

Digital Step Attenuator

DAT-31A-SN+

Typical Performance Data

TEST CONDITIONS: INPUT POWER=0 dBm, Vdd=+3V, Vss=-3.2V, TEMPERATURE=-40°C

FREQUENCY (MHz)	STEP ATTENUATION* AT TTL CONTROL STATE (dB)					
	000000 THRU LOSS	000010 1.0 dB	000100 2.0 dB	001000 4.0 dB	010000 8.0 dB	100000 16 dB
0.1	1.02	1.04	2.05	4.07	8.05	15.92
0.3	1.01	1.05	2.05	4.07	8.05	15.92
0.5	1.01	1.05	2.05	4.07	8.05	15.92
1	1.01	1.05	2.05	4.07	8.05	15.92
5	1.04	1.05	2.05	4.07	8.05	15.92
10	1.04	1.05	2.05	4.07	8.05	15.92
50	1.06	1.04	2.05	4.07	8.05	15.92
100	1.06	1.04	2.05	4.06	8.04	15.91
200	1.07	1.05	2.05	4.06	8.05	15.92
300	1.07	1.05	2.05	4.07	8.06	15.93
400	1.07	1.05	2.05	4.08	8.07	15.94
500	1.08	1.05	2.06	4.08	8.07	15.95
600	1.10	1.05	2.05	4.07	8.07	15.95
700	1.12	1.05	2.05	4.08	8.07	15.95
800	1.15	1.05	2.05	4.07	8.08	15.96
900	1.18	1.05	2.06	4.08	8.08	15.97
1000	1.20	1.05	2.06	4.08	8.10	15.99
1100	1.21	1.05	2.06	4.09	8.11	16.02
1200	1.23	1.05	2.07	4.09	8.13	16.04
1300	1.25	1.06	2.07	4.10	8.14	16.07
1400	1.27	1.06	2.07	4.11	8.16	16.11
1500	1.30	1.06	2.08	4.11	8.18	16.13
1600	1.32	1.06	2.08	4.12	8.20	16.17
1700	1.35	1.07	2.08	4.13	8.22	16.21
1800	1.36	1.07	2.09	4.14	8.24	16.25
1900	1.37	1.08	2.10	4.16	8.28	16.31
2000	1.38	1.08	2.11	4.17	8.32	16.36
2100	1.40	1.09	2.12	4.19	8.35	16.41
2200	1.42	1.09	2.13	4.20	8.39	16.47
2300	1.44	1.09	2.14	4.22	8.43	16.51
2400	1.45	1.10	2.14	4.23	8.46	16.55
2500	1.46	1.10	2.15	4.24	8.50	16.61
2600	1.48	1.10	2.16	4.26	8.53	16.63
2700	1.50	1.10	2.16	4.26	8.56	16.67
2800	1.52	1.10	2.16	4.26	8.58	16.68
2900	1.53	1.09	2.15	4.25	8.58	16.68
3000	1.53	1.08	2.14	4.24	8.58	16.68
3200	1.52	1.07	2.12	4.20	8.57	16.67
3400	1.55	1.05	2.10	4.17	8.57	16.74
3600	1.62	1.05	2.09	4.16	8.61	16.92
3800	1.70	1.05	2.09	4.17	8.68	17.17
4000	1.76	1.05	2.10	4.18	8.74	17.27
4200	1.77	1.07	2.11	4.20	8.82	17.37
4400	1.84	1.08	2.13	4.23	8.91	17.46
4600	1.89	1.10	2.15	4.27	9.03	17.64
4800	1.94	1.12	2.17	4.32	9.20	17.91
5000	1.97	1.13	2.20	4.37	9.37	18.10

* Step Attenuation above Thru Loss (TTL Logic 00000).



