

# Surface Mount Frequency Multiplier

**NEW!**  
**KC2-19**

Output 2.2 to 3.8 GHz

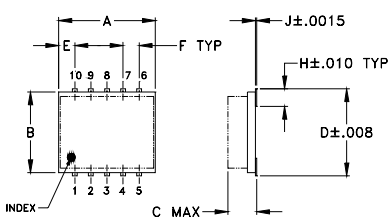
## Maximum Ratings

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

## Pin Connections

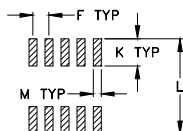
INPUT	10
OUTPUT	5
50Ω TERMINATED	3
GROUND	1,2,4,6,7,8,9

## Outline Drawing



TOLERANCES  
2 PL DECIMALS ±.01  
3 PL DECIMALS ±.005  
UNLESS OTHERWISE SPECIFIED

G TYP



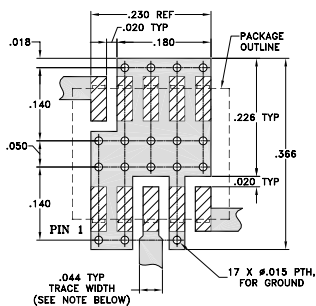
SUGGESTED LAYOUT FOR PCB LAND PATTERN

## Outline Dimensions (inch)

A	B	C	D	E	F	G
.30	.250	.085	.274	.050	.012	
7.62	6.35	2.16	6.96	1.27	1.27	0.30

H	J	K	L	M	wt.
.057	.004	.085	2.96	.030	grams
1.45	0.10	2.16	7.52	0.76	0.25

**Demo Board MCL P/N: TB-144**  
**Suggested PCB Layout (PL-045)**



NOTE: TRACE WIDTH IS SHOWN FOR ROGERS RO4350 WITH DIELECTRIC THICKNESS 0.020" ± 0.0015", COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

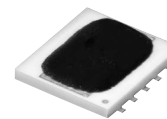
□ DENOTES PCB COPPER LAYOUT  
▨ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

## Features

- low conversion loss, 10.5 dB typ.
- LTCC design
- low profile, 0.085"
- low cost

## Applications

- synthesizers
- local oscillators



**BLUE CELL™**

CASE STYLE: DZ885  
PRICE:\$5.95 ea. QTY (10-49)

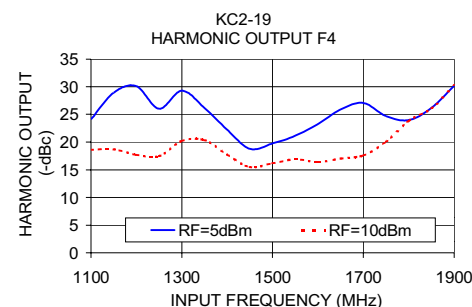
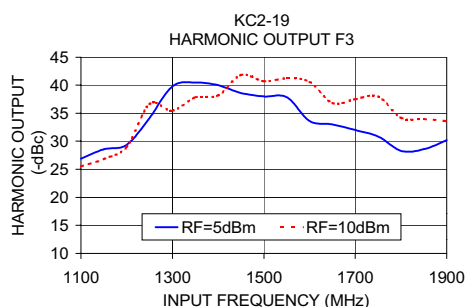
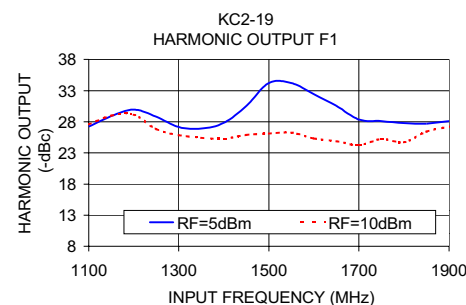
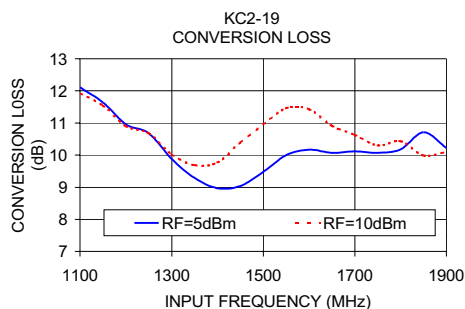
## Frequency Multiplier Electrical Specifications

MODEL NO.	MULTIPLICATION FACTOR	FREQUENCY (GHz)		INPUT POWER (dBm)		CONVERSION LOSS (dB)		*HARMONIC OUTPUT (dBc)					
		Input	Output	Min.	Max.	Typ.	Max.	F1 Typ. Min.	F3 Typ. Min.	F4 Typ. Min.			
KC2-19	2	1.1 - 1.9	2.2 - 3.8	5	10	10.5	14.6	24	18	30	18	17	12

\*Harmonic output below power level of F2

## Typical Performance Data

Input Frequency (MHz)	Conversion Loss (dB)	Harmonic Output (-dBc)			Conversion Loss (dB)	Harmonic Output (-dBc)		
		F1	F3	F4		F1	F3	F4
1100.00	12.11	27.22	26.90	24.09	11.92	27.59	25.53	18.60
1200.00	10.96	29.96	29.37	30.10	10.90	29.15	29.02	17.70
1300.00	9.88	27.15	39.80	29.28	10.02	25.85	35.46	20.19
1400.00	8.97	27.83	40.01	22.24	9.77	25.27	38.18	17.75
1500.00	9.48	34.22	38.00	19.75	10.96	26.11	40.72	16.17
1550.00	10.00	34.23	37.86	21.15	11.46	26.25	41.21	16.88
1600.00	10.17	32.42	33.61	23.26	11.43	25.32	40.61	16.41
1650.00	10.07	30.54	33.01	25.89	10.91	24.88	36.81	17.03
1700.00	10.12	28.35	32.01	27.07	10.63	24.25	37.51	17.60
1750.00	10.07	28.10	30.86	24.69	10.30	25.22	37.99	20.05
1800.00	10.18	27.80	28.28	23.96	10.43	24.71	34.18	23.83
1850.00	10.71	27.71	28.58	26.17	9.99	26.42	33.97	26.09
1900.00	10.22	28.10	30.19	30.17	10.10	27.22	33.59	30.26



**Mini-Circuits®**

Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

ISO 9001 CERTIFIED

INTERNET <http://www.minicircuits.com>

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

REV. OR  
M91754  
KC2-19  
ED-11593/3  
DJ/RS/CP  
040412