

6 to 20 dB Coupling 75Ω 5 to 1500 MHz

Features

- very flat coupling
- very broadband, multi octave
- temperature stable, BLUE CELL™ base
- all welded construction
- leads attached for better solderability
- micro-miniature coupler
- protected by U.S. Patent 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)

Directional Coupler Electrical Specifications

MODEL NO.	FREQ. RANGE (MHz)	COUPLING (dB)		MAINLINE LOSS* (dB)								THEORETICAL LOSS (dB)	DIRECTIVITY (dB)								VSWR** (:1)	POWER INPUT, W	
				L		M		U		U			L		M		U		U				
		Nom.	Max. Flatness	Typ. Max.	Typ. Max.	Typ. Max.	Typ. Max.	Typ. Max.	Typ. Max.	Typ. Min.	Typ. Min.		Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	L Max.	MU Max.		
DBTC-6-4-75	5-1250	6.8±0.3	±0.8	2.2	3.1	2.2	2.6	2.3	2.8	2.3	2.9	1.02	15	13	17	13	16	10	12	7	1.40	0.5	1.0
DBTC-10-4-75	5-1000	10.5±0.5	±0.7	1.5	2.2	1.4	2.0	1.5	2.0	—	—	0.40	21	16	20	13	16	—	—	—	1.30	0.5	1.0
DBTC-13-5-75	5-1000	13.2±0.5	±0.6	0.9	1.4	1.0	1.5	1.1	1.6	—	—	0.21	21	17	19	14	18	—	—	—	1.30	0.5	1.0
	1000-1500	13.6±0.5	±0.8			1.4	2.2					0.20			17	—							
DBTC-16-5-75	5-1000	16.3±0.5	±0.7	1.2	2.0	1.0	1.5	1.1	1.6	—	—	0.10	22	16	21	13	20	—	—	—	1.30	1.0	1.0
	1000-1500	16.5±0.5	±0.7			1.3	1.9					0.10			19	—							
DBTC-18-4-75	5-1000	18.2±0.5	±0.7	0.8	1.5	0.8	1.4	1.0	1.6	—	—	0.07	25	16	21	14	15	—	—	—	1.30	1.0	1.0
DBTC-20-4-75	5-1250	20.5±0.5	±0.9	0.4	0.7	0.6	0.9	0.8	1.2	1.1	1.5	0.04	20	16	19	13	11	7	9	6	1.40	0.5	1.0

* Includes theoretical loss at coupled port

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]

U= 1000-1250 MHz

* Includes theoretical loss at coupled port

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

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]

U = 1000-1250 MHz

To order models with leads, add "L" suffix to model No.

Pin Connections

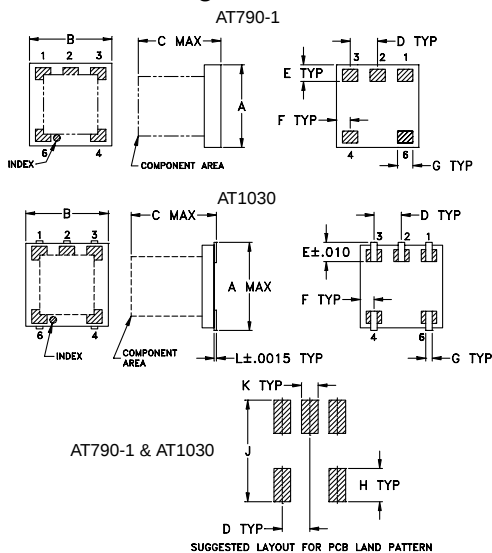
INPUT	3
OUTPUT	4
COUPLED	1
GROUND	2
NOT USED*	5,6

*pins 5&6 must be isolated

Maximum Ratings

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

Outline Drawing



Outline Dimensions (inch/mm)

Case Style	A	B	C	D	E	F	G	H	J	K	L	wt. grams
AT790-1	.150	.150	.150	.050	.030	.025	.028	.050	.160	.030	—	.10
	3.81	3.81	3.81	1.27	0.76	0.64	0.71	1.27	4.06	0.76	—	
AT1030	.166	.150	.155	.050	.037	.025	.012	.060	.184	.030	.004	.10
	4.22	3.81	3.94	1.27	0.94	0.64	0.30	1.52	4.67	0.76	0.10	

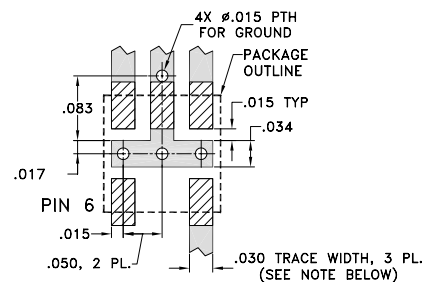


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Demo Board MCL P/N: TB-279
Suggested PCB Layout (PL-151)

NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350 WITH DIELECTRIC THICKNESS 0.030" ± 0.002", COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

□ DENOTES PCB COPPER LAYOUT

▨ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Reflow Solder Assembly

Silver-bearing solder (Sn/Pb/Ag 62/36/2%) is recommended; however, tin-lead eutectic (Sn/Pb 63/37%) may be used.

For temperature profiles, see Application Note AN-40-004

REV. G
M89618
DBTC-6-4-75 ED-104888/1
DBTC-6-4-75L ED-104888C/1
DBTC-10-4-75 ED-8953/1
DBTC-10-4-75L ED-8953A/1
DBTC-13-5-75 ED-8967/1
DBTC-13-5-75L ED-8967A/1
DBTC-16-5-75 ED-8978/1
DBTC-16-5-75L ED-8978A/1
DBTC-18-4-75 ED-8956/1
DBTC-18-4-75L ED-8956A/1
DBTC-20-4-75 ED-10793/1
DBTC-20-4-75L ED-10793A/1
DBTC-75 75L
WZ/RS/CP
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