

Up Converter Frequency Mixer

SIM-U712H+

Level 17 (LO Power +17 dBm) 10 to 7100 MHz

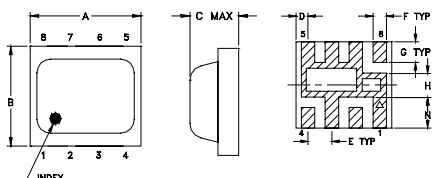
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
IF Power	100mW
For extended temperature range, consult factory.	
Permanent damage may occur if any of these limits are exceeded.	

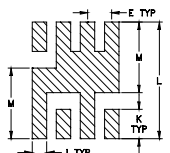
Pin Connections

LO	2
IF (IN)	8
RF (OUT)	4
GROUND	1,3,5,6,7

Outline Drawing



PCB Land Pattern

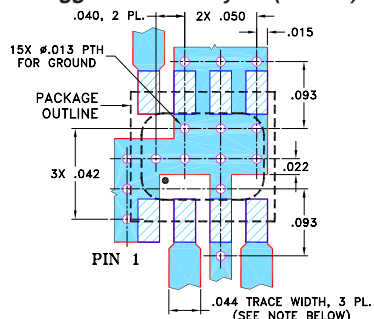


Suggested Layout,
Tolerance to be within ±0.002

Outline Dimensions (inch)

A	B	C	D	E	F	G
.200	.180	.087	.025	.050	.028	.043
5.08	4.57	2.21	0.64	1.27	0.71	1.09
H	J	K	L	M	N	wt
.050	.030	.060	0.238	0.144	0.065	grams
1.27	0.76	1.52	6.05	3.66	1.65	0.08

Demo Board MCL P/N: TB-382 Suggested PCB Layout (PL-239)



NOTES:

- 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.
- 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

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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Features

- up converter mixer
- low conversion loss, 7.3 dB typ.
- high IP3, 27 dBm typ.
- ceramic, tiny size
- aqueous washable
- protected by US patent, 7,027,795

Applications

- cellular infrastructure
- WIMAX
- line-of-sight links
- wide band receivers

Electrical Specifications

FREQUENCY (MHz)			CONVERSION LOSS* (dB)			LO-IF (IN) ISOLATION (dB)		LO-RF (OUT) ISOLATION (dB)		IP3 at center band (dBm)
IF (IN)	LO	RF (OUT)	Typ.	σ **	Max.	Typ.	Min.	Typ.	Min.	
2600-7100	10-1780	2600-7100	7.3	0.3	9.5	27	14	19	11	27

1 dB Compression: +14 dBm typ.

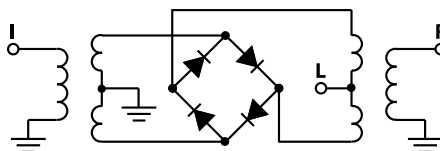
* Conversion Loss at 30 MHz LO

** σ is a standard deviation

Typical Performance Data

Frequency (MHz)			Conversion Loss (dB)	VSWR RF Port (:1)	Frequency (MHz)	Isolation L-I (dB)	Isolation L-R (dB)	VSWR LO Port (:1)
IF (IN)	LO	RF (OUT)	LO +17dBm	LO +17dBm		LO +17dBm	LO +17dBm	LO +17dBm
2600.10	30.00	2630.10	7.80	1.34	11.00	67.68	51.44	1.47
2800.10	30.00	2830.10	7.15	1.41	51.00	55.46	42.85	1.50
3000.10	30.00	3030.10	6.88	1.59	91.00	50.53	38.59	1.50
3200.10	30.00	3230.10	6.61	1.52	153.60	46.33	35.04	1.53
3400.10	30.00	3430.10	6.74	1.60	238.80	42.47	31.79	1.55
3600.10	30.00	3630.10	6.62	1.69	324.00	39.73	29.14	1.59
3800.10	30.00	3830.10	6.81	1.91	409.20	37.68	27.14	1.60
4000.10	30.00	4030.10	7.00	2.30	494.40	35.96	25.30	1.58
4400.10	30.00	4430.10	7.21	2.77	664.80	33.22	22.36	1.52
4600.10	30.00	4630.10	7.42	2.80	750.00	31.84	21.29	1.49
4800.10	30.00	4830.10	7.52	3.53	776.67	31.61	21.20	1.53
5000.10	30.00	5030.10	7.64	3.83	803.33	31.30	21.00	1.54
5400.10	30.00	5430.10	7.58	2.09	871.67	30.30	20.66	1.67
5600.10	30.00	5630.10	7.45	1.43	913.33	29.80	20.50	1.69
5800.10	30.00	5830.10	7.59	1.78	955.00	29.17	20.11	1.79
6280.10	30.00	6310.10	8.08	1.46	1080.00	27.50	19.86	1.93
6440.10	30.00	6470.10	7.68	1.23	1121.67	26.99	19.53	2.10
6600.10	30.00	6630.10	7.98	1.49	1205.00	25.85	19.07	2.23
6920.10	30.00	6950.10	7.75	2.82	1436.67	23.03	17.93	2.37
7240.10	30.00	7270.10	8.80	3.39	1796.50	19.26	16.94	2.29

Electrical Schematic



CASE STYLE: HV1195
PRICE: \$8.95 ea. QTY (10)

