

## 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

## Applications

- VHF/UHF receivers/transmitters
- cellular

## HT-DBTC-9-4L+



50Ω, 9dB coupling, 5 to 1000 MHz

### Maximum Ratings

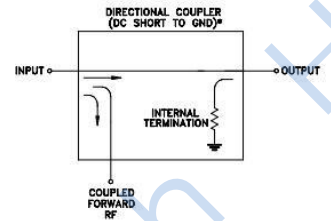
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

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

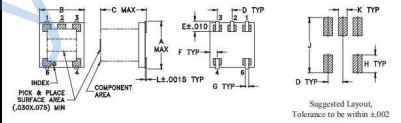
### Pin Connections

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

### Electrical Schematic



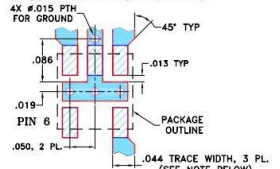
### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M
.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	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 0.0207" ± 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.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

### Electrical Specifications at 25°C

Parameter	Condition (MHz)	Min.	Typ.	Max.	Unit
Frequency Range	-	5		1000	Mhz
Mainline Loss	5-50 50-500 500-1000	-	1.2 1.2 1.5	2.0 1.8 2.0	dB
Nominal Coupling	5-1000	-	9.0±0.5		dB
Coupling Flatness(±)	5-1000	-		±0.5	dB
Directivity	5-50 50-500 500-1000	17 13 -	21 18 15		dB
VSWR	5-1000		1.2		dB
Input Power	5-50 50-500 500-1000			0.5 1.0 1.0	w

1. Includes theoretical coupled power loss of 0.58 dB at 9 dB coupling  
2. For coupled port VSWR above 500 MHz, 1.6:1 typ.

### Typical Performance Data

(TEST CONDITIONS: INPUT POWER = 0dBm @ Temperature = +25°C)

FREQUENCY (GHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB) Out
5.0	1.18	8.93	21.62	24.67
10.0	1.10	8.89	21.70	29.04
50.0	1.07	8.87	21.50	32.70
100.0	1.09	8.90	20.99	31.81
300.0	1.16	8.93	19.47	30.43
500.0	1.20	8.90	17.60	30.62
600.0	1.23	8.88	16.50	30.39
800.0	1.31	8.86	17.74	30.31
900.0	1.37	8.85	14.07	29.26
1000.0	1.43	8.86	13.44	27.16

