

Frequency Mixer

HJK-ED9494A/1

Level 17 (LO Power + 17 dBm)

Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability. At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.



Please click "Back", and then click "Contact Us" for Applications support.

CASE STYLE : 99-01-690

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency	LO (f _L to f _u)	714		2089	MHz
	RF (f _L to f _u)	714		2089	MHz
	IF	10		300	MHz
Conversion Loss	Total Range		7.2		dB
LO-RF Isolation			40		dB
LO-IF Isolation			40		dB
Input IP3			+26		dBm
1 dB Compression			0		dBm

MAXIMUM RATINGS	
Operating Temperature	-20°C to 85°C
Storage Temperature	-55°C to +100°C

PIN CONNECTIONS	
LO	8
RF	4
IF	2
GROUND	1,3,6

Frequency Mixer

HJK-ED9494A/1

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=82MHz (dB)		
		@LO (dBm)		
		+16	+17	+18
664.1	582.1	10.27	9.82	9.30
714.1	632.1	7.28	7.24	7.23
764.1	682.1	6.78	6.80	6.82
814.1	732.1	6.62	6.65	6.69
864.1	782.1	6.41	6.43	6.47
914.1	832.1	6.32	6.33	6.35
964.1	882.1	6.27	6.28	6.28
1014.1	932.1	6.19	6.18	6.19
1064.1	982.1	6.20	6.19	6.18
1114.1	1032.1	6.26	6.21	6.18
1164.1	1082.1	6.85	6.86	6.88
1214.1	1132.1	7.57	7.55	7.52
1264.1	1182.1	7.05	6.94	6.85
1314.1	1232.1	6.77	6.68	6.59
1364.1	1282.1	6.82	6.73	6.66
1414.1	1332.1	6.84	6.74	6.68
1464.1	1382.1	7.02	6.94	6.86
1514.1	1432.1	7.33	7.28	7.25
1564.1	1482.1	7.52	7.48	7.46
1614.1	1532.1	7.58	7.57	7.57
1664.1	1582.1	7.55	7.51	7.48
1709.1	1627.1	7.64	7.60	7.58
1759.1	1677.1	7.62	7.54	7.48
1804.1	1722.1	7.69	7.60	7.54
1854.1	1772.1	7.70	7.58	7.48
1899.1	1817.1	7.91	7.80	7.72
1949.1	1867.1	8.01	7.85	7.75
1994.1	1912.1	8.32	8.19	8.10
2044.1	1962.1	8.42	8.26	8.16
2089.1	2007.1	8.69	8.57	8.49
2139.1	2057.1	8.75	8.59	8.47
2184.1	2102.1	9.13	9.00	8.91
2234.1	2152.1	9.18	9.01	8.87
2279.1	2197.1	9.52	9.38	9.27
2329.1	2247.1	9.63	9.46	9.31
2374.1	2292.1	9.99	9.84	9.74
2424.1	2342.1	10.11	9.92	9.79
2469.1	2387.1	10.52	10.37	10.25
2519.1	2437.1	10.70	10.53	10.38
2564.1	2482.1	11.10	10.93	10.81

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm)		
		@LO (dBm)		
		+16	+17	+18
664.1	582.1	18.11	17.30	18.01
714.1	632.1	26.13	27.44	28.71
764.1	682.1	28.95	30.11	31.19
814.1	732.1	31.25	32.30	34.18
864.1	782.1	32.35	33.04	35.82
914.1	832.1	32.46	33.29	34.26
964.1	882.1	30.79	31.68	32.57
1014.1	932.1	29.95	30.38	30.65
1064.1	982.1	28.49	29.30	30.02
1114.1	1032.1	25.64	26.51	27.53
1164.1	1082.1	25.86	26.42	26.85
1214.1	1132.1	24.39	25.11	25.78
1264.1	1182.1	25.51	26.06	26.75
1314.1	1232.1	27.70	28.10	28.84
1364.1	1282.1	26.71	27.41	27.99
1414.1	1332.1	25.84	26.60	27.41
1464.1	1382.1	25.01	25.83	26.73
1514.1	1432.1	23.42	24.27	25.02
1564.1	1482.1	23.86	24.94	25.93
1614.1	1532.1	24.60	26.11	27.42
1664.1	1582.1	23.78	25.27	26.67
1709.1	1627.1	23.75	25.13	26.53
1759.1	1677.1	22.90	24.03	25.26
1804.1	1722.1	23.17	24.18	25.41
1854.1	1772.1	22.77	23.66	24.55
1899.1	1817.1	22.58	23.63	24.66
1949.1	1867.1	21.83	22.95	23.86
1994.1	1912.1	21.93	23.05	24.08
2044.1	1962.1	21.40	22.54	23.47
2089.1	2007.1	21.98	23.09	24.17
2139.1	2057.1	21.36	22.42	23.55
2184.1	2102.1	21.93	23.05	24.25
2234.1	2152.1	21.46	22.62	23.92
2279.1	2197.1	22.27	23.44	24.90
2329.1	2247.1	21.76	22.98	24.13
2374.1	2292.1	22.90	24.11	25.29
2424.1	2342.1	22.52	23.76	24.86
2469.1	2387.1	23.77	24.94	26.24
2519.1	2437.1	23.73	24.86	26.13
2564.1	2482.1	25.24	26.64	27.96

