Digital Variable Gain Amplifier

DVGA1-242A+

Typical Performance Data

TEST CONDITIONS: Vd1 = +3V, Vd2 = +5V @ Temperature = +25degC

FREQ	GAIN @ 0dB Step	STEP ATTENUATION @							Output IP3 @ 0dB Step	Pout at 1dB Comp @ 0dB Step	Noise Figure @ 0dB Step
		0.5 dB	1.0 dB	2 dB	4 dB	8 dB	16 dB	31.5 dB			
(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dBm)	(dBm)	(dB)
400	29.41	0.52	1.01	1.97	3.94	7.86	15.85	31.14	36.64	21.75	2.25
500	29.90	0.52	1.01	2.01	4.01	7.98	15.99	31.37	36.28	22.44	2.10
600	30.15	0.53	1.04	2.05	4.07	8.08	16.09	31.45	36.37	22.23	2.14
700	30.20	0.54	1.05	2.05	4.07	8.10	16.16	31.48	36.22	22.34	2.12
800	30.29	0.53	1.05	2.01	4.03	8.07	16.13	31.42	36.42	22.45	2.11
900	30.37	0.53	1.05	1.99	4.01	8.05	16.14	31.38	36.59	22.70	2.12
1000	30.49	0.53	1.05	1.97	3.99	8.01	16.10	31.34	36.21	22.67	2.24
1200	30.24	0.51	1.00	1.91	3.87	7.81	15.82	31.10	36.68	22.82	2.33
1400	29.28	0.49	0.96	1.89	3.80	7.61	15.48	30.86	37.27	23.08	2.40
1600	27.80	0.50	0.95	1.93	3.82	7.60	15.36	30.82	37.93	23.14	2.48
1800	26.07	0.51	0.98	2.02	3.95	7.80	15.60	31.02	38.23	23.15	2.62
2000	24.30	0.55	1.05	2.13	4.10	8.06	15.97	31.24	38.78	22.98	2.63
2200	22.50	0.57	1.10	2.17	4.20	8.27	16.28	31.46	39.23	22.81	2.75
2400	20.89	0.60	1.16	2.23	4.31	8.47	16.59	31.79	38.52	22.75	2.86

Digital Variable Gain Amplifier

Typical Performance Data

TEST CONDITIONS: Vd1 = +3V, Vd2 = +5V @ Temperature = -40degC

FREQ	GAIN @ 0dB Step	STEP ATTENUATION @							Output IP3 @ 0dB Step	Pout at 1dB Comp @ 0dB Step	Noise Figure @ 0dB Step
		0.5 dB	1.0 dB	2 dB	4 dB	8 dB	16 dB	31.5 dB			
(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dBm)	(dBm)	(dB)
400	29.71	0.49	1.01	1.96	3.93	7.90	15.84	31.26	41.52	22.59	1.81
500	30.52	0.50	1.02	2.03	4.03	8.04	16.04	31.51	41.50	22.89	1.64
600	31.00	0.52	1.04	2.06	4.10	8.15	16.15	31.63	40.79	22.51	1.62
700	31.17	0.53	1.05	2.06	4.11	8.18	16.22	31.67	40.78	22.56	1.54
800	31.35	0.50	1.02	2.02	4.06	8.11	16.17	31.58	40.19	22.65	1.52
900	31.48	0.50	1.02	1.98	4.00	8.07	16.13	31.52	40.78	22.92	1.52
1000	31.66	0.50	1.04	1.95	3.97	8.03	16.08	31.44	40.85	22.86	1.58
1200	31.52	0.49	1.00	1.90	3.87	7.86	15.85	31.22	40.51	23.08	1.69
1400	30.65	0.48	0.95	1.90	3.84	7.73	15.58	31.03	40.60	23.40	1.75
1600	29.21	0.50	0.96	2.01	3.93	7.81	15.59	31.07	40.80	23.47	1.82
1800	27.50	0.52	1.03	2.13	4.11	8.08	15.89	31.27	41.04	23.54	1.87
2000	25.76	0.57	1.09	2.23	4.28	8.36	16.26	31.58	42.35	23.46	1.97
2200	23.95	0.56	1.12	2.27	4.38	8.54	16.55	31.72	41.98	23.39	1.99
2400	22.34	0.60	1.19	2.33	4.48	8.77	16.86	31.96	41.75	23.42	2.11

