

very low distortion

T-74-09-01

Frequency Mixers

LEVEL 17S (+17dBm LO, up to +14dBm RF)

Models

TFM-3H
TUF-3H

computer-automated performance data

typical production unit / for data of other models consult factory

mixer conversion loss and isolation

RF MHz	LO MHz	Conversion Loss (dB)			Isolation L-R (dB)			Isolation L-I (dB)		
		LO +14dBm	LO +17dBm	LO +20dBm	LO +14dBm	LO +17dBm	LO +20dBm	LO +14dBm	LO +17dBm	LO +20dBm
100	30.10	5.71	5.43	5.26	64.78	66.42	66.35	68.59	66.28	63.03
5.000	35.00	5.24	4.99	4.92	60.18	61.64	63.09	64.99	64.07	62.71
10.000	40.00	5.17	4.91	4.78	59.08	60.33	61.40	61.56	61.62	60.74
20.000	50.00	5.21	4.94	4.81	60.69	61.22	61.67	60.52	60.51	59.92
34.569	64.57	5.16	4.92	4.80	56.53	57.23	57.15	55.92	56.07	55.64
50.000	80.00	5.17	4.92	4.80	53.58	53.98	54.04	52.40	52.73	52.09
60.420	90.42	5.16	4.92	4.80	51.84	52.33	52.03	50.56	50.92	49.90
69.038	99.04	5.11	4.87	4.77	50.53	51.05	50.49	49.22	49.22	48.53
86.272	56.27	5.03	4.80	4.72	48.43	48.52	47.80	46.65	46.16	46.07
100.000	70.00	5.00	4.79	4.68	46.90	46.72	46.00	44.62	44.44	44.60
103.510	73.51	5.18	4.84	4.72	46.59	46.41	45.79	44.11	44.07	44.42
129.360	99.36	5.17	4.89	4.79	43.56	43.29	43.30	40.81	41.27	42.21
146.590	116.59	5.18	4.91	4.82	41.98	41.82	41.73	39.42	40.17	40.89
155.210	125.21	5.13	4.90	4.83	41.30	41.17	41.39	38.71	39.68	40.93
172.440	142.44	5.21	5.00	4.93	40.29	39.95	39.91	37.82	38.86	39.95
189.680	159.68	5.27	5.08	5.03	39.44	39.60	39.03	36.95	38.24	39.21
224.150	194.15	5.40	5.21	5.10	36.93	37.56	37.61	35.74	36.93	38.22
232.760	202.76	5.45	5.26	5.14	36.40	36.71	36.55	35.59	36.82	37.49
241.380	211.38	5.44	5.24	5.13	36.06	35.87	35.81	35.28	36.43	37.36
250.000	220.00	5.45	5.23	5.11	35.77	35.64	35.46	34.98	36.00	37.11

