X2 Frequency Multiplier

50Ω Output 2200 to 3800 MHz

KC2-19+



Generic photo used for illustration purposes only

CASE STYLE: DZ885

+RoHS Compliant

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

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Input, 25°C	200mW

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

Pin Connections

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

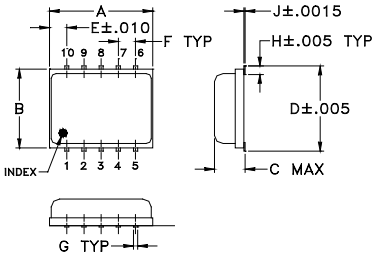
Features

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

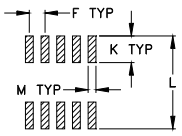
Applications

- synthesizers
- local oscillators

Outline Drawing



PCB Land Pattern

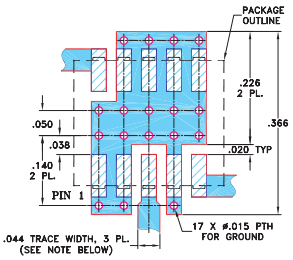


Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G
.30	.250	.085	.266	.050	.050	.012
7.62	6.35	2.16	6.76	1.27	1.27	0.30
H	**J**	**K**	**L**	**M**		**wt**
.029	.004	.085	.296	.030		grams
0.74	0.10	2.16	7.52	0.76		0.25

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



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .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

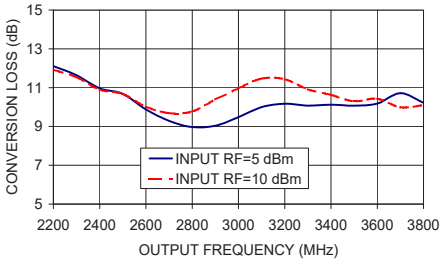
MULTIPLICATION FACTOR	FREQUENCY (MHz)		INPUT POWER (dBm)		CONVERSION LOSS (dB)		*HARMONIC OUTPUT (dBc)					
	F1	F2					F1		F3		F4	
	Input	Output	Min.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.
2	1100-1900	2200-3800	5	10	10.5	14.6	24	18	30	18	17	12

* Harmonics of input frequency below the power level of F2

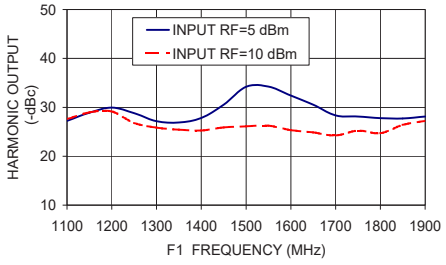
Typical Performance Data

Input Frequency (MHz)	INPUT RF= 5 dBm Conversion Loss (dB)	INPUT RF= 5 dBm Harmonic Output Below F2 (-dBc) F1	F3	F4	INPUT RF= 10 dBm Conversion Loss (dB)	INPUT RF= 10 dBm Harmonic Output Below F2 (-dBc) 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

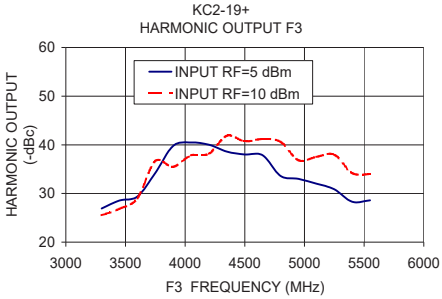
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CONVERSION LOSS



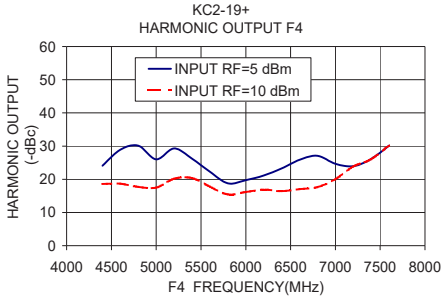
KC2-19+
HARMONIC OUTPUT F1



KC2-19+
HARMONIC OUTPUT F3



KC2-19+
HARMONIC OUTPUT F4



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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