Digital Variable Gain Amplifier

Typical Performance Data

TEST CONDITIONS: Vd1 = +3V, Vd2 = +5V @ Temperature = +85degC

FREQ	GAIN @ 0dB Step	STEP ATTENUATION @							Output IP3 @ 0dB Step	Pout at 1dB Comp @ 0dB Step	Noise Figure @ 0dB Step
		0.5 dB	1.0 dB	2 dB	4 dB	8 dB	16 dB	31.5 dB			
(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dBm)	(dBm)	(dB)
400	29.00	0.49	0.99	1.94	3.92	7.83	15.80	31.02	32.91	20.24	2.74
500	29.24	0.51	0.99	1.98	3.96	7.90	15.89	31.16	33.02	21.02	2.69
600	29.30	0.49	1.00	2.00	3.99	7.97	16.00	31.23	33.17	21.02	2.73
700	29.26	0.51	1.02	2.00	4.02	8.01	16.08	31.27	33.28	21.16	2.69
800	29.31	0.51	1.01	1.99	3.99	8.01	16.12	31.25	33.38	21.32	2.70
900	29.34	0.50	1.02	1.96	3.98	8.01	16.12	31.27	33.46	21.56	2.76
1000	29.44	0.51	1.03	1.96	3.98	8.01	16.13	31.24	33.23	21.52	2.83
1200	29.16	0.48	0.98	1.89	3.85	7.79	15.82	31.06	33.77	21.76	3.01
1400	28.13	0.46	0.91	1.85	3.73	7.52	15.38	30.74	34.37	22.17	3.08
1600	26.64	0.47	0.90	1.86	3.70	7.43	15.20	30.65	34.90	22.34	3.22
1800	24.87	0.47	0.92	1.91	3.79	7.56	15.33	30.72	35.36	22.38	3.28
2000	23.07	0.49	0.98	1.98	3.90	7.77	15.65	30.94	35.73	22.21	3.39
2200	21.32	0.53	1.04	2.05	4.03	8.01	16.02	31.22	35.52	21.90	3.48
2400	19.68	0.55	1.08	2.11	4.11	8.19	16.31	31.46	35.02	21.54	3.59

Digital Variable Gain Amplifier   DVGA1-242A+

Typical Performance Data

TEST CONDITIONS: Vd1 = +3V, Vd2 = +5V @ Temperature = +25degC

FREQ	INPUT RETURN LOSS @							
	0 dB	0.5 dB	1 dB	2 dB	4 dB	8 dB	16 dB	31.5 dB
(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
400	18.93	20.05	21.36	21.10	21.84	23.72	34.38	37.26
500	16.01	17.55	18.79	18.19	19.29	22.35	33.62	37.33
600	15.28	16.48	17.88	17.56	19.24	22.15	30.97	32.78
700	16.00	17.66	18.77	18.84	20.56	22.78	30.34	30.47
800	18.61	20.06	21.83	22.41	23.70	24.27	29.56	28.52
900	21.58	22.73	24.23	33.69	29.15	24.72	27.50	25.53
1000	19.60	19.68	20.36	26.17	26.59	23.74	25.59	23.76
1200	11.33	11.85	12.32	14.12	16.21	18.81	21.69	20.70
1400	7.65	8.25	8.82	9.90	11.86	15.10	18.82	18.43
1600	6.39	6.98	7.51	8.51	10.43	13.50	16.80	16.21
1800	6.70	7.31	7.92	8.82	10.51	13.30	15.41	14.66
2000	7.73	8.40	8.99	9.67	11.34	13.68	14.66	13.51
2200	9.54	10.19	10.62	11.22	12.43	14.00	13.78	12.40
2400	11.49	11.94	12.23	12.68	13.35	13.95	12.76	11.45

