

Directional Couplers

75Ω, 9dB Coupling, 5 to 1200 MHz

Maximum Ratings

Operating Temperature	-40°C to 85°C
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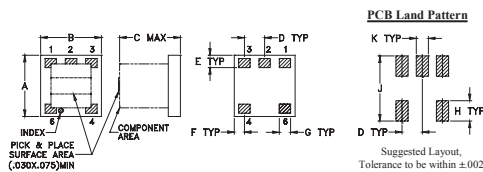
<u>Storage Temperature</u>	-55°C to 100°C
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Permanent damage may occur if any of these limits are exceeded.

Pin Connections

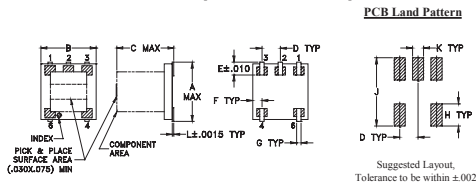
INPUT	3
OUTPUT	4
COUPLED	1
GROUND	2
ISOLATE (DO NOT USE)	6

Outline Drawing / Dimensions ($\frac{\text{inch}}{\text{mm}}$)



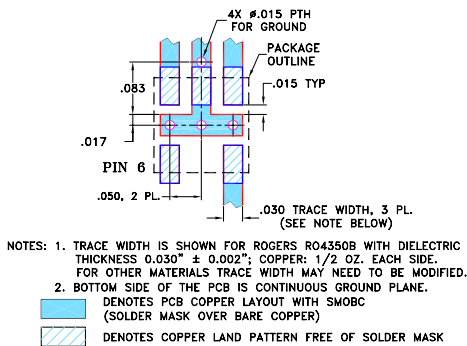
A	B	C	D	E	F	G	H	J	K	wt
.150	.150	.150	.050	.030	.025	.028	.050	.160	.030	grams
3.81	3.81	3.81	1.27	0.76	0.64	0.71	1.27	4.06	0.76	0.10

AT1030 (DBTC-9-4-75L)



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)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.030" $\pm$ 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

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 DENOTES PCB COPPER LAYOUT WITH SMOBC
(SOLDER MASK OVER BARE COPPER)

 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

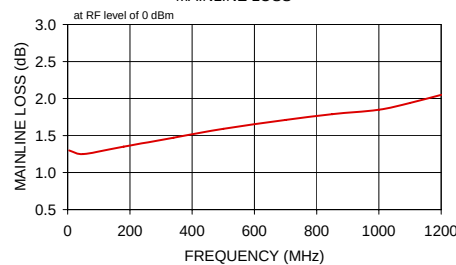
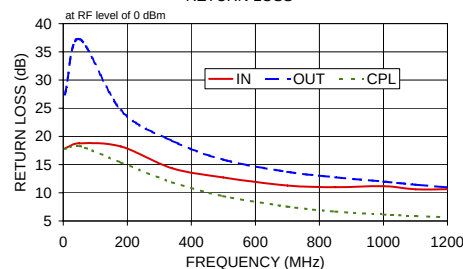
- CATV
- wire-line broadband access

Electrical Specifications

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT (W)
	Nom.	Max. Flatness	Typ.	Max.	Typ.	Min.		
5-1200	9.3±0.5	±0.7						
5-50			1.3	1.8	20	16	1.3	0.5
50-500			1.4	1.9	19	16	1.4	0.5
500-1000			1.5	2.1	18	15	1.6	0.5
1000-1200			1.8	2.4	17	12	1.8	0.5

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB)	Coupling (dB)	Directivity (dB)	Return Loss (dB)		
	In-Out	In-Cpl		In	Out	Cpl
5.00	1.30	8.95	20.16	17.86	27.44	17.79
50.00	1.25	8.94	20.52	18.77	37.27	18.31
180.00	1.35	9.04	19.88	18.21	24.64	15.38
340.00	1.47	9.17	18.93	14.37	19.25	11.87
500.00	1.59	9.31	18.17	12.71	15.89	9.41
700.00	1.71	9.43	17.66	11.29	13.70	7.55
850.00	1.79	9.50	17.84	10.98	12.74	6.68
1000.00	1.85	9.50	18.18	11.17	12.00	6.13
1100.00	1.94	9.53	18.33	10.61	11.44	5.87
1200.00	2.05	9.55	18.17	10.64	10.96	5.66

DBTC-9-4-75L+
MAINLINE LOSSDBTC-9-4-75L+
RETURN LOSS

No Leads

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



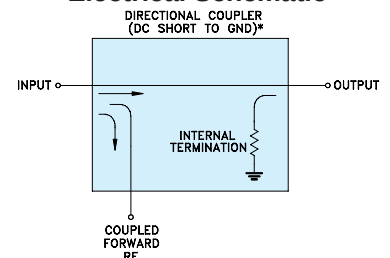
Leads

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

REV. B
M119986
ED-12342A/1
DBTC-9-4-75
DY/RS/CP/AM
090903


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