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=0dBm (dB)		
		@LO (dBm)		
		+16	+17	+18
664.1	582.1	0.13	0.20	0.22
714.1	632.1	0.02	0.01	0.00
764.1	682.1	0.01	0.01	0.00
814.1	732.1	0.00	0.00	0.00
864.1	782.1	0.00	0.00	0.00
914.1	832.1	0.00	0.00	0.00
964.1	882.1	0.00	0.00	0.00
1014.1	932.1	0.01	0.00	0.00
1064.1	982.1	0.01	0.01	0.01
1114.1	1032.1	0.02	0.02	0.01
1164.1	1082.1	0.01	0.01	0.01
1214.1	1132.1	0.03	0.02	0.01
1264.1	1182.1	0.02	0.02	0.02
1314.1	1232.1	0.01	0.01	0.01
1364.1	1282.1	0.01	0.01	0.01
1414.1	1332.1	0.01	0.01	0.02
1464.1	1382.1	0.02	0.02	0.02
1514.1	1432.1	0.04	0.03	0.03
1564.1	1482.1	0.04	0.03	0.02
1614.1	1532.1	0.03	0.02	0.02
1664.1	1582.1	0.04	0.03	0.02
1709.1	1627.1	0.04	0.03	0.02
1759.1	1677.1	0.04	0.04	0.03
1804.1	1722.1	0.04	0.03	0.03
1854.1	1772.1	0.02	0.02	0.02
1899.1	1817.1	0.01	0.01	0.01
1949.1	1867.1	-0.01	0.00	0.00
1994.1	1912.1	-0.01	0.00	0.00
2044.1	1962.1	-0.01	0.00	0.00
2089.1	2007.1	0.00	-0.01	0.00
2139.1	2057.1	-0.01	-0.01	0.00
2184.1	2102.1	0.00	0.00	0.00
2234.1	2152.1	0.00	0.00	0.00
2279.1	2197.1	0.00	0.00	0.00
2329.1	2247.1	0.00	-0.03	0.00
2374.1	2292.1	0.01	0.00	0.00
2424.1	2342.1	0.00	0.00	0.00
2469.1	2387.1	0.00	0.00	0.01
2519.1	2437.1	0.00	0.00	0.00
2564.1	2482.1	0.00	0.00	0.00

REV. X2

HJK-ED9494A/1

101012

Page 1 of 5



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED • RoHS compliant

P.O. Box 350166, Brooklyn, New York 11235-0006 (718) 934-4500 Fax (718) 332-4661



The Design Engineers Search Engine finds the model you need, instantly • For detailed performance specs & shopping online see



