

lowest distortion available

Frequency Mixers

T-74-09-01

Model

LEVEL 27 (+27dBm LO, up to +24dBm RF)

VAY-1

SCIENTIFIC/ MINI-CIRCUITS 49E D ■ 8068811 0001337 982 ■ SCC



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) LO			Isolation L-R (dB) LO			Isolation L-I (dB) LO		
		+23dBm	+27dBm	+30dBm	+23dBm	+27dBm	+30dBm	+23dBm	+27dBm	+30dBm
.050	30.05	7.65	6.73	6.43	43.01	45.06	48.21	41.02	44.77	47.90
.100	30.10	6.76	5.90	5.71	44.26	46.53	49.77	42.32	46.31	49.47
.200	30.20	6.63	5.71	5.53	44.70	46.84	50.03	42.42	46.41	49.42
.500	30.50	6.42	5.47	5.15	44.77	46.89	49.86	42.45	46.31	49.14
1.000	31.00	6.45	5.47	5.01	44.52	46.31	48.58	42.20	45.50	47.93
17.905	47.91	5.87	5.34	5.23	43.81	45.35	46.91	41.27	44.81	46.67
35.760	65.76	5.86	5.35	5.34	43.18	44.40	44.78	41.06	44.31	44.93
53.615	83.62	5.84	5.37	5.34	42.40	43.31	43.54	40.94	43.11	42.67
125.040	95.04	6.48	6.02	5.90	41.94	42.44	42.46	40.54	41.42	41.53
142.890	112.89	6.51	6.06	5.94	40.76	40.80	40.64	38.88	39.25	39.31
196.460	166.46	6.72	6.19	6.10	39.84	39.78	40.08	37.83	38.66	38.73
232.170	202.17	6.83	6.31	6.09	40.02	40.08	40.09	37.43	38.07	38.43
250.020	220.02	6.95	6.42	6.14	41.14	40.67	39.70	37.23	37.72	38.04
285.730	255.73	6.94	6.42	6.22	42.09	40.68	39.68	36.81	36.54	35.61
321.440	291.44	6.79	6.30	6.19	40.95	41.05	39.67	35.95	34.78	34.56
357.150	327.15	6.79	6.37	6.20	39.34	41.32	39.35	35.79	34.37	33.14
392.860	362.86	6.83	6.31	6.18	36.75	38.74	38.90	37.43	35.82	33.51
446.430	416.43	7.29	6.72	6.52	34.41	35.92	36.07	39.92	36.76	34.66
464.280	434.28	7.45	6.85	6.62	32.47	34.39	35.61	40.51	38.34	34.54
500.000	470.00	7.74	7.04	6.83	31.98	33.75	35.07	38.55	35.90	33.07

mixer VSWR

freq. MHz	VSWR, RF port			VSWR, LO port			VSWR, IF port		
	LO +23dBm	LO +27dBm	LO +30dBm	LO +23dBm	LO +27dBm	LO +30dBm	LO +23dBm	LO +27dBm	LO +30dBm
5.001	1.87	1.46	1.22	1.63	1.14	2.06	1.78	1.37	1.13
10.000	1.87	1.46	1.24	1.60	1.14	2.23	1.78	1.38	1.14
20.000	1.88	1.47	1.24	1.56	1.11	2.19	1.79	1.38	1.15
48.676	1.87	1.47	1.25	1.46	1.19	1.96	1.76	1.37	1.14
63.235	1.88	1.48	1.26	1.67	1.23	1.78	1.77	1.37	1.14
77.794	1.90	1.49	1.27	1.76	1.22	1.72	1.77	1.36	1.13
100.000	1.92	1.51	1.27	1.66	1.18	1.66	1.77	1.37	1.13
121.470	1.96	1.54	1.29	1.71	1.20	1.61	1.78	1.37	1.14
150.590	2.04	1.59	1.36	1.95	1.23	1.73	1.81	1.38	1.16
194.260	2.13	1.65	1.57	1.85	1.18	1.81	1.82	1.39	1.18
208.820	2.16	1.68	1.64	2.03	1.25	1.71	1.84	1.40	1.19
237.940	2.25	1.75	1.71	2.00	1.22	1.53	1.88	1.43	1.18
252.500	2.29	1.77	1.70	1.89	1.21	1.51	1.89	1.43	1.18
296.180	2.44	1.86	1.60	2.12	1.25	1.31	1.97	1.48	1.19
325.290	2.52	1.92	1.73	2.08	1.29	1.30	2.04	1.53	1.23
368.970	2.68	2.02	2.02	2.47	1.47	1.23	2.11	1.61	1.30
398.090	2.72	2.09	2.02	2.53	1.52	1.16	2.17	1.66	1.34
441.760	2.82	2.17	2.16	2.80	1.70	1.13	2.26	1.76	1.47
485.440	2.90	2.27	2.35	3.40	1.96	1.08	2.36	1.86	1.65
500.000	2.88	2.27	2.21	3.17	1.95	1.11	2.36	1.87	1.64