+RoHS Compliant

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



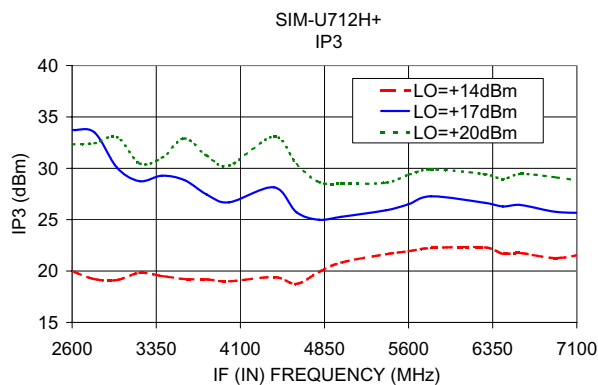
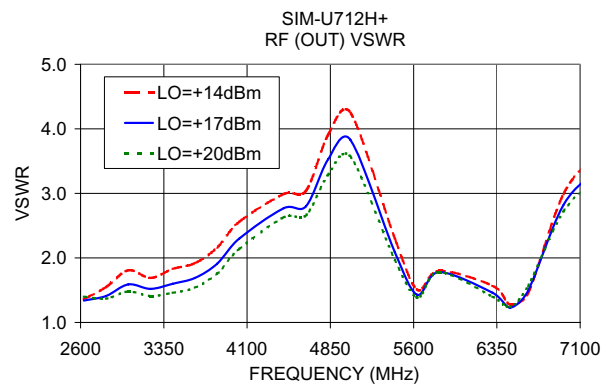
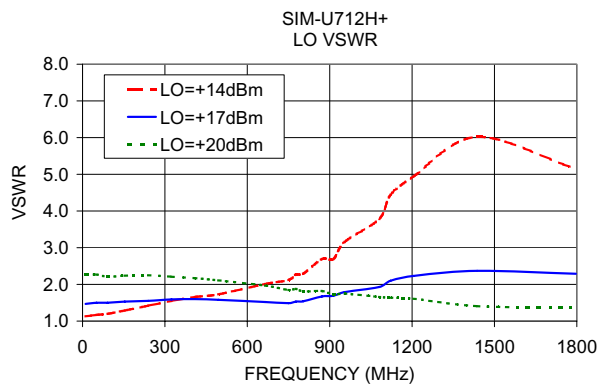
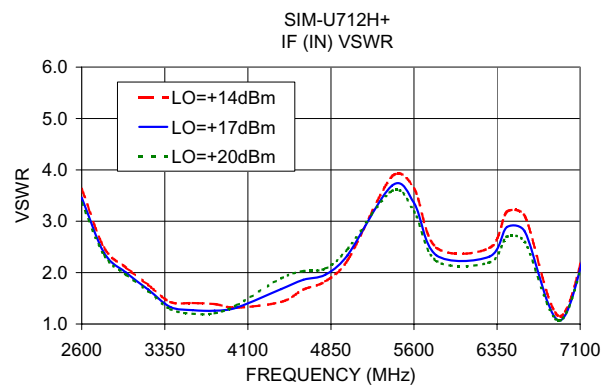
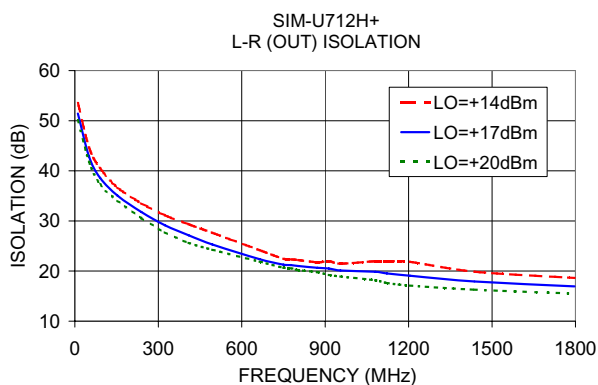
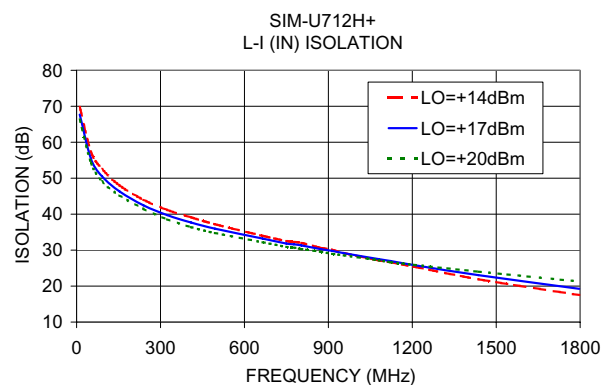
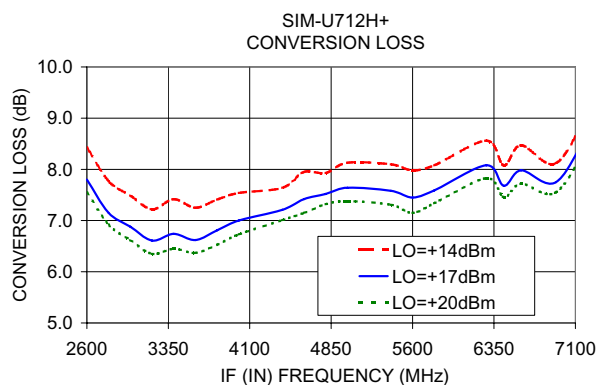
Available Tape and Reel
at no extra cost

Reel Size	Devices/Reel
7"	10, 20, 50, 100, 200, 500



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M110409
SIM-U712H+
ED-12399/5
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