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 The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com



IF/RF MICROWAVE COMPONENTS

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Digital Step Attenuator

DAT-31A-SN+

Typical Performance Data

TEST CONDITIONS: INPUT POWER=0 dBm, Vdd=+3V, Vss=-3.2V, TEMPERATURE=-40°C

FREQUENCY (MHz)	INPUT RETURN LOSS AT TTL CONTROL STATE (dB)					
	000000	000010	000100	001000	010000	100000
	0 dB	1.0 dB	2.0 dB	4.0 dB	8.0 dB	16 dB
0.1	18.81	22.30	20.53	21.99	26.32	37.91
0.3	18.90	22.40	20.64	22.08	26.40	37.90
0.5	18.92	22.41	20.65	22.08	26.38	37.85
1	19.05	22.58	20.76	22.17	26.52	37.61
5	19.07	22.61	20.79	22.21	26.59	37.53
10	19.06	22.60	20.79	22.21	26.55	37.65
50	19.01	22.46	20.67	22.02	26.15	39.48
100	19.01	22.36	20.52	21.77	25.64	43.19
200	18.76	21.97	20.33	21.63	25.54	38.29
300	19.09	22.47	20.87	22.37	26.92	34.09
400	19.21	22.77	21.14	22.77	27.88	33.62
500	18.67	22.09	20.61	22.25	27.17	35.51
600	18.63	21.89	20.41	21.97	26.57	36.95
700	18.79	21.99	20.55	22.09	26.83	35.56
800	18.71	21.78	20.42	21.97	26.73	35.73
900	18.41	21.29	20.13	21.70	26.45	34.51
1000	18.22	20.99	20.00	21.68	26.73	32.37
1100	18.22	20.97	20.08	21.87	27.24	30.94
1200	18.27	20.97	20.11	21.94	27.56	30.30
1300	18.22	20.77	20.05	21.90	27.50	28.68
1400	18.74	21.24	20.61	22.58	28.47	26.54
1500	19.08	21.57	21.03	23.18	29.62	25.72
1600	19.01	21.39	20.98	23.18	29.68	25.29
1700	18.81	21.03	20.80	23.05	29.27	24.63
1800	18.62	20.64	20.64	22.90	28.35	23.45
1900	18.84	20.77	20.98	23.32	27.57	21.96
2000	19.38	21.35	21.69	24.15	27.25	21.01
2100	19.82	21.85	22.26	24.79	26.69	20.34
2200	20.36	22.44	22.96	25.50	25.95	19.67
2300	21.11	23.34	23.99	26.49	25.17	19.03
2400	21.70	24.02	24.77	27.00	24.37	18.51
2500	22.76	25.08	25.99	27.31	23.15	17.77
2600	24.63	27.01	28.30	27.70	21.92	16.98
2700	26.95	30.69	32.74	28.44	21.16	16.48
2800	28.09	35.59	39.83	28.63	20.67	16.17
2900	29.32	34.91	38.88	27.28	19.96	15.78
3000	29.33	31.64	34.09	26.15	19.46	15.50
3200	27.13	29.44	31.46	26.07	19.53	15.59
3400	29.70	29.76	33.43	26.86	20.05	15.96
3600	38.53	30.04	33.99	27.73	21.01	16.60
3800	30.04	27.74	28.34	27.29	22.54	17.63
4000	23.13	22.68	22.65	23.30	22.64	18.39
4200	19.57	19.52	19.50	20.33	21.24	18.33
4400	17.84	17.54	17.73	18.31	18.88	16.81
4600	17.44	16.98	17.26	17.64	17.69	15.67
4800	18.31	17.40	17.83	17.80	16.93	14.66
5000	20.99	18.64	19.32	18.31	16.00	13.48