mixer VSWR

freq. MHz	VSWR, RF port			VSWR, LO port			VSWR, IF port			freq. (MHz)	max. DC output mV	DC offset mV
	LO +14dBm	LO +17dBm	LO +20dBm	LO +14dBm	LO +17dBm	LO +20dBm	LO +14dBm	LO +17dBm	LO +20dBm			
5.001	1.66	1.40	1.24	1.32	1.51	2.55	1.78	1.56	1.47	100	-950.35	+ .18
26.618	1.66	1.40	1.25	1.21	1.46	2.33	1.77	1.55	1.46	25.952	-979.20	+ .49
33.824	1.64	1.38	1.24	1.14	1.52	2.43	1.75	1.55	1.46	34.569	-971.30	+ .48
41.029	1.64	1.39	1.24	1.12	1.51	2.39	1.75	1.54	1.46	43.186	-970.40	+ .47
50.000	1.64	1.39	1.24	1.15	1.52	2.41	1.77	1.55	1.46	51.803	-975.40	+ .49
69.853	1.66	1.39	1.23	1.21	1.48	2.46	1.81	1.59	1.50	69.038	-988.00	+ .42
77.059	1.65	1.38	1.23	1.24	1.45	2.43	1.82	1.60	1.50	77.655	-992.80	+ .37
84.265	1.65	1.38	1.22	1.24	1.47	2.38	1.83	1.61	1.51	86.272	-1001.90	+ .26
98.676	1.60	1.35	1.20	1.22	1.43	2.21	1.81	1.60	1.50	94.889	-1013.60	+ .26
100.000	1.60	1.35	1.20	1.23	1.41	2.22	1.82	1.60	1.50	100.000	-1026.60	+ .14
113.090	1.58	1.33	1.19	1.22	1.44	2.24	1.83	1.61	1.51	112.120	-991.10	+ .10
127.500	1.56	1.31	1.17	1.23	1.45	2.29	1.84	1.63	1.53	129.360	-996.80	- .04
149.120	1.56	1.30	1.16	1.23	1.50	2.37	1.93	1.70	1.59	146.590	-981.40	+ .19
163.530	1.53	1.29	1.15	1.23	1.46	2.27	1.95	1.72	1.62	163.830	-994.90	+ .45
185.150	1.46	1.24	1.11	1.23	1.46	2.15	1.97	1.74	1.64	181.060	-993.70	+ .36
199.560	1.44	1.22	1.10	1.25	1.45	2.18	2.01	1.77	1.68	198.300	-1000.70	+ .65
206.760	1.43	1.21	1.09	1.28	1.47	2.24	2.04	1.80	1.69	206.910	-1008.60	+ .66
228.380	1.40	1.18	1.06	1.29	1.52	2.28	2.16	1.91	1.79	224.150	-1013.10	+ 1.34
242.790	1.37	1.16	1.04	1.28	1.53	2.19	2.22	1.94	1.82	241.380	-996.10	+ 2.09
250.000	1.34	1.14	1.03	1.27	1.52	2.22	2.22	1.95	1.83	250.000	-979.20	+ 2.54

Measurements at RF & LO Power +17 dBm



0.1 to 250 MHz



mixer harmonic intermodulation (relative to desired IF output)

T-74-09-01

RF CAL													
RF ORDER HARMONIC	0	-	-	40	47	48	63	52	67	64	59	67	65
	1	-	37	-	43	13	43	22	42	44	40	32	41
	2	75	>81	>69	>90	68	>81	67	>81	>69	>77	>76	>74
	3	78	58	68	59	55	62	48	59	44	56	42	55
	4	>86	>96	>92	>96	>85	>94	>82	>95	>81	>92	80	>89
	5	>85	78	73	79	66	>81	62	77	60	75	59	72
	6	>85	>96	>92	>96	>91	>96	>87	>95	>86	>97	>86	>95
	7	>85	>94	>86	>93	76	>92	72	>89	71	>91	73	>86
	8	>86	>95	>91	>96	>91	>95	>95	>95	>95	>96	>95	>96
	9	>85	>96	>85	>95	>80	>95	76	>94	76	>96	77	>95
	10	>86	>96	>93	>95	>94	>95	>93	>96	>95	>94	>95	>96
		0	1	2	3	4	5	6	7	8	9	10	
Harmonic LO Order													