Frequency Mixer

HJK-ED9494A/1

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=860MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=813.9MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=906.1MHz (dB)
		@LO (dBm)			@LO (dBm)			@LO (dBm)
		+17			+17			+17
270.0	590.0	9.25	10.1	824.0	6.36	310.1	596.0	9.09
256.1	603.9	8.42	70.1	884.0	6.13	302.4	603.7	8.60
242.1	617.9	8.00	130.1	944.0	6.21	294.7	611.4	8.40
228.2	631.8	7.62	190.1	1004.0	6.35	287.0	619.1	8.09
214.3	645.7	7.44	250.1	1064.0	6.78	279.3	626.8	7.98
200.4	659.6	7.27	310.1	1124.0	7.63	271.6	634.5	7.82
186.4	673.6	7.06	370.1	1184.0	7.28	263.9	642.2	7.69
172.5	687.5	6.99	430.1	1244.0	7.34	256.3	649.8	7.47
158.6	701.4	6.90	490.1	1304.0	7.74	248.6	657.5	7.40
144.6	715.4	6.74	550.1	1364.0	8.07	240.9	665.2	7.33
130.7	729.3	6.75	610.1	1424.0	8.34	233.2	672.9	7.26
116.8	743.2	6.71	670.1	1484.0	8.67	225.5	680.6	7.22
102.9	757.1	6.54	730.1	1544.0	8.92	217.8	688.3	7.06
88.9	771.1	6.45	790.1	1604.0	9.36	210.1	696.0	7.02
75.0	785.0	6.40	850.1	1664.0	9.50	202.4	703.7	6.91
61.1	798.9	6.36	910.1	1724.0	9.54	194.7	711.4	7.02
47.1	812.9	6.28	970.1	1784.0	9.75	187.0	719.1	6.89
33.2	826.8	6.27	1030.1	1844.0	9.71	179.3	726.8	6.92
19.3	840.7	6.21	1090.1	1904.0	9.72	171.6	734.5	6.79
10.0	870.0	6.36	1150.1	1964.0	9.84	163.9	742.2	6.77
117.1	977.1	6.13	1190.1	2004.0	9.63	156.3	749.8	6.71
224.3	1084.3	7.03	1250.1	2064.0	9.65	148.6	757.5	6.63
331.4	1191.4	7.04	1290.1	2104.0	9.50	140.9	765.2	6.63
438.6	1298.6	7.46	1350.1	2164.0	9.50	133.2	772.9	6.54
545.7	1405.7	8.12	1390.1	2204.0	9.30	125.5	780.6	6.59
652.9	1512.9	8.62	1450.1	2264.0	9.25	117.8	788.3	6.47
760.0	1620.0	9.21	1490.1	2304.0	9.05	110.1	796.0	6.50
867.1	1727.1	9.47	1550.1	2364.0	9.03	102.4	803.7	6.38
974.3	1834.3	9.62	1590.1	2404.0	8.93	94.7	811.4	6.41
1081.4	1941.4	9.62	1650.1	2464.0	9.00	87.0	819.1	6.32
1188.6	2048.6	9.57	1690.1	2504.0	9.03	79.3	826.8	6.33
1295.7	2155.7	9.42	1750.1	2564.0	9.09	71.6	834.5	6.23
1367.1	2227.1	9.20	1790.1	2604.0	9.13	63.9	842.2	6.25
1474.3	2334.3	9.00	1850.1	2664.0	9.21	56.3	849.8	6.21
1545.7	2405.7	8.85	1890.1	2704.0	9.29	48.6	857.5	6.21
1652.9	2512.9	8.94	1950.1	2764.0	9.46	40.9	865.2	6.18
1724.3	2584.3	9.01	1990.1	2804.0	9.56	33.2	872.9	6.12
1831.4	2691.4	9.15	2050.1	2864.0	9.67	25.5	880.6	6.14
1902.9	2762.9	9.34	2090.1	2904.0	9.73	17.8	888.3	6.09
2010.0	2870.0	9.48	2150.1	2964.0	9.99	10.1	896.0	6.32

REV. X2

HJK-ED9494A/1

101012

Page 2 of 5



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED • RoHS compliant

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



The Design Engineers Search Engine finds the model you need, instantly • For detailed performance specs & shopping online see



Frequency Mixer

HJK-ED9494A/1

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)		
	+16	+17	+18	+16	+17	+18
582.1	41.95	42.02	41.95	44.73	45.70	46.43
632.1	41.33	41.42	41.38	45.98	46.64	47.13
682.1	40.43	40.62	40.70	44.62	44.97	45.17
732.1	39.81	40.08	40.20	45.13	44.90	44.62
782.1	39.00	39.38	39.57	44.30	43.98	43.70
832.1	36.69	37.01	37.34	42.24	42.07	42.14
882.1	34.14	34.26	34.47	40.13	40.04	40.01
932.1	35.72	36.02	36.38	40.82	40.78	40.82
982.1	36.79	37.19	37.56	42.36	42.36	42.31
1032.1	37.22	37.65	38.00	42.92	42.74	42.40
1082.1	39.77	40.72	41.75	39.46	38.92	38.49
1132.1	54.42	50.48	47.99	33.73	33.44	33.21
1182.1	44.52	43.66	42.97	34.25	34.30	34.37
1232.1	41.38	41.11	40.90	36.39	36.46	36.61
1282.1	40.09	39.59	39.39	39.11	39.07	39.22
1332.1	39.25	38.82	38.67	42.56	42.77	43.13
1382.1	38.58	38.33	37.87	43.36	43.88	44.26
1432.1	41.43	40.84	40.58	37.95	37.86	37.96
1482.1	45.48	44.93	44.68	36.65	36.42	36.33
1532.1	44.24	43.82	43.65	37.35	36.89	36.62
1582.1	42.99	42.63	42.48	39.02	38.17	37.63
1627.1	41.51	41.11	40.92	40.24	39.10	38.32
1677.1	40.05	39.58	39.30	43.34	41.61	40.36
1722.1	39.37	38.80	38.56	45.65	43.96	42.71
1772.1	38.89	38.35	38.05	45.05	45.98	46.23
1817.1	38.59	38.08	37.57	41.89	43.16	44.18
1867.1	39.11	38.55	38.42	38.63	39.50	40.32
1912.1	39.55	39.19	39.14	37.05	37.75	38.40
1962.1	40.09	39.85	39.92	35.20	35.75	36.32
2007.1	40.49	40.55	40.65	34.21	34.74	35.23
2057.1	41.12	41.21	41.36	32.93	33.35	33.75
2102.1	41.66	41.84	41.91	32.36	32.77	33.10
2152.1	42.40	42.62	42.72	31.66	32.00	32.26
2197.1	43.44	43.65	43.72	31.62	31.95	32.20
2247.1	44.39	44.74	44.95	31.23	31.63	31.86
2292.1	45.44	45.81	46.13	31.27	31.66	31.95
2342.1	45.59	45.97	46.42	31.06	31.35	31.71
2387.1	44.97	45.36	45.69	31.11	31.45	31.70
2437.1	42.96	43.31	43.50	30.92	31.23	31.44
2482.1	40.91	41.12	41.14	31.02	31.24	31.37