Digital Step Attenuator

DAT-31A-SN+

Typical Performance Data

TEST CONDITIONS: INPUT POWER=0 dBm, Vdd=+3V, Vss=-3.2V, TEMPERATURE=-40°C

FREQUENCY (MHz)	OUTPUT RETURN LOSS AT TTL CONTROL STATE (dB)					
	000000	000010	000100	001000	010000	100000
	0 dB	1.0 dB	2.0 dB	4.0 dB	8.0 dB	16 dB
0.1	18.49	19.61	25.31	30.65	40.19	35.65
0.3	18.57	19.67	25.44	30.78	40.51	35.81
0.5	18.65	19.73	25.50	30.87	40.55	35.74
1	18.77	19.83	25.68	31.08	40.99	35.90
5	18.89	19.96	25.86	31.30	41.38	36.09
10	18.90	19.98	25.87	31.30	41.32	36.05
50	18.90	19.95	25.76	30.87	39.87	35.10
100	18.81	19.79	25.32	29.98	36.98	33.39
200	18.67	19.66	24.91	29.07	34.81	33.09
300	18.53	19.60	24.83	29.01	34.75	34.52
400	18.90	20.02	25.55	29.84	35.15	36.49
500	19.49	20.64	26.71	31.51	37.43	41.44
600	19.59	20.64	26.59	31.10	38.44	40.95
700	19.23	20.24	25.54	29.23	35.13	38.17
800	19.32	20.27	25.27	28.28	33.21	37.32
900	19.28	20.20	24.70	27.14	31.28	36.15
1000	19.34	20.27	24.42	26.48	30.06	35.67
1100	19.43	20.42	24.53	26.48	29.88	35.97
1200	19.49	20.47	24.39	26.15	29.43	35.34
1300	19.30	20.33	24.03	25.75	29.04	34.53
1400	18.80	19.87	23.48	25.32	28.86	34.11
1500	18.49	19.55	23.03	24.80	28.38	33.33
1600	18.26	19.28	22.44	23.99	27.29	31.63
1700	17.96	18.95	21.76	23.08	26.07	29.79
1800	17.57	18.56	21.02	22.16	24.76	27.71
1900	17.41	18.44	20.72	21.68	23.81	26.00
2000	17.56	18.64	20.88	21.63	23.34	24.89
2100	17.71	18.80	20.99	21.54	22.89	24.01
2200	17.91	19.01	21.08	21.36	22.33	23.07
2300	18.34	19.47	21.40	21.31	21.79	22.12
2400	18.85	20.00	21.70	21.22	21.25	21.26
2500	19.35	20.56	22.08	21.21	20.80	20.50
2600	20.19	21.58	23.00	21.52	20.48	19.80
2700	21.35	23.10	24.60	22.12	20.30	19.28
2800	22.73	25.10	26.61	22.78	20.18	18.85
2900	23.25	26.41	29.25	23.69	20.24	18.58
3000	23.12	26.77	33.00	24.81	20.47	18.53
3200	21.93	25.17	36.15	26.87	21.02	18.57
3400	20.45	22.91	31.01	28.48	21.54	18.68
3600	19.50	21.46	28.06	29.09	21.99	18.84
3800	19.17	20.87	26.63	28.73	22.15	18.88
4000	20.69	22.40	29.90	31.20	22.87	19.24
4200	23.64	25.76	33.93	29.31	22.08	18.57
4400	27.55	30.97	30.41	25.63	20.72	17.58
4600	34.41	47.97	24.94	21.94	18.33	15.75
4800	35.29	33.77	22.02	19.57	16.33	14.09
5000	27.81	26.76	19.94	17.82	14.68	12.65