Digital Variable Gain Amplifier   DVGA1-242A+

Typical Performance Data

TEST CONDITIONS: Vd1 = +3V, Vd2 = +5V @ Temperature = -40degC

FREQ	INPUT RETURN LOSS @							
	0 dB	0.5 dB	1 dB	2 dB	4 dB	8 dB	16 dB	31.5 dB
(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
400	26.08	26.82	26.52	32.79	36.26	42.10	26.74	23.47
500	21.07	23.69	25.88	24.75	27.25	36.36	26.87	23.70
600	18.45	20.69	22.97	22.61	24.87	33.17	28.50	24.27
700	18.81	21.02	22.79	23.49	27.32	34.86	27.85	24.02
800	21.27	23.15	24.98	29.59	34.68	34.73	26.78	23.60
900	21.96	21.96	21.99	29.07	32.48	28.57	24.83	22.41
1000	17.38	17.47	17.46	20.82	22.91	24.17	23.72	21.62
1200	10.19	10.62	11.07	12.68	14.80	18.13	20.22	19.16
1400	6.84	7.50	8.05	9.34	11.41	15.10	17.98	17.22
1600	5.78	6.43	7.11	8.16	10.28	13.80	16.01	15.33
1800	6.13	6.90	7.62	8.64	10.66	13.60	14.61	13.68
2000	7.36	8.28	9.07	9.85	11.57	13.72	13.58	12.50
2200	9.39	10.34	10.86	11.58	12.72	13.62	12.40	11.39
2400	12.02	12.72	13.07	13.11	13.55	13.08	11.42	10.32

Digital Variable Gain Amplifier   DVGA1-242A+

Typical Performance Data

TEST CONDITIONS: Vd1 = +3V, Vd2 = +5V @ Temperature = +85degC

FREQ	INPUT RETURN LOSS @							
	0 dB	0.5 dB	1 dB	2 dB	4 dB	8 dB	16 dB	31.5 dB
(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
400	15.28	16.34	17.18	16.78	17.47	18.45	22.85	25.87
500	13.25	14.23	15.27	14.80	15.84	17.46	21.85	24.34
600	13.09	14.07	14.99	14.83	15.90	17.57	21.37	23.35
700	14.10	15.27	16.43	16.06	16.95	18.04	21.14	22.56
800	16.71	18.17	19.50	18.96	18.73	18.63	20.88	21.78
900	20.98	22.99	25.08	25.58	21.99	19.37	20.50	20.78
1000	22.34	23.24	24.35	33.49	23.58	19.56	20.08	20.09
1200	12.43	12.98	13.34	15.15	16.64	17.39	18.91	18.63
1400	8.27	8.77	9.20	10.39	12.09	14.53	17.32	17.22
1600	6.84	7.35	7.80	8.73	10.35	12.95	15.97	15.82
1800	7.07	7.58	8.00	8.73	10.25	12.82	15.34	14.57
2000	7.98	8.52	8.84	9.62	10.94	13.23	14.86	13.78
2200	9.31	9.86	10.07	10.80	11.91	13.74	14.28	12.94
2400	11.04	11.37	11.47	12.13	13.12	14.26	13.79	12.37