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+16	+17	+18
664.1	582.1	31.97	32.27	35.06
714.1	632.1	34.34	35.54	35.96
764.1	682.1	35.33	36.36	37.01
814.1	732.1	36.59	37.39	38.27
864.1	782.1	37.55	38.10	39.10
914.1	832.1	37.94	38.73	39.44
964.1	882.1	41.53	43.42	44.55
1014.1	932.1	54.31	48.67	46.20
1064.1	982.1	35.26	34.55	34.06
1114.1	1032.1	25.04	24.67	24.38
1164.1	1082.1	17.81	17.39	17.13
1214.1	1132.1	17.53	17.45	17.55
1264.1	1182.1	23.23	23.51	23.94
1314.1	1232.1	30.23	30.54	31.20
1364.1	1282.1	37.49	38.03	38.78
1414.1	1332.1	45.39	56.28	53.07
1464.1	1382.1	34.36	37.33	39.98
1514.1	1432.1	31.59	33.87	34.87
1564.1	1482.1	31.87	33.52	34.13
1614.1	1532.1	31.70	33.24	33.70
1664.1	1582.1	29.76	31.39	32.14
1709.1	1627.1	28.96	30.59	31.46
1759.1	1677.1	26.97	28.52	29.68
1804.1	1722.1	25.66	26.96	28.06
1854.1	1772.1	24.08	24.93	25.56
1899.1	1817.1	23.88	24.56	25.11
1949.1	1867.1	24.25	24.95	25.33
1994.1	1912.1	25.15	25.81	26.19
2044.1	1962.1	25.66	26.26	26.53
2089.1	2007.1	26.49	27.03	27.30
2139.1	2057.1	26.65	27.18	27.44
2184.1	2102.1	26.97	27.48	27.73
2234.1	2152.1	26.60	27.05	27.28
2279.1	2197.1	26.63	27.07	27.30
2329.1	2247.1	26.11	26.48	26.64
2374.1	2292.1	26.01	26.40	26.53
2424.1	2342.1	25.56	25.82	25.93
2469.1	2387.1	25.40	25.65	25.78
2519.1	2437.1	24.75	25.05	25.11
2564.1	2482.1	24.56	24.78	24.87

REV. X2

HJK-ED9494A/1

101012

Page 3 of 5



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED • RoHS compliant

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



The Design Engineers Search Engine finds the model you need, instantly • For detailed performance specs & shopping online see