Digital Step Attenuator

DAT-31A-SN+

Typical Performance Data

TEST CONDITIONS: INPUT POWER=0 dBm, Vdd=+3V, Vss=-3.2V, TEMPERATURE=+25°C

FREQUENCY (MHz)	STEP ATTENUATION* AT TTL CONTROL STATE (dB)					
	000000 THRU LOSS	000010 1.0 dB	000100 2.0 dB	001000 4.0 dB	010000 8.0 dB	100000 16 dB
0.1	1.13	1.02	2.01	4.01	7.94	15.83
0.3	1.12	1.02	2.01	4.01	7.94	15.83
0.5	1.12	1.02	2.01	4.01	7.94	15.83
1	1.12	1.02	2.01	4.01	7.93	15.83
5	1.15	1.02	2.01	4.01	7.94	15.83
10	1.15	1.02	2.01	4.01	7.94	15.83
50	1.16	1.02	2.01	4.01	7.94	15.83
100	1.16	1.02	2.01	4.01	7.94	15.83
200	1.16	1.02	2.01	4.01	7.94	15.83
300	1.17	1.02	2.01	4.00	7.94	15.83
400	1.18	1.02	2.01	4.00	7.94	15.84
500	1.19	1.02	2.01	4.01	7.94	15.85
600	1.21	1.02	2.01	4.01	7.95	15.85
700	1.22	1.02	2.01	4.01	7.95	15.86
800	1.24	1.02	2.01	4.01	7.96	15.86
900	1.26	1.02	2.01	4.01	7.96	15.88
1000	1.29	1.02	2.01	4.01	7.97	15.89
1100	1.31	1.02	2.01	4.01	7.98	15.91
1200	1.34	1.02	2.01	4.01	7.98	15.92
1300	1.36	1.02	2.01	4.01	7.99	15.95
1400	1.38	1.02	2.02	4.02	8.01	15.97
1500	1.41	1.02	2.02	4.02	8.02	16.00
1600	1.43	1.03	2.02	4.03	8.04	16.04
1700	1.46	1.03	2.03	4.04	8.06	16.08
1800	1.48	1.03	2.04	4.05	8.08	16.12
1900	1.50	1.04	2.04	4.06	8.11	16.18
2000	1.51	1.04	2.05	4.07	8.15	16.23
2100	1.53	1.05	2.06	4.09	8.19	16.29
2200	1.55	1.05	2.07	4.11	8.23	16.35
2300	1.56	1.06	2.08	4.12	8.27	16.41
2400	1.57	1.06	2.09	4.14	8.31	16.46
2500	1.58	1.06	2.10	4.15	8.34	16.51
2600	1.60	1.06	2.10	4.16	8.38	16.55
2700	1.62	1.06	2.10	4.16	8.40	16.57
2800	1.64	1.05	2.10	4.15	8.41	16.59
2900	1.65	1.05	2.09	4.14	8.42	16.58
3000	1.66	1.04	2.08	4.13	8.42	16.58
3200	1.64	1.02	2.06	4.10	8.42	16.61
3400	1.68	1.01	2.04	4.07	8.43	16.69
3600	1.75	1.01	2.04	4.07	8.48	16.89
3800	1.83	1.01	2.04	4.08	8.55	17.11
4000	1.88	1.02	2.06	4.10	8.62	17.25
4200	1.91	1.03	2.07	4.11	8.68	17.31
4400	1.99	1.05	2.08	4.13	8.76	17.42
4600	2.03	1.06	2.10	4.17	8.88	17.65
4800	2.07	1.09	2.13	4.22	9.06	17.96
5000	2.13	1.10	2.16	4.27	9.25	18.21

* Step Attenuation above Thru Loss (TTL Logic 00000).