Digital Variable Gain Amplifier   DVGA1-242A+

Typical Performance Data

TEST CONDITIONS: Vd1 = +3V, Vd2 = +5V @ Temperature = +25degC

FREQ	OUTPUT RETURN LOSS @							
	0 dB	0.5 dB	1 dB	2 dB	4 dB	8 dB	16 dB	31.5 dB
(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
400	21.38	21.32	21.31	21.46	21.39	21.27	20.96	21.10
500	21.48	21.53	21.58	21.63	21.82	22.14	22.52	22.43
600	17.36	17.41	17.50	17.43	17.62	17.98	18.52	18.31
700	15.83	15.88	15.97	15.86	16.05	16.41	16.96	16.77
800	14.78	14.83	14.91	14.78	14.97	15.31	15.83	15.67
900	14.06	14.12	14.19	14.04	14.21	14.51	14.98	14.88
1000	13.58	13.59	13.66	13.51	13.64	13.86	14.27	14.25
1200	12.94	12.97	13.01	12.81	12.88	12.97	13.22	13.45
1400	12.89	12.89	12.82	12.62	12.54	12.38	12.32	12.74
1600	12.62	12.55	12.48	12.31	12.13	11.84	11.60	12.11
1800	11.56	11.50	11.37	11.33	11.15	10.81	10.51	10.99
2000	10.45	10.40	10.36	10.39	10.29	10.07	9.84	10.30
2200	9.99	9.98	9.95	10.03	10.00	9.86	9.70	10.06
2400	9.84	9.86	9.86	9.98	10.01	9.96	9.87	10.19

Digital Variable Gain Amplifier   DVGA1-242A+

Typical Performance Data

TEST CONDITIONS: Vd1 = +3V, Vd2 = +5V @ Temperature = -40degC

FREQ	OUTPUT RETURN LOSS @							
	0 dB	0.5 dB	1 dB	2 dB	4 dB	8 dB	16 dB	31.5 dB
(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
400	19.67	19.55	19.53	19.67	19.63	19.52	19.25	19.37
500	21.01	21.00	21.03	21.14	21.28	21.52	21.64	21.69
600	16.61	16.59	16.64	16.55	16.70	16.95	17.35	17.20
700	14.94	14.96	15.01	14.86	14.99	15.26	15.73	15.55
800	13.75	13.75	13.81	13.64	13.75	14.02	14.49	14.32
900	12.80	12.79	12.84	12.66	12.73	12.95	13.40	13.26
1000	11.92	11.93	11.98	11.79	11.82	12.02	12.45	12.36
1200	11.05	10.98	10.99	10.80	10.86	10.86	11.15	11.25
1400	11.06	11.00	10.96	10.74	10.59	10.53	10.55	10.80
1600	11.08	10.98	10.93	10.68	10.53	10.31	10.15	10.51
1800	10.39	10.25	10.27	10.14	9.99	9.74	9.51	9.88
2000	9.76	9.68	9.64	9.63	9.62	9.44	9.27	9.63
2200	9.61	9.56	9.52	9.51	9.57	9.46	9.31	9.59
2400	9.16	9.25	9.21	9.27	9.37	9.35	9.28	9.54

Digital Variable Gain Amplifier   DVGA1-242A+

Typical Performance Data

TEST CONDITIONS: Vd1 = +3V, Vd2 = +5V @ Temperature = +85degC

FREQ	OUTPUT RETURN LOSS @							
	0 dB	0.5 dB	1 dB	2 dB	4 dB	8 dB	16 dB	31.5 dB
(MHz)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
400	24.62	24.56	24.51	24.65	24.55	24.37	24.04	24.18
500	22.57	22.63	22.74	22.70	22.99	23.50	24.17	23.98
600	18.37	18.45	18.55	18.48	18.73	19.15	19.79	19.58
700	16.84	16.93	17.02	16.94	17.17	17.55	18.12	17.96
800	15.89	15.97	16.06	15.96	16.18	16.52	17.01	16.93
900	15.34	15.42	15.49	15.41	15.60	15.88	16.27	16.30
1000	15.22	15.27	15.34	15.24	15.38	15.57	15.87	15.98
1200	14.93	14.97	14.99	14.90	14.96	15.00	15.11	15.58
1400	14.68	14.67	14.63	14.53	14.45	14.26	14.13	14.79
1600	14.05	13.99	13.90	13.80	13.63	13.31	13.02	13.73
1800	12.51	12.45	12.34	12.32	12.14	11.79	11.46	12.08
2000	11.34	11.27	11.20	11.27	11.15	10.88	10.60	11.15
2200	10.69	10.67	10.64	10.74	10.70	10.55	10.36	10.82
2400	10.72	10.71	10.71	10.84	10.84	10.76	10.62	10.97