

X3 Frequency Multiplier

AMK-3-452+

50Ω Output 3000 to 4500 MHz



Generic photo used for illustration purposes only
CASE STYLE: CD636

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

Available Tape and Reel at no extra cost

Reel Size	Devices/Reel
7"	20, 50, 100, 200
13"	500, 1000

Maximum Ratings

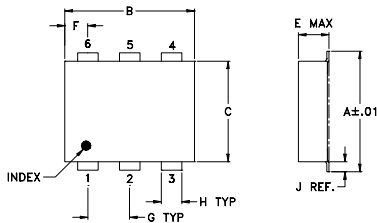
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Input Power	20 dBm

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

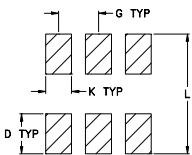
Pin Connections

INPUT	6
OUTPUT	3
GROUND	1,4,5
NOT USED	2

Outline Drawing



PCB Land Pattern



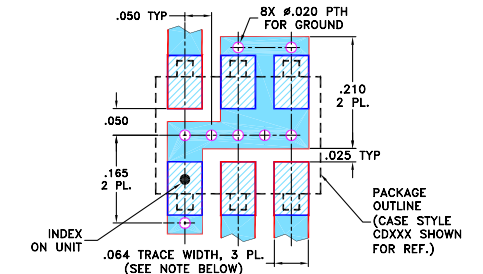
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.272	.310	.220	.100	.162	.055	.100
6.91	7.87	5.59	2.54	4.11	1.40	2.54
H	J	K	L			wt
.030	.026	.065	.300			grams
0.76	0.66	1.65	7.62			0.25

Demo Board MCL P/N: TB-03

Suggested PCB Layout (PL-052)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .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

Features

- broadband
- low conversion loss, 14.5 dB typ.
- high rejection, F2 and F4, -55 dBc typ.
- low cost
- aqueous washable

Applications

- synthesizers
- local oscillators
- satellite up and down converters

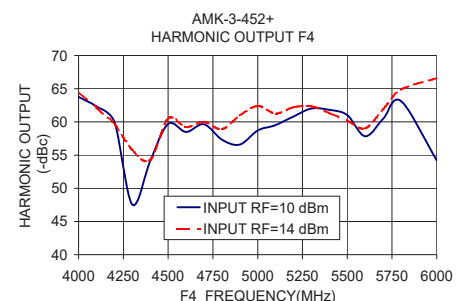
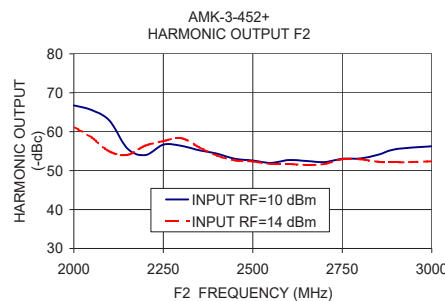
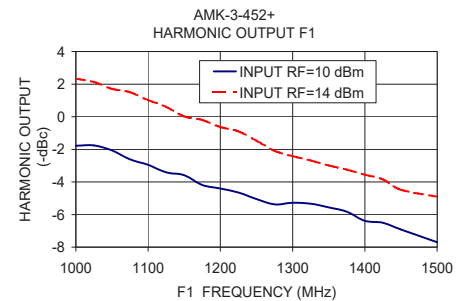
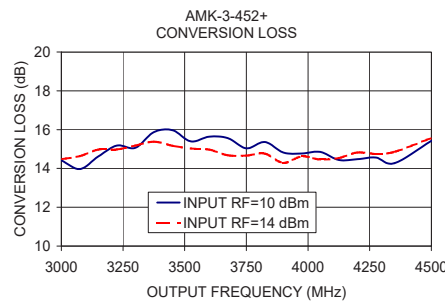
Electrical Specifications

MULTIPLICATION FACTOR	FREQUENCY (MHz)		INPUT POWER (dBm)		CONVERSION LOSS (dB)		*HARMONIC OUTPUT (dBc)					
	F1 Input	F3 Output	Min.	Max.	Typ.	Max.	F1		F2		F4	
							Typ.	Min.	Typ.	Min.	Typ.	Min.
3	1000-1500	3000-4500	10	14	14.5	17.5	-2	-10	55	40	55	40

* Harmonics of input frequency below the power level of F3

Typical Performance Data

Input Frequency (MHz)	INPUT RF= 10 dBm				INPUT RF= 14 dBm			
	Conversion Loss (dB)	Harmonic Output Below F3 (-dBc)			Conversion Loss (dB)	Harmonic Output Below F3 (-dBc)		
		F3	F1	F2		F4	F3	F1
1000.00	14.42	-1.78	66.74	63.78	14.48	2.33	61.25	64.54
1025.00	13.97	-1.76	65.56	62.33	14.64	2.13	58.51	62.11
1050.00	14.62	-2.06	62.78	59.95	14.97	1.71	54.89	59.68
1075.00	15.18	-2.61	55.64	47.55	14.98	1.50	54.04	55.77
1100.00	15.06	-2.95	53.98	54.12	15.18	1.02	56.41	54.30
1125.00	15.87	-3.41	56.68	59.70	15.38	0.61	57.57	60.48
1150.00	15.97	-3.59	56.36	58.48	15.17	0.02	58.34	59.21
1175.00	15.40	-4.19	55.24	59.64	15.03	-0.20	56.00	60.00
1200.00	15.64	-4.40	54.37	57.34	14.97	-0.63	53.87	58.89
1225.00	15.56	-4.65	53.05	56.57	14.68	-0.89	52.65	60.98
1250.00	15.04	-5.05	52.60	58.70	14.66	-1.47	52.35	62.39
1275.00	15.36	-5.38	51.97	59.52	14.76	-2.09	51.73	61.26
1300.00	14.82	-5.28	52.71	60.80	14.29	-2.42	51.72	62.21
1325.00	14.77	-5.34	52.47	62.02	14.62	-2.68	51.46	62.36
1350.00	14.85	-5.56	52.18	61.83	14.46	-2.99	51.68	61.33
1375.00	14.44	-5.83	53.05	61.01	14.54	-3.24	52.94	60.18
1400.00	14.48	-6.39	53.13	57.84	14.82	-3.56	52.94	59.01
1425.00	14.56	-6.51	54.06	60.46	14.75	-3.84	52.26	61.90
1450.00	14.27	-6.92	55.52	63.15	14.85	-4.48	52.09	64.87
1500.00	15.42	-7.70	56.27	54.19	15.56	-4.90	52.39	66.59



Notes

- 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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