Digital Step Attenuator

DAT-31A-SN+

Typical Performance Data

TEST CONDITIONS: INPUT POWER=0 dBm, Vdd=+3V, Vss=-3.2V, TEMPERATURE=+25°C

FREQUENCY (MHz)	INPUT RETURN LOSS AT TTL CONTROL STATE (dB)					
	000000	000010	000100	001000	010000	100000
	0 dB	1.0 dB	2.0 dB	4.0 dB	8.0 dB	16 dB
0.1	17.93	20.30	18.41	18.88	20.71	28.31
0.3	18.02	20.39	18.48	18.94	20.75	28.39
0.5	18.02	20.39	18.49	18.94	20.75	28.39
1	18.15	20.53	18.59	19.00	20.81	28.47
5	18.17	20.55	18.61	19.04	20.84	28.47
10	18.18	20.55	18.61	19.05	20.84	28.44
50	18.17	20.54	18.61	19.03	20.80	28.34
100	18.30	20.68	18.72	19.13	20.91	28.47
200	18.25	20.60	18.69	19.09	20.88	28.33
300	18.29	20.63	18.71	19.11	20.89	28.25
400	18.36	20.69	18.75	19.14	20.89	28.17
500	18.30	20.60	18.71	19.12	20.88	28.10
600	18.28	20.54	18.68	19.09	20.87	27.94
700	18.15	20.33	18.54	18.95	20.71	27.54
800	18.09	20.21	18.46	18.87	20.63	27.32
900	18.02	20.06	18.41	18.85	20.66	27.40
1000	18.00	20.00	18.41	18.88	20.78	27.69
1100	17.92	19.82	18.37	18.89	20.88	27.98
1200	17.84	19.65	18.32	18.88	20.98	28.21
1300	17.69	19.39	18.26	18.91	21.19	28.76
1400	17.54	19.15	18.22	18.99	21.52	29.55
1500	17.38	18.90	18.19	19.10	21.92	30.45
1600	17.23	18.67	18.17	19.23	22.39	31.28
1700	17.14	18.51	18.23	19.44	23.02	32.02
1800	17.11	18.42	18.34	19.73	23.80	31.86
1900	17.10	18.40	18.51	20.08	24.68	30.69
2000	17.23	18.50	18.79	20.54	25.68	28.87
2100	17.60	18.84	19.32	21.27	26.94	26.80
2200	18.26	19.51	20.17	22.35	28.47	25.12
2300	19.07	20.39	21.17	23.61	29.59	23.79
2400	19.95	21.41	22.32	25.06	30.06	22.71
2500	21.39	23.01	24.14	27.30	29.09	21.47
2600	23.44	25.38	26.96	30.60	27.19	20.28
2700	25.94	28.97	31.30	35.22	25.55	19.41
2800	27.53	34.30	36.99	38.55	24.46	18.88
2900	28.21	41.28	40.58	36.37	23.81	18.61
3000	28.58	43.76	39.14	33.23	23.09	18.28
3200	27.27	33.11	31.98	29.40	22.09	17.82
3400	27.88	36.21	33.82	32.30	23.48	18.64
3600	31.60	39.26	39.30	46.08	26.04	19.83
3800	26.11	26.97	26.78	29.67	32.80	22.57
4000	20.93	20.99	21.25	22.80	28.19	24.42
4200	18.07	18.03	18.45	19.66	23.39	23.08
4400	16.40	16.16	16.73	17.69	20.16	20.00
4600	15.92	15.56	16.27	17.06	18.70	17.97
4800	16.97	16.04	17.00	17.42	17.71	16.10
5000	19.89	17.70	19.07	18.61	16.95	14.62



Digital Step Attenuator

DAT-31A-SN+

Typical Performance Data

TEST CONDITIONS: INPUT POWER=0 dBm, Vdd=+3V, Vss=-3.2V, TEMPERATURE=+25°C

FREQUENCY (MHz)	OUTPUT RETURN LOSS AT TTL CONTROL STATE (dB)					
	000000	000010	000100	001000	010000	100000
	0 dB	1.0 dB	2.0 dB	4.0 dB	8.0 dB	16 dB
0.1	17.68	18.11	21.97	24.03	25.46	23.36
0.3	17.74	18.18	22.05	24.09	25.52	23.42
0.5	17.82	18.23	22.11	24.13	25.53	23.41
1	17.92	18.33	22.22	24.25	25.66	23.49
5	18.04	18.43	22.35	24.36	25.71	23.52
10	18.06	18.44	22.36	24.34	25.67	23.50
50	18.08	18.46	22.35	24.30	25.61	23.46
100	18.09	18.49	22.35	24.29	25.63	23.49
200	18.17	18.56	22.41	24.32	25.67	23.53
300	18.29	18.66	22.52	24.40	25.76	23.60
400	18.52	18.85	22.73	24.55	25.87	23.71
500	18.57	18.90	22.75	24.51	25.89	23.76
600	18.79	19.06	22.94	24.64	26.00	23.84
700	18.95	19.20	23.02	24.65	26.06	23.96
800	19.10	19.29	23.04	24.57	26.05	24.01
900	18.99	19.20	22.79	24.26	25.94	24.07
1000	18.83	19.04	22.45	23.90	25.77	24.12
1100	18.63	18.86	22.07	23.48	25.60	24.24
1200	18.41	18.66	21.63	23.01	25.43	24.47
1300	18.07	18.36	21.09	22.45	25.20	24.78
1400	17.65	18.01	20.48	21.85	24.95	25.23
1500	17.22	17.65	19.92	21.29	24.67	25.75
1600	16.84	17.33	19.41	20.77	24.40	26.47
1700	16.52	17.06	18.97	20.30	24.12	27.27
1800	16.27	16.86	18.63	19.93	23.88	28.17
1900	16.10	16.73	18.38	19.62	23.63	28.91
2000	16.04	16.73	18.26	19.45	23.45	29.43
2100	16.11	16.84	18.29	19.40	23.32	29.32
2200	16.38	17.14	18.52	19.53	23.30	28.69
2300	16.91	17.70	19.01	19.86	23.37	27.75
2400	17.62	18.43	19.67	20.31	23.47	26.59
2500	18.42	19.31	20.55	20.96	23.69	25.53
2600	19.44	20.46	21.81	21.89	23.96	24.51
2700	20.60	21.82	23.55	23.12	24.29	23.65
2800	21.91	23.43	25.93	24.67	24.58	22.88
2900	22.79	24.66	28.81	26.42	24.80	22.23
3000	22.89	25.02	33.25	28.84	25.10	21.72
3200	21.28	23.17	38.37	37.15	25.38	20.98
3400	19.77	21.15	29.42	35.68	25.08	20.49
3600	18.71	19.77	26.16	30.46	24.63	20.26
3800	19.05	19.90	26.28	29.97	24.92	20.46
4000	20.76	21.42	29.62	33.93	26.69	21.15
4200	23.51	24.10	35.53	37.33	28.86	21.66
4400	26.99	27.66	29.80	28.49	26.46	20.64
4600	30.70	31.59	25.07	23.81	22.04	18.22
4800	36.77	34.77	22.73	21.19	18.74	15.78
5000	33.49	29.97	21.06	19.29	16.29	13.78