Frequency Mixer

HJK-ED9494A/1

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)			LO (MHz)	LO VSWR (:1)			IF (OUT) (MHz)	IF VSWR @LO=812MHz (:1)		
		@LO (dBm)				@LO (dBm)				@LO (dBm)		
		+16	+17	+18		+16	+17	+18		+16	+17	+18
664.1	582.1	1.71	1.73	1.79	582.1	14.38	14.38	14.38	10.0	1.28	1.32	1.37
714.1	632.1	1.76	1.80	1.83	632.1	11.46	11.38	11.31	30.3	1.21	1.24	1.29
764.1	682.1	1.79	1.83	1.88	682.1	7.44	7.34	7.25	50.5	1.24	1.28	1.32
814.1	732.1	1.83	1.87	1.92	732.1	4.99	4.95	4.88	70.8	1.36	1.40	1.44
864.1	782.1	1.82	1.87	1.91	782.1	4.42	4.41	4.40	91.0	1.37	1.40	1.43
914.1	832.1	1.74	1.79	1.83	832.1	5.42	5.44	5.47	111.3	1.33	1.36	1.39
964.1	882.1	1.63	1.68	1.73	882.1	7.50	7.53	7.60	131.5	1.39	1.42	1.45
1014.1	932.1	1.57	1.63	1.68	932.1	10.31	10.37	10.43	151.8	1.53	1.55	1.58
1064.1	982.1	1.52	1.58	1.64	982.1	13.09	13.09	13.09	172.1	1.54	1.56	1.57
1114.1	1032.1	1.45	1.52	1.58	1032.1	15.81	15.81	15.81	192.3	1.52	1.54	1.56
1164.1	1082.1	1.42	1.49	1.54	1082.1	16.11	15.96	15.81	212.6	1.61	1.63	1.65
1214.1	1132.1	1.51	1.58	1.63	1132.1	17.05	17.05	17.22	232.8	1.74	1.75	1.76
1264.1	1182.1	1.45	1.52	1.56	1182.1	19.76	19.76	19.54	253.1	1.75	1.76	1.77
1314.1	1232.1	1.46	1.53	1.58	1232.1	22.58	22.87	22.87	273.3	1.80	1.81	1.83
1364.1	1282.1	1.49	1.58	1.63	1282.1	22.29	22.29	22.00	293.6	1.91	1.92	1.94
1414.1	1332.1	1.57	1.66	1.71	1332.1	23.49	23.49	23.49	313.8	1.96	1.96	1.96
1464.1	1382.1	1.64	1.72	1.80	1382.1	20.70	20.45	20.22	334.1	1.98	1.99	1.99
1514.1	1432.1	1.80	1.92	2.00	1432.1	20.70	20.45	20.45	354.4	2.11	2.12	2.13
1564.1	1482.1	1.91	2.03	2.13	1482.1	22.00	21.73	21.46	374.6	2.22	2.23	2.23
1614.1	1532.1	2.01	2.14	2.23	1532.1	23.18	22.87	22.87	394.9	2.16	2.16	2.16
1664.1	1582.1	2.02	2.15	2.24	1582.1	21.73	21.46	21.20	415.1	2.25	2.25	2.25
1709.1	1627.1	2.09	2.21	2.30	1627.1	21.73	21.46	21.20	435.4	2.44	2.44	2.45
1759.1	1677.1	2.11	2.21	2.30	1677.1	19.98	19.54	19.11	455.6	2.46	2.46	2.46
1804.1	1722.1	2.18	2.28	2.38	1722.1	19.98	19.76	19.54	475.9	2.40	2.40	2.41
1854.1	1772.1	2.27	2.36	2.44	1772.1	18.50	18.11	17.75	496.2	2.54	2.54	2.55
1899.1	1817.1	2.40	2.49	2.59	1817.1	18.70	18.50	18.11	516.4	2.69	2.70	2.70
1949.1	1867.1	2.57	2.67	2.74	1867.1	17.39	17.05	16.56	536.7	2.66	2.66	2.67
1994.1	1912.1	2.75	2.85	2.94	1912.1	17.75	17.57	17.39	556.9	2.63	2.64	2.66
2044.1	1962.1	2.94	3.03	3.10	1962.1	16.11	15.81	15.53	577.2	2.75	2.77	2.78
2089.1	2007.1	3.11	3.19	3.26	2007.1	16.41	16.26	16.11	597.4	2.82	2.83	2.85
2139.1	2057.1	3.30	3.37	3.43	2057.1	15.00	14.74	14.38	617.7	2.75	2.77	2.78
2184.1	2102.1	3.45	3.51	3.58	2102.1	15.13	15.13	15.00	637.9	2.75	2.78	2.80
2234.1	2152.1	3.63	3.68	3.74	2152.1	13.81	13.60	13.29	658.2	2.76	2.79	2.82
2279.1	2197.1	3.78	3.83	3.89	2197.1	13.92	13.81	13.70	678.5	2.69	2.72	2.76
2329.1	2247.1	3.95	3.98	4.01	2247.1	12.71	12.52	12.26	698.7	2.59	2.63	2.67
2374.1	2292.1	4.10	4.13	4.16	2292.1	12.80	12.71	12.61	719.0	2.53	2.57	2.62
2424.1	2342.1	4.33	4.35	4.37	2342.1	11.69	11.53	11.24	739.2	2.39	2.43	2.48
2469.1	2387.1	4.44	4.46	4.47	2387.1	11.77	11.69	11.61	759.5	2.21	2.24	2.28
2519.1	2437.1	4.61	4.62	4.63	2437.1	10.82	10.62	10.43	779.7	2.07	2.09	2.13
2564.1	2482.1	4.67	4.68	4.69	2482.1	10.89	10.82	10.75	800.0	1.91	1.92	1.94

REV. X2

HJK-ED9494A/1

101012

Page 4 of 5



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED • RoHS compliant

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



The Design Engineers Search Engine finds the model you need, instantly • For detailed performance specs & shopping online see