Harmonic LO Order

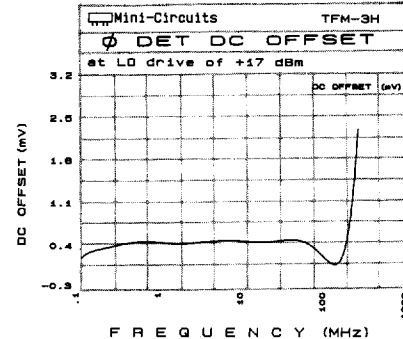
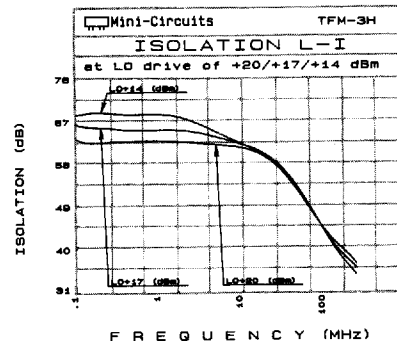
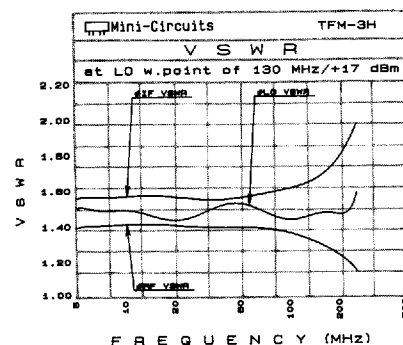
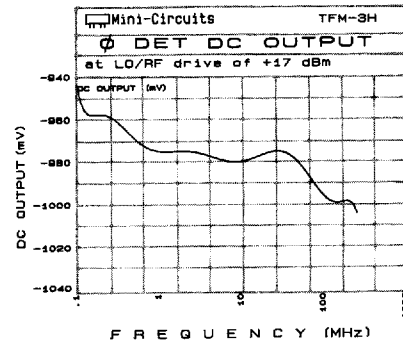
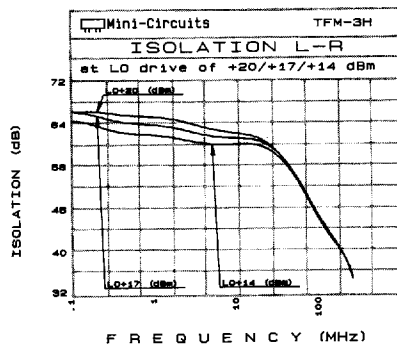
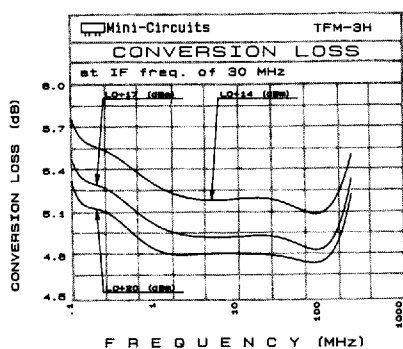
test conditions: RF.=IN: FREQ.10.1 MHZ DRIVE 5.01 DBM
LO. IN: FREQ.40.01 MHZ DRIVE 17 DBM
IF=MEASURED: FREQ.29.91 MHZ AMP. -.41 DBM

RF CAL													
RF ORDER HARMONIC	0	-	-	30	38	38	52	41	59	50	49	53	52
	1	-	36	-	40	13	40	23	39	32	37	26	37
	2	86	> 86	77	> 85	76	> 84	76	> 86	> 83	> 86	76	> 85
	3	88	75	73	75	59	76	55	72	53	70	53	71
	4	> 96	> 86	> 85	> 86	> 86	> 86	> 85	> 86	> 85	> 85	> 85	> 86
	5	> 96	> 83	82	> 81	77	> 85	74	> 86	73	> 86	74	> 86
	6	> 95	> 87	> 86	> 86	> 86	> 87	> 87	> 86	> 87	> 87	> 86	> 86
	7	> 96	> 87	> 84	> 85	> 84	> 86	> 85	> 86	> 85	> 88	> 86	> 86
	8	> 94	> 86	> 85	> 85	> 86	> 86	> 86	> 87	> 87	> 85	87	> 86
	9	> 96	> 86	> 82	> 86	> 83	> 86	> 86	> 85	> 86	> 87	> 86	> 86
	10	> 96	> 88	> 87	> 86	> 87	> 86	> 86	> 85	> 87	> 86	> 86	> 85
		0	1	2	3	4	5	6	7	8	9	10	
Harmonic LO Order													

Harmonic LO Order

test conditions: RF.=IN: FREQ.10.1 MHZ DRIVE -5.04 DBM
LO. IN: FREQ.40.01 MHZ DRIVE 17.03 DBM
IF=MEASURED: FREQ.29.91 MHZ AMP. -.94 DBM

typical performance curves (production unit)



In Stock...Immediate Delivery