Digital Step Attenuator

DAT-31A-SN+

Typical Performance Data

TEST CONDITIONS: INPUT POWER=0 dBm, Vdd=+3V, Vss=-3.2V, TEMPERATURE=+105°C

FREQUENCY (MHz)	STEP ATTENUATION* AT TTL CONTROL STATE (dB)					
	000000 THRU LOSS	000010 1.0 dB	000100 2.0 dB	001000 4.0 dB	010000 8.0 dB	100000 16 dB
0.1	1.30	0.99	1.97	3.95	7.83	15.72
0.3	1.28	0.99	1.97	3.95	7.83	15.72
0.5	1.28	0.99	1.98	3.95	7.83	15.72
1	1.29	0.99	1.98	3.95	7.83	15.73
5	1.31	0.99	1.97	3.95	7.83	15.73
10	1.31	0.99	1.98	3.95	7.83	15.73
50	1.32	0.99	1.98	3.95	7.84	15.73
100	1.30	1.00	1.97	3.95	7.84	15.73
200	1.31	1.00	1.98	3.95	7.84	15.74
300	1.33	0.99	1.98	3.95	7.84	15.74
400	1.35	0.99	1.97	3.95	7.84	15.74
500	1.37	0.99	1.97	3.95	7.84	15.75
600	1.39	0.99	1.98	3.95	7.85	15.75
700	1.41	0.99	1.98	3.95	7.85	15.76
800	1.44	0.99	1.98	3.95	7.86	15.77
900	1.46	0.99	1.98	3.95	7.86	15.78
1000	1.49	0.99	1.98	3.95	7.87	15.79
1100	1.51	0.99	1.98	3.96	7.87	15.81
1200	1.54	0.99	1.98	3.95	7.88	15.82
1300	1.57	1.00	1.98	3.95	7.88	15.83
1400	1.59	1.00	1.98	3.95	7.89	15.86
1500	1.62	1.00	1.98	3.95	7.89	15.87
1600	1.65	1.00	1.98	3.96	7.91	15.91
1700	1.67	1.00	1.99	3.96	7.93	15.95
1800	1.70	1.00	1.99	3.97	7.94	15.99
1900	1.72	1.01	2.00	3.98	7.97	16.04
2000	1.73	1.01	2.00	3.98	7.99	16.09
2100	1.75	1.01	2.01	4.00	8.02	16.13
2200	1.77	1.02	2.02	4.01	8.06	16.19
2300	1.78	1.02	2.03	4.02	8.10	16.26
2400	1.79	1.02	2.04	4.03	8.13	16.31
2500	1.80	1.02	2.04	4.04	8.17	16.38
2600	1.82	1.03	2.05	4.05	8.20	16.41
2700	1.84	1.02	2.05	4.05	8.23	16.44
2800	1.86	1.02	2.05	4.05	8.25	16.47
2900	1.87	1.02	2.04	4.04	8.26	16.47
3000	1.87	1.01	2.03	4.03	8.27	16.49
3200	1.85	1.00	2.02	4.01	8.29	16.52
3400	1.90	0.98	2.00	3.99	8.31	16.63
3600	1.96	0.98	2.00	3.99	8.37	16.83
3800	2.04	0.98	2.01	4.01	8.44	17.05
4000	2.12	0.99	2.03	4.02	8.50	17.15
4200	2.18	1.00	2.04	4.03	8.54	17.22
4400	2.24	1.01	2.04	4.03	8.58	17.28
4600	2.28	1.03	2.06	4.06	8.70	17.54
4800	2.31	1.06	2.09	4.10	8.88	17.89
5000	2.39	1.08	2.12	4.16	9.08	18.23

