Surface Mount

Directional Couplers

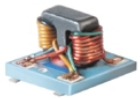
DBTC-7-152+ DBTC-7-152L+

50Ω, 7dB Coupling, 10 to 1500 MHz



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)

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

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

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

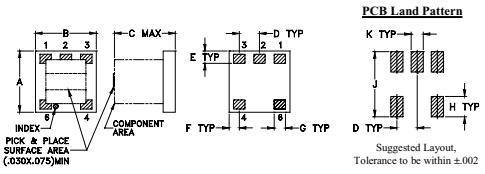
The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

Applications

- VHF/UHF transmitters
- cellular

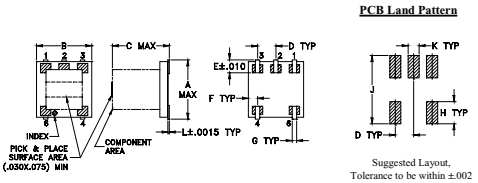
Outline Drawing / Dimensions (inch / mm)

AT790-1 (DBTC-7-152+)



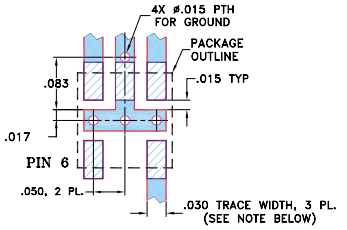
A	B	C	D	E	F	G	H	J	K	wt
.150	.150	.150	.050	.030	.025	.028	.050	.160	.030	grams
3.81	3.81	3.81	1.27	0.76	0.64	0.71	1.27	4.06	0.76	0.10

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)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B 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 WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

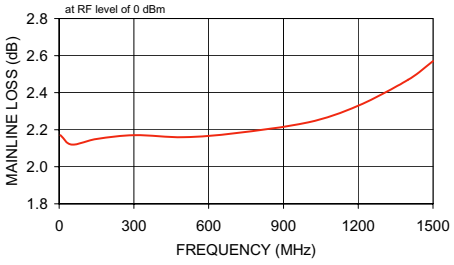
Electrical Specifications

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT (W)
	Nom.	Max. Flatness	Typ.	Max.	Typ.	Min.	Typ.	Max.
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

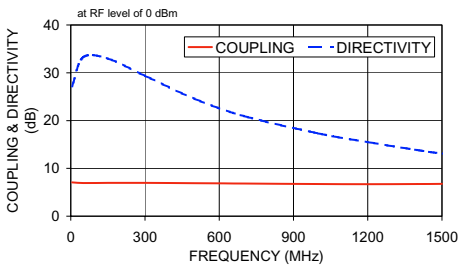
Typical Performance Data

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

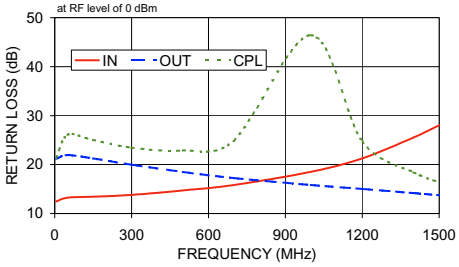
DBTC-7-152+
MAINLINE LOSS



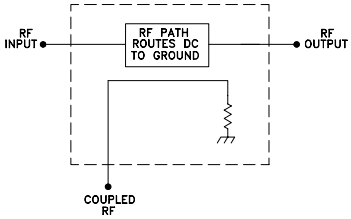
DBTC-7-152+
COUPLING & DIRECTIVITY



DBTC-7-152+
RETURN LOSS



electrical schematic



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