

# Surface Mount Directional Coupler

## D20C+ D20C

50Ω 810 to 960 MHz



CASE STYLE: CA531  
PRICE: \$ 0.99 ea. QTY (25)

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

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

### Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-65°C to 150°C

### Pin Connections

INPUT	4
OUTPUT	6
COUPLED	3
GROUND	1,2,5

### Features

- low insertion loss, 0.3 dB typ.
- excellent VSWR, 1.1:1 typ.
- excellent repeatability
- miniature low profile SOT 6 package

### Applications

- cellular
- PCS

### Directional Coupler Electrical Specifications

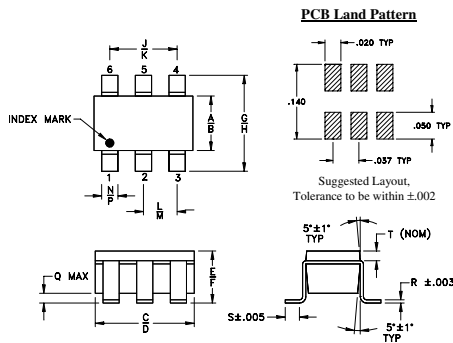
FREQ. RANGE (MHz)	COUPLING (dB)	MAINLINE LOSS <sup>1</sup> (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT <sup>2</sup>
		Typ.	Max.	Typ.	Min.		
810-960	19.4±1.4	0.3	0.5	15	7	1.1	1.0

1. Mainline loss includes theoretical power loss at coupled port.
2. 4W CW when operating with a 2.0:1 maximum VSWR on all ports.

### Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
810.00	0.32	20.15	15.42	29.31	32.09	32.06
815.00	0.32	20.10	15.43	29.27	32.02	31.93
825.00	0.33	20.00	15.44	29.17	31.91	31.69
855.00	0.34	19.71	15.49	28.87	31.70	31.05
875.00	0.34	19.51	15.51	28.80	31.59	30.69
895.00	0.35	19.33	15.50	28.80	31.44	30.26
915.00	0.35	19.15	15.48	28.68	31.15	29.79
935.00	0.35	18.97	15.48	28.51	30.84	29.34
955.00	0.36	18.80	15.49	28.41	30.60	29.00
960.00	0.36	18.76	15.50	28.37	30.54	28.92

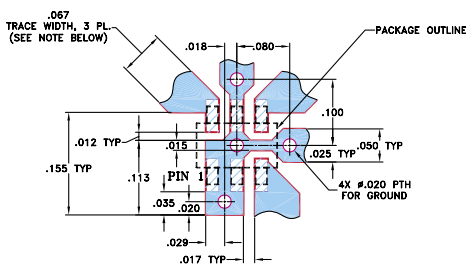
### Outline Drawing



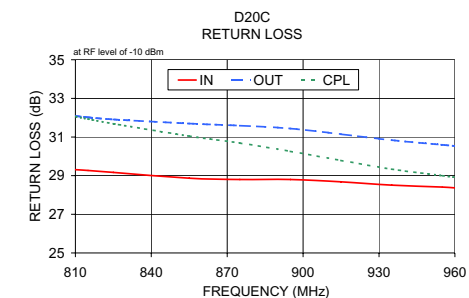
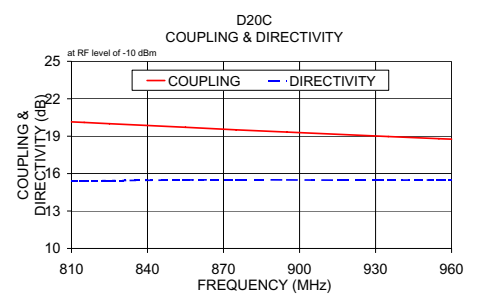
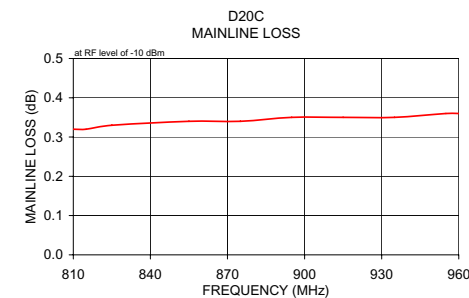
### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	wt
.052	.067	.106	.122	.035	.064	.087	.118	.067	.083	.033	.042	.012	.020	.012	.007	.020	.012	grams
1.32	1.70	2.69	3.10	0.89	1.63	2.21	3.00	1.70	2.11	0.84	1.07	0.30	0.51	0.30	0.18	0.51	0.30	0.020

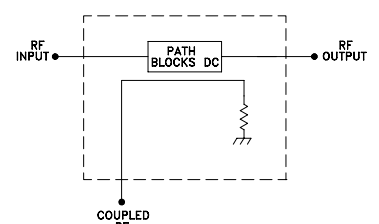
### Demo Board MCL P/N: TB-13 Suggested PCB Layout (PL-064)



- NOTES:**
1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B 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 schematic



### ESD Rating

Human Body Model (HBM): Class 1A (250 v to <500 v) in accordance with ANSI/ESD STM 5.1 - 2001  
Machine Model (MM): Class M1 (< 100 v) in accordance with ANSI/ESD STM 5.2 - 1999 (pass 50V)

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