

Directional Couplers

DBTC-7-152+

DBTC-7-152L+

50Ω, 7dB Coupling, 10 to 1500 MHz

Maximum Ratings

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

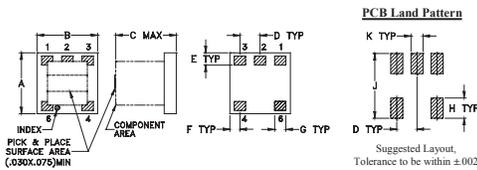
Permanent damage may occur if any of these limits are exceeded.

Pin Connections

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

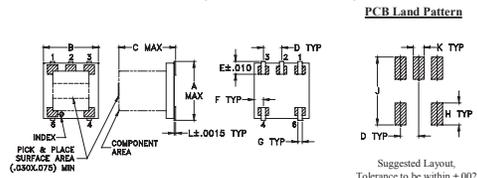
Outline Drawing / Dimensions (inch / mm)

AT790-1 (DBTC-7-152+)



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

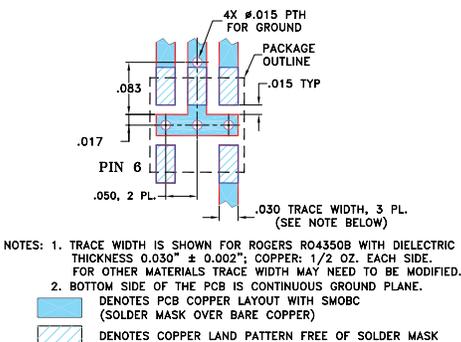
AT1030 (DBTC-7-152L+)



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-278

Suggested PCB Layout (PL-150)



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

- VHF/UHF 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)

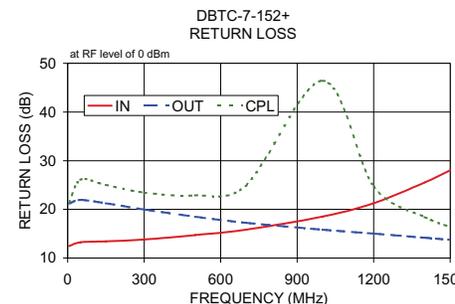
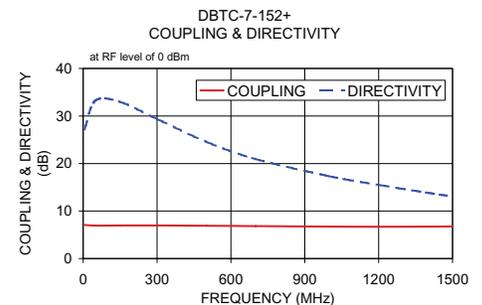
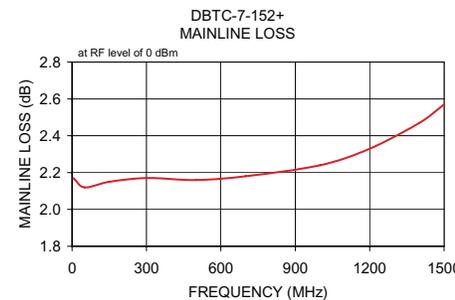
+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications

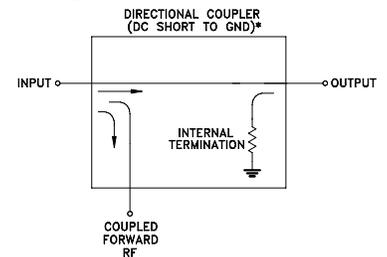
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT (W)
	Nom.	Max. Flatness	Typ.	Max.	Typ.	Min.		
10-1500	7.0±0.5	±0.5						
10-100			2.2	2.7	32	20	1.4	0.5
100-750			2.2	2.6	29	15	1.4	1.0
750-1500			2.3	3.2	16	9	1.4	1.0

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
5.00	2.17	7.07	27.17	12.45	21.18	21.33
50.00	2.12	6.92	33.24	13.24	21.93	26.08
150.00	2.15	6.97	32.95	13.44	21.26	25.04
300.00	2.17	6.98	29.37	13.82	19.97	23.43
500.00	2.16	6.91	24.56	14.71	18.49	22.88
700.00	2.18	6.84	20.96	15.84	17.26	24.92
1000.00	2.24	6.72	17.31	18.52	15.82	46.44
1200.00	2.33	6.69	15.48	21.27	15.02	24.76
1400.00	2.47	6.72	13.83	25.55	14.19	18.44
1500.00	2.57	6.76	13.09	28.03	13.74	16.40



Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) THAT ROUTES DC FROM RF PORTS TO GROUND.

Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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