Harmonics Tables

RF HARMONICS ORDER	(-dBm)												
	(-dBc)												
	0	-	-	21	19	32	24	26	38	27	44	39	48
	1	-	29	+0	37	13	47	40	57	30	49	37	64
	2	62	60	61	76	69	70	63	82	65	>84	68	74
	3	>90	>84	77	80	76	>84	76	>84	>84	>84	>84	>84
	4	>90	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84
	5	>90	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84
	6	>90	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84
	7	>90	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84
	8	>90	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84
	9	>90	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84
	10	>90	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84
RF CAL		0	1	2	3	4	5	6	7	8	9	10	

LO HARMONICS ORDER

Test conditions:

RF IN: 860 MHz; 0.00 dBm.
 LO IN: 778 MHz; +17.00 dBm
 IF OUT: 82 MHz; -6.42 dBm

RF HARMONICS ORDER	(-dBm)		(-dBc)										
	0	-	-	31	29	42	34	37	48	37	51	50	57
	1	-	30	+0	38	13	48	41	55	30	49	37	59
	2	43	49	50	67	59	60	53	83	55	76	58	66
	3	65	72	55	65	54	66	56	70	76	75	66	73
	4	>90	92	92	>93	84	92	82	93	81	85	84	>93
	5	>90	>93	>93	>93	93	>93	89	>93	89	93	>93	>93
	6	>90	>93	>93	>93	>93	>93	>93	>93	>93	>93	>93	>93
	7	>90	>93	>93	>93	>93	>93	>93	>93	>93	>93	93	>93
	8	>90	>93	>93	>93	>93	>93	>93	>93	>93	>93	>93	>93
	9	>90	>93	>93	>93	>93	>93	>93	>93	>93	>93	>93	>93
	10	>90	>93	>93	>93	>93	>93	>93	>93	>93	>93	>93	>93
	RF CAL		0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions:

RF IN: 860 MHz; 10.00 dBm.
 LO IN: 778 MHz; +17.00 dBm
 IF OUT: 82 MHz; 3.49 dBm

Notes: 1. All Harmonics are in (dBc) relative to IF OUTPUT.

2. + entry denotes harmonics are in (dBc) above IF OUTPUT.

3. RF Cal represent the Harmonics level of the RF input signal to the mixer.

REV. X2

HJK-ED9494A/1

101012

Page 5 of 5



RF/MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED • RoHS compliant

P.O. Box 350186, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

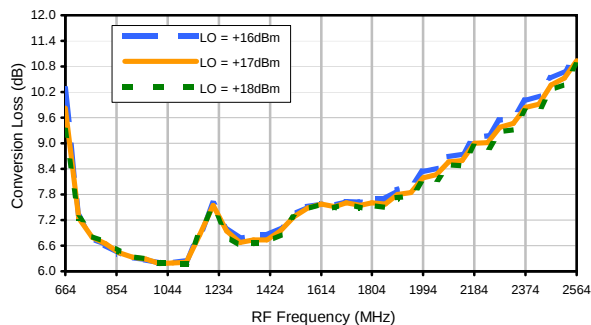


The Design Engineers Search Engine finds the model you need, instantly • For detailed performance specs & shopping online see

