

# Surface Mount Frequency Multiplier

**NEW!**  
**KC2-11**

Output 1.0 to 2.2 GHz

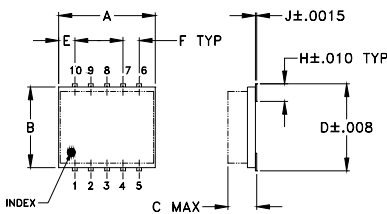
## Maximum Ratings

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

## Pin Connections

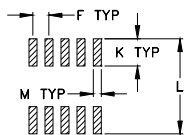
INPUT	10
OUTPUT	5
50Ω TERMINATED	3
GROUND	1,2,4,6,7,8,9

## Outline Drawing



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

G TYP



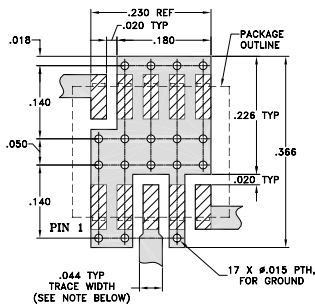
SUGGESTED LAYOUT FOR PCB LAND PATTERN

## Outline Dimensions (inch)

A	B	C	D	E	F	G
.30	.250	.085	.274	.050	.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.

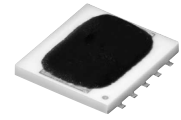
- DENOTES PCB COPPER LAYOUT
- ▨ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

## 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)

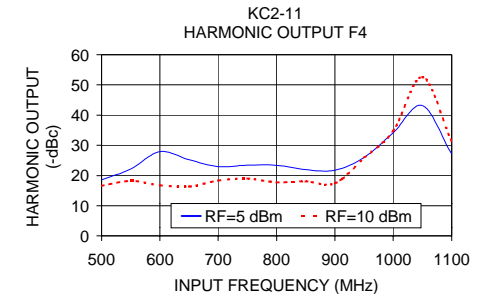
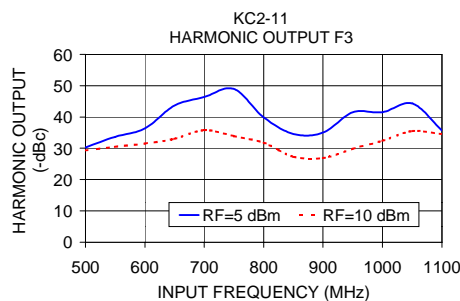
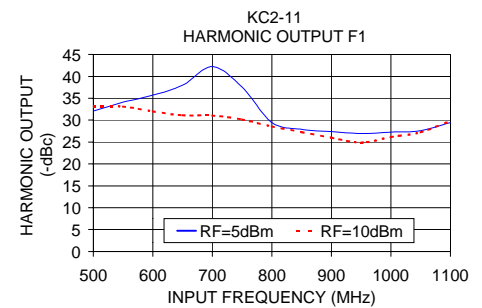
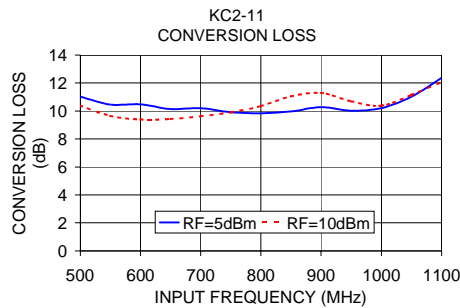
## Frequency Multiplier Electrical Specifications

MODEL NO.	MULTIPLICATION FACTOR	FREQUENCY (GHz)		INPUT POWER (dBm)		CONVERSION LOSS (dB)		*HARMONIC OUTPUT (dBc)							
		Input	Output	Min.	Max.	Typ.	Max.	F1		F3		F4			
								Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.
KC2-11	2	0.5 - 1.1	1.0 - 2.2	5	10	10.5	13.5	27	18	34	20	21	12		
		0.55 - 0.75	1.1 - 1.5	5	10	10.0	13.5	30	21	34	21	21	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
500.00	11.02	32.07	30.29	18.52	10.39	33.22	29.34	16.59
550.00	10.46	34.11	33.67	22.15	9.65	33.10	30.50	18.18
600.00	10.48	35.71	36.35	27.92	9.39	32.02	31.53	16.77
650.00	10.14	37.99	43.65	25.22	9.43	31.11	33.01	16.33
700.00	10.20	42.23	46.39	22.94	9.62	31.08	35.78	18.30
750.00	9.91	37.54	48.95	23.42	9.91	30.15	33.90	19.01
800.00	9.83	29.48	39.88	23.38	10.35	28.56	31.75	17.73
850.00	9.96	27.93	34.61	21.93	11.04	27.29	27.33	18.07
900.00	10.27	27.40	35.02	21.75	11.29	25.98	26.91	17.41
950.00	10.02	26.99	41.50	25.97	10.69	24.88	29.84	25.84
1000.00	10.21	27.27	41.54	34.18	10.38	26.16	32.38	34.74
1050.00	11.02	27.61	44.32	43.17	11.15	27.23	35.50	52.58
1100.00	12.37	29.48	35.70	27.14	12.06	29.84	34.52	31.25



**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  
KC2-11  
ED-11593/2  
DJ/RS/CP  
040414