7.00	1.45	10.32	21.83	13.63	20.55	15.21
10.00	1.39	10.24	21.71	14.11	22.29	15.95
30.00	1.37	10.21	21.54	14.66	25.03	16.80
50.00	1.38	10.21	21.49	14.79	25.45	16.88
70.00	1.38	10.22	21.42	14.86	25.51	16.83
100.00	1.39	10.24	21.31	14.98	25.34	16.64
500.00	1.33	10.35	19.83	16.88	19.74	11.59
700.00	1.34	10.46	19.25	18.06	18.15	9.84
1000.00	1.41	10.70	18.57	16.64	18.44	8.57



Electrical Schematic



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

For detailed performance specs & shopping online see web site

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REV. K
M119986
DBTC-10-4-75+
DBTC-10-4-75L+
WZ/TC/PIAM
090903
ED-8953/1
ED-8953A/1