

X2 Frequency Multiplier

50Ω Output 5000 to 10000 MHz

KSX2-14+



Generic photo used for illustration purposes only

CASE STYLE: HV1195

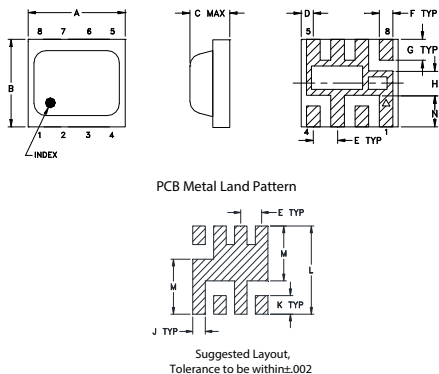
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Input, 25°C	100 mW
Permanent damage may occur if any of these limits are exceeded.	

Pin Connections

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

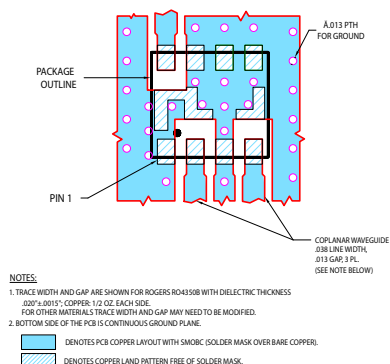
Outline Drawing



Outline Dimensions (inch)

A	B	C	D	E	F	G
.200	.180	.087	.025	.050	.028	.043
5.08	4.57	2.2098	0.64	1.27	0.71	1.09
H	J	K	L	M	N	wt
.050	.030	.043	.204	.127	0.065	grams
1.27	0.76	1.09	5.18	3.23	1.65	0.08

Demo Board MCL P/N: TB-473+ Suggested PCB Layout (PL-287)



NOTES:
1. TRACE WIDTH AND GAP ARE SHOWN FOR ROGER'S RO4350B WITH DIELECTRIC THICKNESS .007" ± .0015". COPPER: 1/2 OZ. EACH SIDE.
FOR OTHER MATERIALS TRACE WIDTH AND GAP 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.

Features

- low conversion loss, 12 dB typ.
- high fundamental & harmonic suppression, F1, 22 dBc typ.; F3, 30 dBc typ.; F4, 15 dBc typ.
- LTCC design
- low profile, 0.085"
- aqueous washable

Applications

- synthesizers
- local oscillators

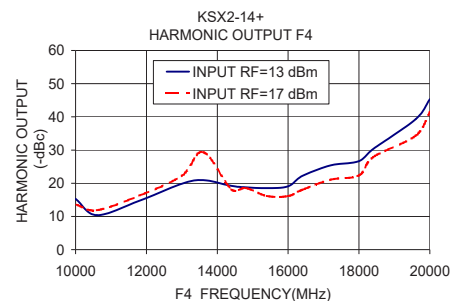
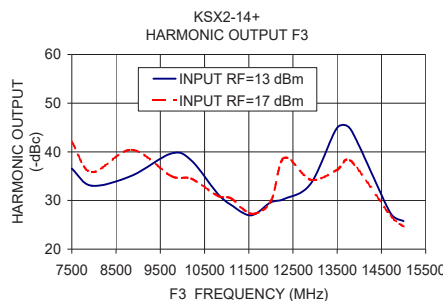
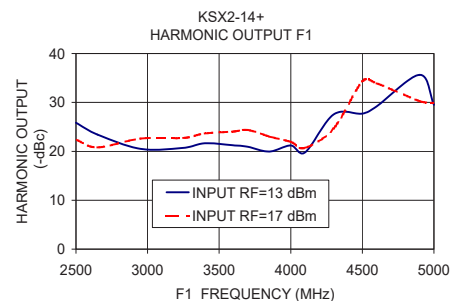
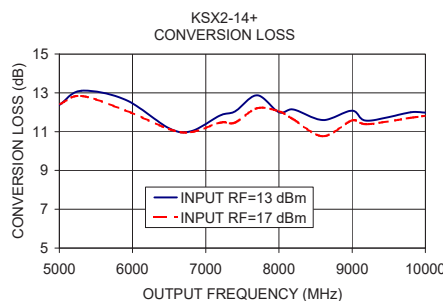
Electrical Specifications

MULTIPLICATION FACTOR	FREQUENCY (MHz)		INPUT POWER (dBm)		CONVERSION LOSS (dB)	*HARMONIC OUTPUT (dBc)			
	F1 Input	F2 Output	Min.	Max.		F1 Typ.	F1 Min.	F3 Typ.	F3 Min.
2	2500-3600	5000-7200	13	17	12	22	15	33	22
	3600-5000	7200-10000	13	17	12	22	15	29	20

* Harmonics of input frequency below the power level of F2

Typical Performance Data

Input Frequency (MHz)	INPUT RF= 13 dBm				INPUT RF= 17 dBm			
	Conversion Loss (dB)	F1	F3	F4	Conversion Loss (dB)	F1	F3	F4
2500.00	12.37	25.84	36.55	15.32	12.41	22.40	42.01	13.59
2650.00	13.11	23.43	33.03	10.38	12.84	20.79	35.80	11.88
2950.00	12.65	20.52	35.09	14.71	12.10	22.60	40.40	16.25
3250.00	11.17	20.69	39.66	19.86	11.13	22.72	35.01	22.27
3400.00	11.02	21.65	38.24	20.97	10.97	23.66	34.49	29.39
3600.00	11.84	21.22	31.35	19.22	11.46	24.06	30.95	18.17
3700.00	12.04	20.92	29.07	18.76	11.46	24.38	30.44	18.57
3850.00	12.87	19.94	26.95	18.55	12.21	23.02	27.31	16.18
4000.00	12.00	21.20	29.60	19.09	12.05	21.96	29.80	16.13
4100.00	12.14	19.80	30.30	22.19	11.63	20.70	38.78	18.02
4300.00	11.60	27.55	33.42	25.38	10.76	24.67	34.27	21.10
4500.00	12.08	27.72	44.95	26.65	11.58	34.31	36.29	22.37
4600.00	11.56	29.19	44.66	30.33	11.38	33.92	38.18	27.85
4900.00	12.00	35.63	27.43	39.29	11.71	30.26	26.93	34.31
5000.00	11.98	29.52	25.76	45.31	11.81	29.92	24.65	41.43



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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