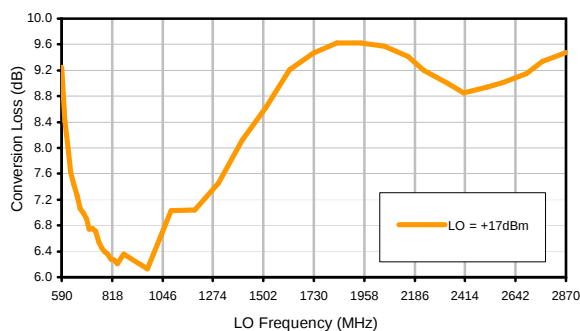


Typical Performance Curves

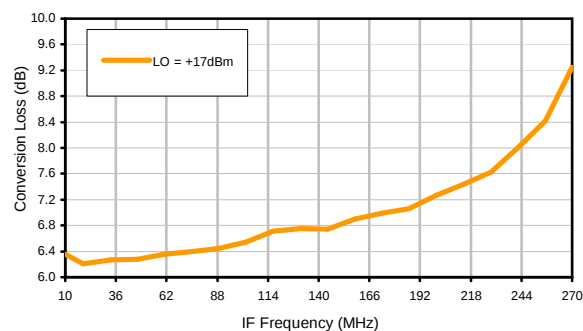
Conversion Loss @ IF=82MHz



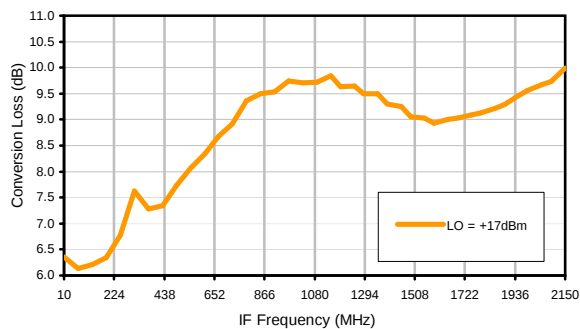
Conversion Loss vs. LO @ RF=860MHz



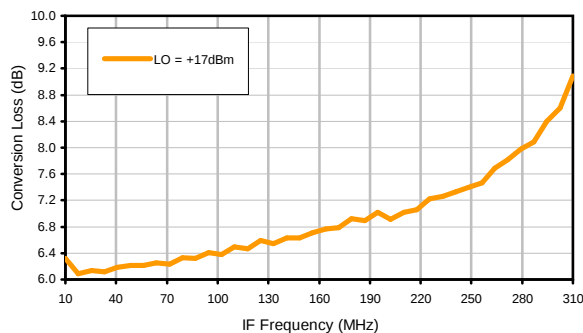
Conversion Loss vs. IF @ RF=860MHz



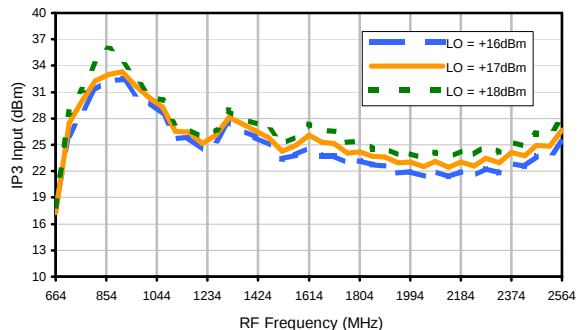
Conversion Loss vs. IF @ RF=813.9MHz



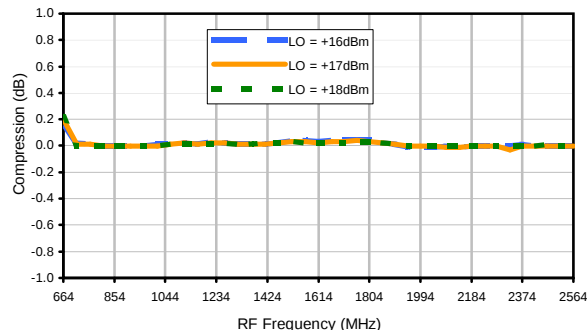
Conversion Loss vs. IF @ RF=906.1MHz



IP3 Input

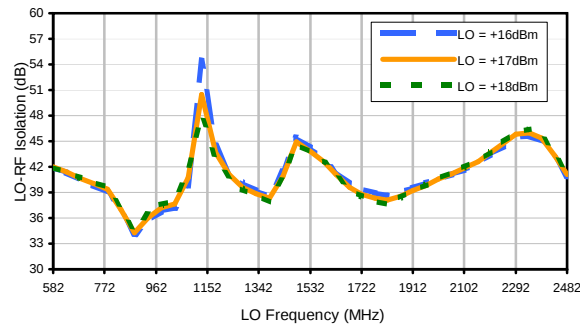


Compression @ RF IN=0dBm

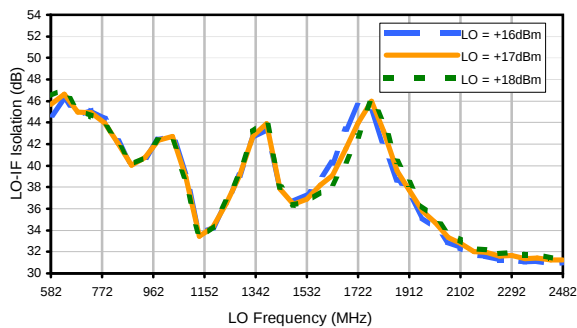


Typical Performance Curves

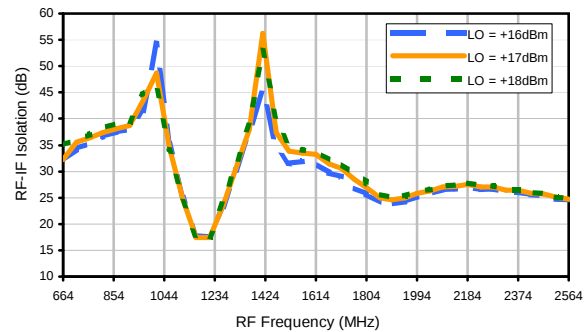
LO-RF Isolation



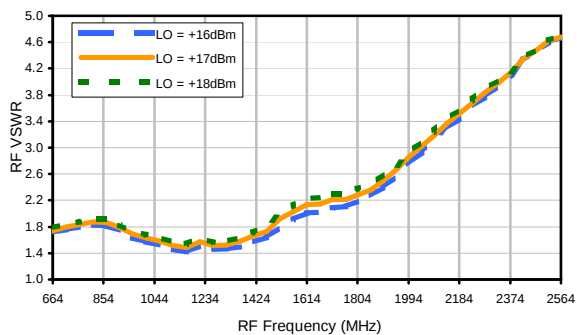
LO-IF Isolation



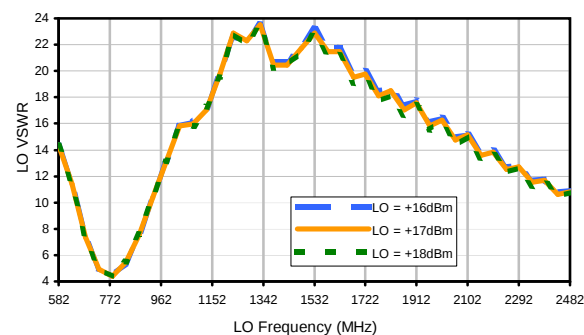
RF-IF Isolation



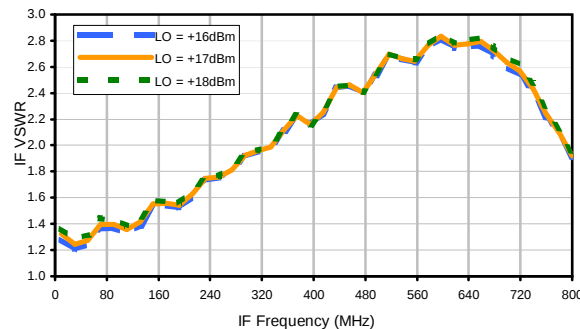
RF VSWR



LO VSWR



IF VSWR



REV. X2

HJK-ED9494A/1

101012

Page 2 of 3



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED • RoHS compliant

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



The Design Engineers Search Engine finds the model you need, instantly • For detailed performance specs & shopping online see



Harmonics Tables

RF HARMONICS ORDER	(-dBm)											
	(-dBc)											
0	-	-	21	19	32	24	26	38	27	44	39	48
1	-	29	+0	37	13	47	40	57	30	49	37	64
2	62	60	61	76	69	70	63	82	65	>84	68	74
3	>90	>84	77	80	76	>84	76	>84	>84	>84	>84	>84
4	>90	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84
5	>90	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84
6	>90	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84
7	>90	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84
8	>90	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84
9	>90	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84
10	>90	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84
RF CAL 0 1 2 3 4 5 6 7 8 9 10												