* Step Attenuation above Thru Loss (TTL Logic 00000).



Digital Step Attenuator

DAT-31A-SN+

Typical Performance Data

TEST CONDITIONS: INPUT POWER=0 dBm, Vdd=+3V, Vss=-3.2V, TEMPERATURE=+105°C

FREQUENCY (MHz)	INPUT RETURN LOSS AT TTL CONTROL STATE (dB)					
	000000	000010	000100	001000	010000	100000
	0 dB	1.0 dB	2.0 dB	4.0 dB	8.0 dB	16 dB
0.1	16.71	18.11	16.13	15.90	16.45	19.66
0.3	16.78	18.18	16.19	15.94	16.48	19.69
0.5	16.77	18.18	16.18	15.94	16.48	19.67
1	16.88	18.27	16.26	15.99	16.51	19.69
5	16.91	18.30	16.29	16.02	16.53	19.71
10	16.91	18.30	16.30	16.02	16.54	19.71
50	17.03	18.45	16.44	16.17	16.71	19.95
100	17.31	18.80	16.74	16.49	17.08	20.48
200	17.25	18.77	16.76	16.55	17.18	20.58
300	16.90	18.28	16.33	16.08	16.59	19.60
400	17.03	18.34	16.31	15.96	16.35	19.17
500	17.23	18.49	16.41	16.02	16.37	19.12
600	17.17	18.37	16.32	15.91	16.24	18.89
700	16.99	18.13	16.13	15.71	16.00	18.53
800	17.00	18.06	16.08	15.64	15.92	18.39
900	16.99	18.00	16.10	15.68	15.97	18.42
1000	16.88	17.84	16.06	15.67	16.01	18.50
1100	16.66	17.59	15.98	15.66	16.08	18.60
1200	16.57	17.43	15.99	15.74	16.24	18.84
1300	16.44	17.29	16.03	15.89	16.51	19.25
1400	16.27	17.10	16.05	16.02	16.80	19.70
1500	16.02	16.84	16.02	16.14	17.12	20.24
1600	15.84	16.64	16.03	16.29	17.48	20.83
1700	15.74	16.55	16.11	16.51	17.95	21.61
1800	15.76	16.57	16.29	16.84	18.56	22.66
1900	15.77	16.59	16.48	17.20	19.26	23.89
2000	15.87	16.68	16.75	17.63	20.09	25.39
2100	16.06	16.87	17.09	18.15	21.07	27.30
2200	16.41	17.22	17.58	18.81	22.27	29.70
2300	17.01	17.82	18.32	19.75	23.98	33.24
2400	17.84	18.67	19.32	20.99	26.38	36.11
2500	18.91	19.76	20.57	22.50	29.63	33.32
2600	20.22	21.11	22.07	24.38	34.81	29.92
2700	22.06	23.09	24.22	27.15	51.44	27.00
2800	24.37	25.88	27.13	31.35	36.58	24.64
2900	27.13	29.64	30.87	37.68	30.53	22.89
3000	29.28	34.41	34.05	39.79	27.77	21.81
3200	28.43	46.68	31.08	30.93	24.80	20.51
3400	27.17	37.63	28.77	28.61	24.24	20.37
3600	27.15	35.41	27.92	28.57	26.48	22.10
3800	23.64	25.35	23.80	24.90	28.84	26.08
4000	19.52	19.84	19.79	20.86	25.93	36.38
4200	16.41	16.43	16.85	17.87	21.80	29.66
4400	14.80	14.64	15.35	16.32	19.53	23.26
4600	14.06	13.73	14.65	15.54	18.04	19.58
4800	14.90	14.18	15.42	16.19	17.78	17.53
5000	17.37	15.65	17.37	17.50	17.02	15.34