0.5 to 500 MHz

Mini-Circuits**ULTRA-REL™ MIXERS**
5-YR. GUARANTEE*

00-55

T-74-09-01

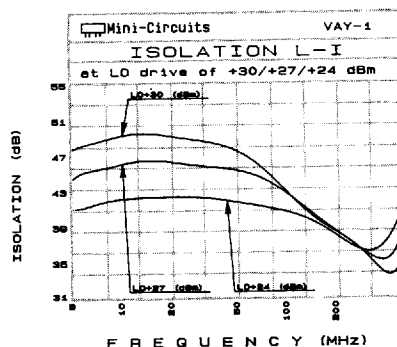
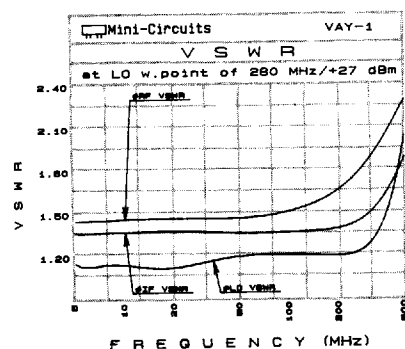
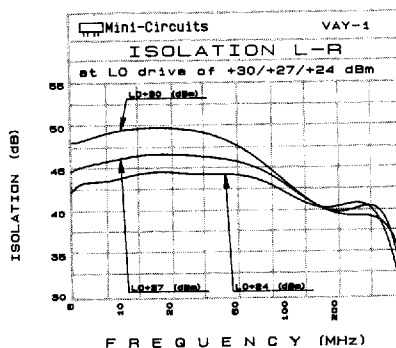
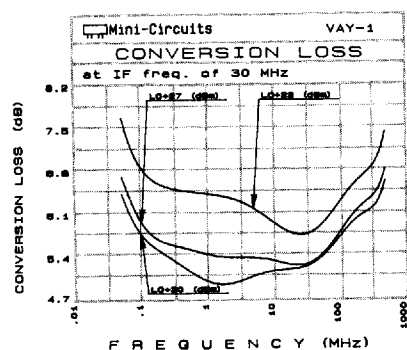
mixer harmonic intermodulation
(relative to desired IF output)

RF CAL													
RF ORDER HARMONIC	0	-	-	26	24	39	34	37	41	46	57	53	57
	1	-	21	-	33	21	28	23	36	29	45	41	53
	2	47	>56	>43	>47	>50	>47	>44	>53	>54	>50	>56	>54
	3	63	46	41	43	39	48	51	50	43	>58	44	>60
	4	>84	65	57	63	54	60	58	58	64	59	64	59
	5	>86	71	68	60	61	59	58	60	60	60	66	68
	6	>84	70	76	69	>77	66	>80	66	74	70	68	75
	7	>85	>79	74	76	73	74	69	67	75	68	>85	>80
	8	>85	>89	>90	>80	>90	>81	>85	>83	77	74	>78	74
	9	>84	>87	>81	>84	>78	>81	>78	>87	76	>78	74	76
	10	>85	>92	>91	>92	>93	>88	>89	>91	>82	>85	>79	77
		0	1	2	3	4	5	6	7	8	9	10	
Harmonic LO Order													

test conditions: RF, =IN: FREQ. 500.1 MHZ DRIVE 14.94 DBM
 LO, IN: FREQ. 470.01 MHZ DRIVE 26.97 DBM
 IF MEASURED: FREQ. 30.091 MHZ AMP. 7.71 DBM

RF CAL	0	-	-	14	15	14	27	27	29	33	44	35	52
RF ORDER HARMONIC	1	-	24	-	33	17	25	24	32	27	44	32	46
2	67	52	52	56	59	58	49	53	52	57	>62		55
3	>87	62	65	61	60	66	66	71	69	76	66	>82	
4	>84	>82	>79	>83	>79	>81	>84	>82	>83	>82	>83	>81	
5	>85	>82	>83	>84	>84	>85	>84	>84	>84	>83	>83	>84	
6	>84	>82	>82	>83	>84	>83	>83	>85	>83	>83	>84	>82	
7	>84	>82	>82	>82	>82	>84	>84	>86	>84	>83	>83	>83	
8	>84	>82	>83	>82	>82	>83	>83	>83	>83	>85	>84	>85	
9	>83	>82	>83	>83	>82	>83	>83	>82	>83	>84	>84	>85	
10	>85	>83	>83	>82	>83	>83	>82	>83	>83	>83	>83	>84	
	0	1	2	3	4	5	6	7	8	9	10		
	Harmonic LO Order												

test conditions: RF, =IN: FREQ. 500.1 MHZ DRIVE 4.94 DBM
 LO, IN: FREQ. 470.01 MHZ DRIVE 27.02 DBM
 IF MEASURED: FREQ. 30.09 MHZ AMP. -2.03 DBM

typical performance curves
(production unit)**In Stock...immediate Delivery**