

Directional Couplers

50Ω, 17dB coupling, 50 to 2000 MHz

Maximum Ratings

Operating Temperature -40°C to 85°C

Storage Temperature -55°C to 100°C

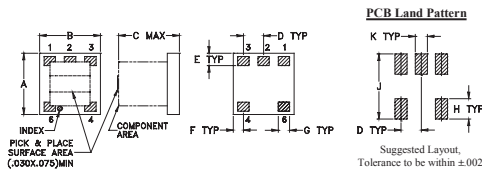
Permanent damage may occur if any of these limits are exceeded.

Pin Connections

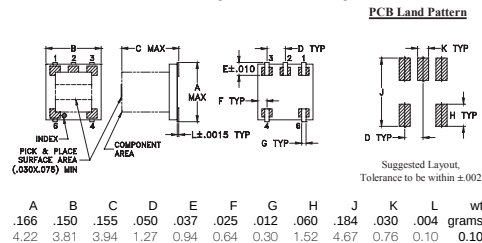
INPUT	3
OUTPUT	4
COUPLED	1
GROUND	2
ISOLATE (DO NOT USE)	6

Outline Drawing / Dimensions (inch)

AT790-1 (DBTC-17-5)

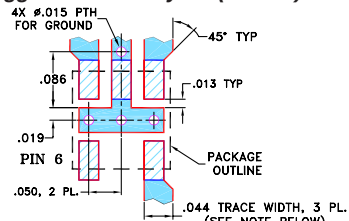


AT1030 (DBTC-17-5L)



Demo Board MCL P/N: TB-278

Suggested PCB Layout (PL-150)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.020" ± 0.0015"; 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.
3. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
4. DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

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

- cellular
- PCS
- DECT/PHS
- GSM

Electrical Specifications

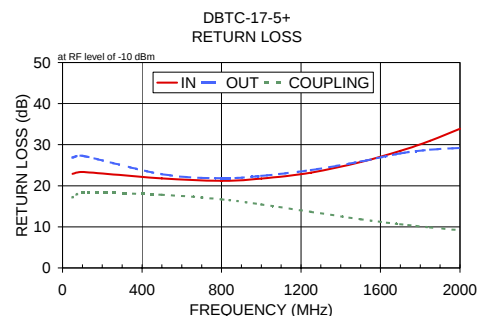
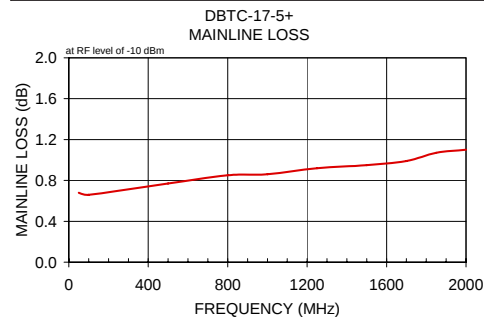
FREQ. RANGE (MHz)	COUPLING (dB)		MAINLINE LOSS* (dB)		DIRECTIVITY (dB)		VSWR** (:1)	POWER INPUT (W)
	Nom.	Max. Flatness	Typ.	Max.	Typ.	Min.		
$f_c - f_u$								
50-1000	17.0±0.7	±0.9	0.9	1.4	20	13	1.2	2.0
1000-1500	17.7±0.9	±1.0	1.0	1.5	20	10	1.2	2.0
1500-2000	18.0±1.0	±0.8	1.1	1.6	14	—	1.2	2.0

* Includes theoretical coupled power loss of 0.07 dB at 17 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
50.00	0.64	16.41	15.92	23.43	27.62	18.46
100.00	0.66	16.42	16.17	23.56	27.75	18.62
500.00	0.76	16.74	18.53	22.36	23.13	18.78
800.00	0.85	17.06	22.42	21.45	21.80	18.22
1000.00	0.91	17.30	22.32	21.67	21.94	17.08
1300.00	0.99	17.63	17.74	22.81	22.71	14.85
1500.00	1.05	17.81	15.41	24.84	24.12	13.40
1600.00	1.08	17.88	14.43	25.91	24.48	12.71
1900.00	1.18	18.07	12.20	28.04	25.71	10.95
2000.00	1.21	18.11	11.55	28.07	25.97	10.50



No Leads

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

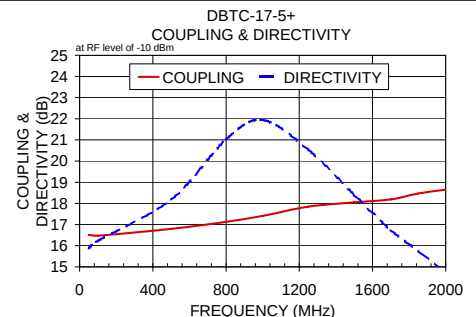


Leads

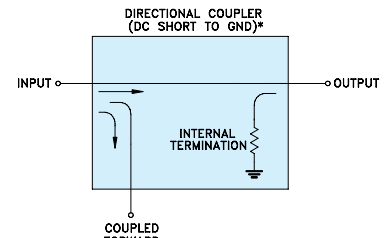
CASE STYLE: AT1030
PRICE: \$2.14 ea. QTY (25)
\$1.84 ea. QTY (1000)

+ 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 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. J
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DBTC-17-5+
DBTC-17-5L+
WZ/DC/PIAM
ED-87844/1
ED-87858/1
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