

Directional Couplers

75Ω, 6dB coupling, 5 to 1250 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

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

- CATV



No Leads

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



Leads

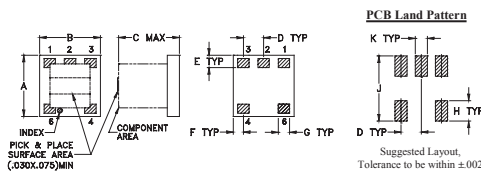
CASE STYLE: AT1030
PRICE: \$2.14 ea. QTY (25)
\$1.84 ea. QTY (1000)

+ 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.

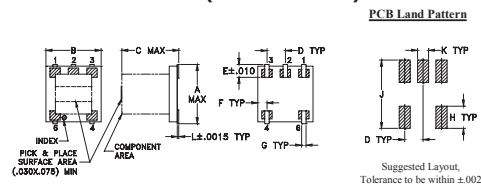
Outline Drawing / Dimensions (inch mm)

AT790-1 (DBTC-6-4-75)



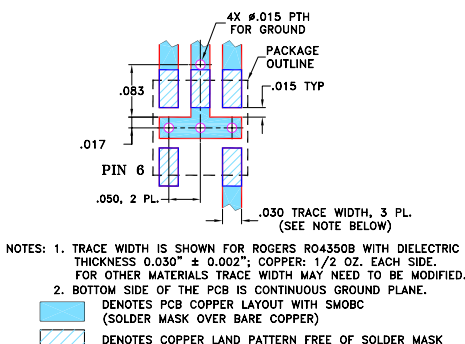
A	B	C	D	E	F	G	H	J	K	Wt
.150	.150	.150	.050	.030	.025	.028	.050	.160	.030	grams
3.81	3.81	3.81	1.27	0.76	0.64	0.71	1.27	4.06	0.76	0.10

AT1030 (DBTC-6-4-75L)



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)



Electrical Specifications

FREQ. (MHz)	COUPLING (dB)	MAINLINE LOSS* (dB)									DIRECTIVITY (dB)								VSWR** (:1)	POWER INPUT (W)								
		L			M			U			U ¹			L			M			U			U ¹			L	MUU ¹ Max.	
		Typ.	Max.	Flatness	Typ.	Max.	Flatness	Typ.	Max.	Flatness	Typ.	Max.	Flatness	Typ.	Min.	Typ.	Min.	Typ.		Min.	Typ.	Min.	Typ.	Min.	Typ.			Min.
5-1250	6.8±0.3 ±0.8	2.2	3.1	±0.8	2.2	2.6	±0.8	2.3	2.8	±0.8	2.3	2.9	±0.8	15	13	17	13	16	10	12	7	1.4	0.5	1.0				

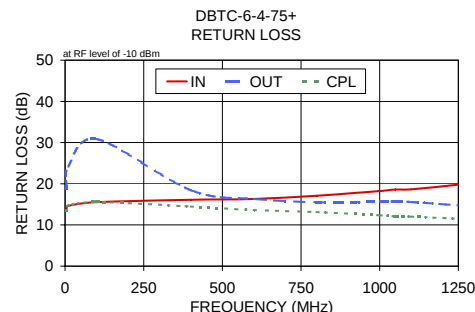
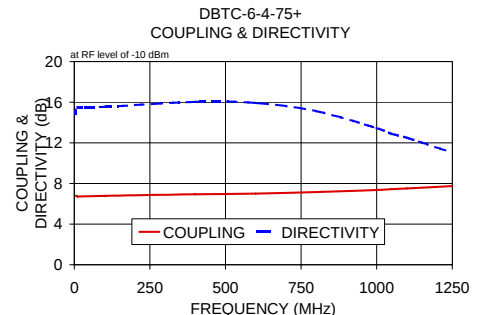
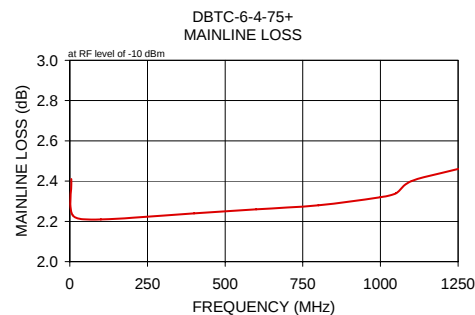
L = low range [f_l to 10 f_l] M = mid range [10 f_l to 500 MHz] U = 500 - 1000 MHz U¹ = 1000 - 1250 MHz

* Includes theoretical coupled power loss of 1.02 dB at 6 dB coupling

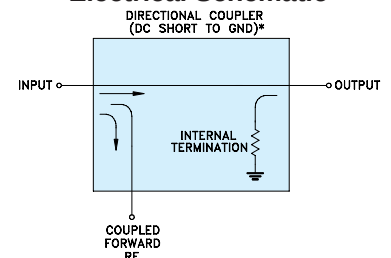
** For coupled port VSWR above 500 MHz, 1.6:1 typ.

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
5.00	2.41	6.80	14.87	13.53	18.73	13.56
10.00	2.23	6.72	15.49	14.64	24.15	14.72
100.00	2.21	6.78	15.54	15.55	30.88	15.56
400.00	2.24	6.94	16.04	16.09	18.42	14.47
600.00	2.26	7.01	15.94	16.32	16.33	13.60
800.00	2.28	7.16	15.12	17.08	15.48	13.11
1000.00	2.32	7.36	13.45	18.22	15.61	12.36
1050.00	2.34	7.44	12.88	18.62	15.75	12.10
1100.00	2.40	7.51	12.50	18.66	15.58	12.04
1250.00	2.46	7.75	11.03	19.78	14.75	11.49



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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WZT/DC/PIAM
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