Digital Step Attenuator

DAT-31A-SN+

Typical Performance Data

TEST CONDITIONS: INPUT POWER=0 dBm, Vdd=+3V, Vss=-3.2V, TEMPERATURE=+105°C

FREQUENCY (MHz)	OUTPUT RETURN LOSS AT TTL CONTROL STATE (dB)					
	000000	000010	000100	001000	010000	100000
	0 dB	1.0 dB	2.0 dB	4.0 dB	8.0 dB	16 dB
0.1	16.48	16.33	18.79	19.28	19.06	17.40
0.3	16.54	16.39	18.84	19.31	19.10	17.42
0.5	16.57	16.42	18.86	19.31	19.10	17.41
1	16.67	16.49	18.93	19.37	19.13	17.44
5	16.77	16.58	19.01	19.42	19.15	17.47
10	16.79	16.59	19.03	19.45	19.17	17.48
50	16.86	16.68	19.17	19.60	19.37	17.66
100	16.95	16.81	19.33	19.84	19.67	17.96
200	17.21	17.10	19.72	20.25	20.07	18.29
300	17.35	17.13	19.65	20.00	19.64	17.86
400	17.36	17.04	19.41	19.61	19.11	17.37
500	17.29	16.93	19.23	19.37	18.85	17.15
600	17.55	17.14	19.41	19.45	18.89	17.17
700	17.75	17.24	19.47	19.43	18.81	17.08
800	17.75	17.22	19.34	19.21	18.61	16.95
900	17.57	17.05	19.05	18.96	18.47	16.89
1000	17.39	16.91	18.79	18.75	18.40	16.92
1100	17.15	16.74	18.52	18.57	18.42	17.05
1200	16.84	16.52	18.20	18.34	18.43	17.22
1300	16.43	16.23	17.80	18.07	18.44	17.44
1400	16.08	15.98	17.43	17.83	18.53	17.75
1500	15.74	15.74	17.10	17.61	18.65	18.17
1600	15.47	15.56	16.85	17.45	18.85	18.70
1700	15.25	15.42	16.62	17.31	19.04	19.28
1800	15.06	15.30	16.43	17.19	19.28	20.00
1900	14.96	15.26	16.31	17.12	19.55	20.82
2000	14.95	15.30	16.27	17.11	19.90	21.87
2100	15.07	15.46	16.35	17.21	20.35	23.21
2200	15.33	15.76	16.57	17.43	20.93	24.86
2300	15.76	16.22	16.94	17.78	21.68	27.03
2400	16.38	16.87	17.50	18.31	22.64	30.07
2500	17.17	17.69	18.25	19.02	23.86	34.35
2600	18.18	18.73	19.27	19.98	25.47	38.75
2700	19.25	19.85	20.53	21.17	27.49	35.56
2800	20.46	21.12	22.17	22.72	30.26	31.07
2900	21.37	22.13	24.03	24.58	33.87	28.00
3000	22.01	22.88	26.47	27.13	37.14	25.65
3200	21.09	21.92	29.72	33.04	30.78	22.48
3400	19.14	19.74	26.13	28.71	25.57	20.53
3600	18.03	18.41	23.44	24.78	22.97	19.44
3800	18.20	18.33	22.95	23.58	22.26	19.30
4000	19.75	19.57	24.24	24.17	23.56	20.35
4200	22.14	21.64	25.41	25.08	27.54	22.61
4400	23.80	23.48	23.94	24.24	42.13	24.86
4600	24.09	24.53	21.80	22.38	29.67	22.36
4800	25.43	26.25	20.81	21.01	22.45	18.29
5000	30.58	29.83	20.67	20.08	18.53	15.25

