

Directional Couplers

75Ω, 16dB coupling, 5 to 1500 MHz

Maximum Ratings

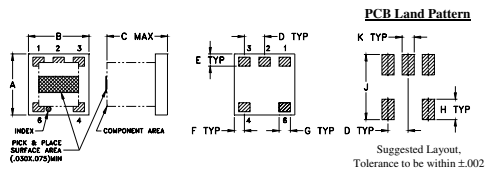
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

Pin Connections

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

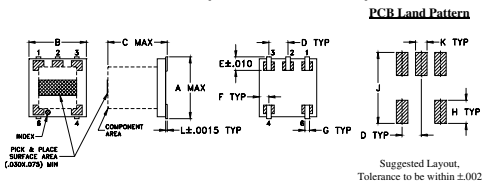
Outline Drawing / Dimensions (inch mm)

AT790-1 (DBTC-16-5-75)



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

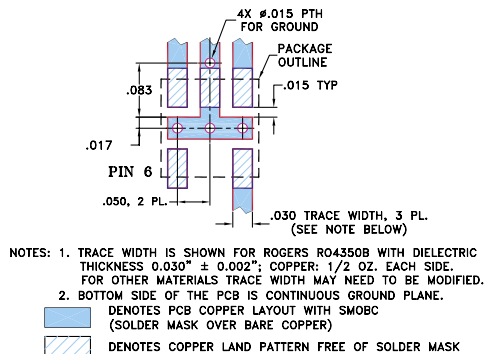
AT1030 (DBTC-16-5-75L)



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
- protected by US Patents, 6,140,887 & 6,784,521

Applications

- VHF/UHF receivers/transmitters
- cellular



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)	
			L		M		U		L		M		U			L	MU
	f _c -f _u	Nom.	Max.	Flatness	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.		Typ.	Max.
5-1000	16.3±0.5	±0.7	1.2	2.0	1.0	1.5	1.1	1.6	22	16	21	13	20	—	1.3	0.5	1.0
1000-1500	16.8±0.7	±0.7			1.3	1.9					19	—			1.3		1.0

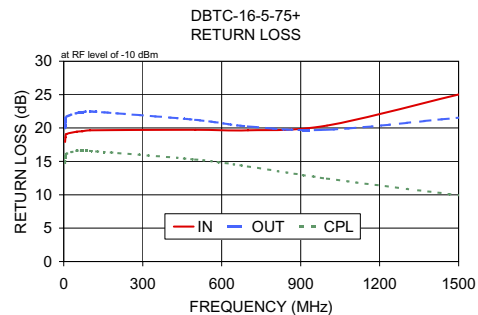
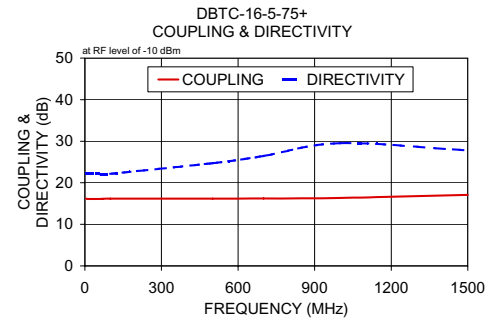
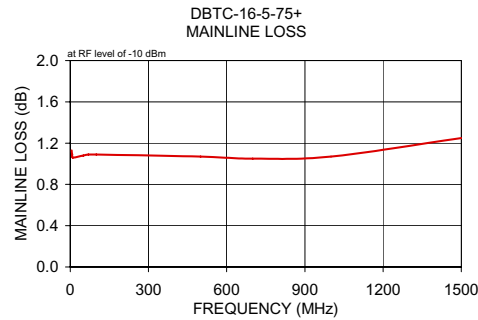
L = 5-50 MHz, M=50-500 MHz, U=500-1000 MHz apply to upper row of specs. 2nd row is for 1000-1500 MHz.

* Includes theoretical coupled power loss of 0.10 dB at 16 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	1.13	16.21	22.27	17.92	19.97	14.75
7.00	1.09	16.14	22.16	18.62	20.98	15.55
10.00	1.06	16.10	22.16	19.10	21.68	16.12
50.00	1.08	16.12	22.16	19.44	22.23	16.59
70.00	1.09	16.13	22.05	19.51	22.33	16.58
100.00	1.09	16.17	22.15	19.65	22.50	16.57
500.00	1.07	16.20	24.73	19.74	21.23	15.29
700.00	1.05	16.23	26.44	19.65	20.23	14.25
1000.00	1.07	16.37	29.51	20.35	19.74	12.42
1500.00	1.25	17.08	27.80	25.02	21.54	9.91



electrical schematic

