

Directional Couplers

DBTC-75-OHMS SERIES

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
- micro-miniature coupler, 0.15"X0.15"X0.15"
- protected by patent 6,140,887
- additional patent pending

Applications

- cable TV



CASE STYLE: AT790-1

PRICE: \$1.99 ea. QTY (25)

Directional Coupler Electrical Specifications

MODEL NO.	FREQ. RANGE (MHz) f_c - f_u	COUPLING (dB)		MAINLINE LOSS* (dB)								DIRECTIVITY (dB)				VSWR** (:1)	POWER INPUT, W							
		Nom.	Max. Flatness	L		M		U		U		L		M			L	MU						
				Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Max.						
NEW!	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	11	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	—	—	0.4	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	—	—	—	—	—	—	—	—	0.2	—	—	—	—	—	—	—	—	—	—	—
	DBTC-16-5-75	5-1000	16.3±0.5	±0.7	1.2	2.0	1.0	1.5	1.1	1.6	—	—	0.1	22	16	21	13	20	—	—	—	1.30	1.0	1.0
		1000-1500	16.5±0.5	±0.7	—	—	—	—	—	—	—	—	0.1	—	—	—	—	—	—	—	—	—	—	—
	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
NEW!	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_c to 10 f_c]M = mid range [10 f_c to $f_u/2$]U = upper range [$f_u/2$ to f_u]

U = 1000-1250 MHz

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

Pin Connections

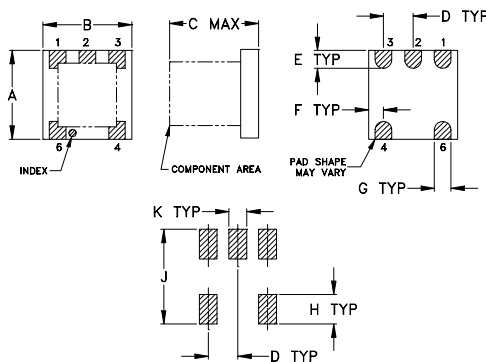
INPUT	3
OUTPUT	4
COUPLED	1
GROUND	2
NOT USED*	5,6

*pins 5&6 must be isolated

Maximum Ratings

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

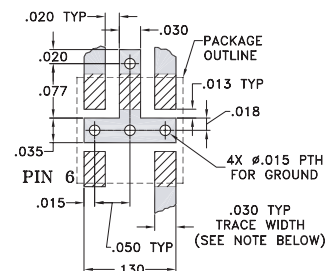
Outline Drawing



SUGGESTED LAYOUT FOR PCB LAND PATTERN

 TOLERANCE UNLESS OTHERWISE SPECIFIED
 2 PLACE DECIMALS: ±0.01
 3 PLACE DECIMALS: ±0.005

Demo Board MCL P/N: TB-103 Suggested PCB Layout (PL-048)


 NOTE: TRACE WIDTH IS SHOWN FOR ROGERS R04350
 WITH DIELECTRIC THICKNESS 0.030" ± 0.002",
 COPPER: 1/2 OZ. EACH SIDE.
 FOR OTHER MATERIALS TRACE WIDTH MAY NEED
 TO BE MODIFIED.

DENOTES PCB COPPER LAYOUT

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Outline Dimensions (inch/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	.10

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. E
 M87615
 DBTC-6-4-75 ED-10488B/1
 DBTC-10-4-75 ED-8953/1
 DBTC-13-5-75 ED-8967/1
 DBTC-16-5-75 ED-8978/1
 DBTC-18-4-75 ED-8956/1
 DBTC-20-4-75 ED-10793/1
 DBTC_75_ohms
 WZ/RD/CP
 030903
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