LO HARMONICS ORDER

Test conditions:

RF IN: 860 MHz; 0.00 dBm.
 LO IN: 778 MHz; +17.00 dBm
 IF OUT: 82 MHz; -6.42 dBm

RF HARMONICS ORDER	(-dBm)											
	(-dBc)											
0	-	-	31	29	42	34	37	48	37	51	50	57
1	-	30	+0	38	13	48	41	55	30	49	37	59
2	43	49	50	67	59	60	53	83	55	76	58	66
3	65	72	55	65	54	66	56	70	76	75	66	73
4	>90	92	92	>93	84	92	82	93	81	85	84	>93
5	>90	>93	>93	>93	93	>93	89	>93	89	93	>93	>93
6	>90	>93	>93	>93	>93	>93	>93	>93	>93	>93	>93	>93
7	>90	>93	>93	>93	>93	>93	>93	>93	>93	>93	93	>93
8	>90	>93	>93	>93	>93	>93	>93	>93	>93	>93	>93	>93
9	>90	>93	>93	>93	>93	>93	>93	>93	>93	>93	>93	>93
10	>90	>93	>93	>93	>93	>93	>93	>93	>93	>93	>93	>93
RF CAL 0 1 2 3 4 5 6 7 8 9 10												

LO HARMONICS ORDER

Test conditions:

RF IN: 860 MHz; 10.00 dBm.
 LO IN: 778 MHz; +17.00 dBm
 IF OUT: 82 MHz; 3.49 dBm

Notes: 1. All Harmonics are in (dBc) relative to IF OUTPUT.

2. + entry denotes harmonics are in (dBc) above IF OUTPUT.

3. RF Cal represent the Harmonics level of the RF input signal to the mixer.

REV. X2

HJK-ED9494A/1

101012

Page 3 of 3



RF/MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED • RoHS compliant

P.O. Box 350186, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



The Design Engineers Search Engine finds the model you need, instantly • For detailed performance specs & shopping online see





All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-20° to 85°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Humidity	90 to 95% RH, 240 hours, 50°C	MIL-STD-202, Method 103, Condition A, Except 50°C and end-point electrical test done within 12 hours
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
Solder Reflow Heat	Sn-Pb Eutetic Process: 225°C peak Pb-Free Process 245° - 250°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, 95% Coverage
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C	MIL-STD-202, Method 215