

Surface Mount Directional Coupler

75Ω, 10dB 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

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

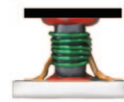
Features

- 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

Applications

- cable tv

DBTC-10-4-75X+



CASE STYLE: AT1667-1

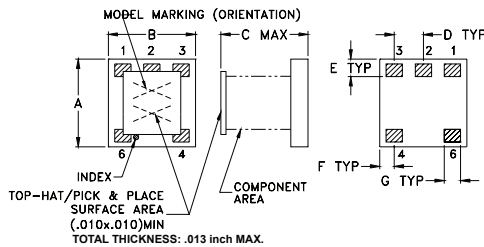
PRICE: \$1.99 ea. QTY (20)

\$1.69 ea. QTY (1000)

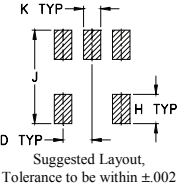
+RoHS Compliant

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

Outline Drawing



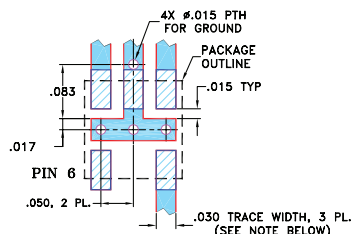
PCB Land Pattern



Outline Dimensions (inch/mm)

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

Electrical Specifications

FREQ. RANGE (MHz)	COUPLING (dB)		MAINLINE LOSS* (dB)						DIRECTIVITY (dB)						VSWR** (:1)	POWER INPUT (W)	
			L		M		U		L		M		U			L	MU
	Nom.	Max. Flatness	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.		Typ.	Max.
f _i -f _u	10.5±0.5	±0.7	1.5	2.2	1.4	2.0	1.5	2.0	21	16	20	13	16	—	1.3	0.5	1.0

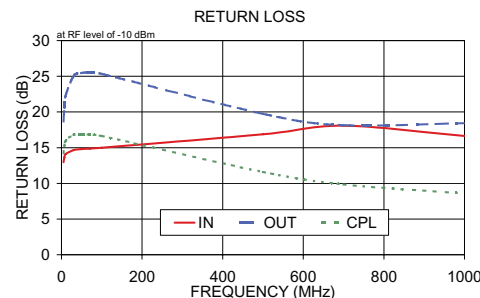
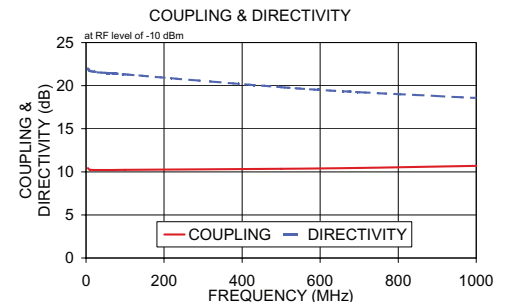
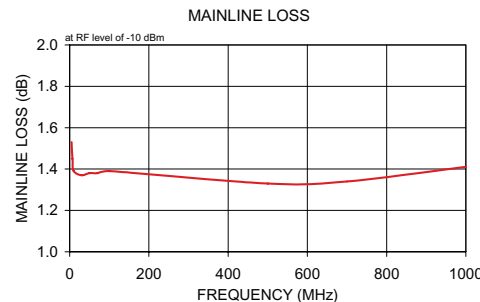
L = low range [f_L to $10 f_L$] M = mid range [$10 f_L$ to $f_U/2$] U = upper range [$f_U/2$ to f_U]

* Includes theoretical coupled power loss of 0.40 dB at 10 dB coupling

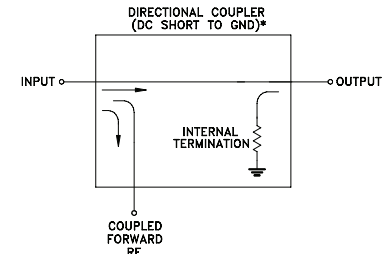
** For coupled port VSWR above 500 MHz, 1.6:1 typ.

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
5.00	1.53	10.44	21.95	12.96	18.66	14.22
7.00	1.45	10.32	21.83	13.63	20.55	15.21
10.00	1.39	10.24	21.71	14.11	22.29	15.95
30.00	1.37	10.21	21.54	14.66	25.03	16.80
50.00	1.38	10.21	21.49	14.79	25.45	16.88
70.00	1.38	10.22	21.42	14.86	25.51	16.83
100.00	1.39	10.24	21.31	14.98	25.34	16.64
500.00	1.33	10.35	19.83	16.88	19.74	11.59
700.00	1.34	10.46	19.25	18.06	18.15	9.84
1000.00	1.41	10.70	18.57	16.64	18.44	8.57



Electrical Schematic



Notes

- A. 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.



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REV. OR
M135592
ED-8953A/1
DBTC-10-4-75X+
WZ/CP/AM
120216

REV. K
M11996