

# Programmable Atten.

# RCDAT-3000-63W2

## Typical Performance Data @ 0°C

FREQUENCY (MHz)	Attenuation relative to Insertion Loss (dB)							
	1 dB	10 dB	15 dB	20 dB	30 dB	40 dB	50 dB	63 dB
50	1.00	10.05	15.05	19.86	29.87	40.00	49.98	62.97
75	1.01	10.05	15.04	19.85	29.85	39.99	49.97	62.95
100	1.01	10.04	15.03	19.82	29.83	39.96	49.94	62.94
200	1.01	10.02	15.01	19.76	29.76	39.90	49.88	62.87
300	1.02	10.00	14.98	19.68	29.68	39.83	49.82	62.80
500	1.02	9.99	14.95	19.60	29.59	39.78	49.80	62.77
700	1.02	10.05	15.00	19.69	29.68	39.91	49.97	62.94
900	1.05	10.11	15.06	19.76	29.77	40.06	50.17	63.15
1000	1.06	10.12	15.08	19.75	29.79	40.10	50.23	63.23
1200	1.05	10.19	15.13	19.70	29.78	40.16	50.32	63.38
1350	1.05	10.28	15.20	19.70	29.81	40.22	50.42	63.54
1500	1.08	10.37	15.29	19.71	29.83	40.31	50.54	63.72
1700	1.13	10.48	15.41	19.72	29.84	40.41	50.71	63.93
1900	1.18	10.57	15.50	19.72	29.82	40.50	50.88	64.09
2100	1.30	10.61	15.51	19.68	29.74	40.55	50.99	64.14
2300	1.34	10.54	15.37	19.50	29.53	40.49	50.94	64.01
2500	1.18	10.45	15.23	19.29	29.31	40.40	50.80	63.82
2700	1.08	10.58	15.28	19.25	29.27	40.48	50.77	63.76
2900	1.28	10.86	15.42	19.36	29.37	40.68	50.80	63.81
3000	1.39	10.91	15.41	19.37	29.35	40.72	50.73	63.73

FREQUENCY (MHz)	Attenuation accuracy relative to nominal attenuation setting (dB)							
	1 dB	10 dB	15 dB	20 dB	30 dB	40 dB	50 dB	63 dB
50	0.00	-0.05	-0.05	0.14	0.13	0.00	0.02	0.03
75	-0.01	-0.05	-0.04	0.15	0.15	0.01	0.03	0.05
100	-0.01	-0.04	-0.03	0.18	0.17	0.04	0.06	0.06
200	-0.01	-0.02	-0.01	0.24	0.24	0.10	0.12	0.13
300	-0.02	0.00	0.02	0.32	0.32	0.17	0.18	0.20
500	-0.02	0.01	0.05	0.40	0.41	0.22	0.20	0.23
700	-0.02	-0.05	0.00	0.31	0.32	0.09	0.03	0.06
900	-0.05	-0.11	-0.06	0.24	0.23	-0.06	-0.17	-0.15
1000	-0.06	-0.12	-0.08	0.25	0.21	-0.10	-0.23	-0.23
1200	-0.05	-0.19	-0.13	0.30	0.22	-0.16	-0.32	-0.38
1350	-0.05	-0.28	-0.20	0.30	0.19	-0.22	-0.42	-0.54
1500	-0.08	-0.37	-0.29	0.29	0.17	-0.31	-0.54	-0.72
1700	-0.13	-0.48	-0.41	0.28	0.16	-0.41	-0.71	-0.93
1900	-0.18	-0.57	-0.50	0.28	0.18	-0.50	-0.88	-1.09
2100	-0.30	-0.61	-0.51	0.32	0.26	-0.55	-0.99	-1.14
2300	-0.34	-0.54	-0.37	0.50	0.47	-0.49	-0.94	-1.01
2500	-0.18	-0.45	-0.23	0.71	0.69	-0.40	-0.80	-0.82
2700	-0.08	-0.58	-0.28	0.75	0.73	-0.48	-0.77	-0.76
2900	-0.28	-0.86	-0.42	0.64	0.63	-0.68	-0.80	-0.81
3000	-0.39	-0.91	-0.41	0.63	0.65	-0.72	-0.73	-0.73

**Notes**

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# Programmable Atten.

# RCDAT-3000-63W2

## Typical Performance Data @ 0°C

FREQUENCY (MHz)	IP3 (dBm)	Insertion Loss @P <sub>IN</sub> =0 dBm (dB)	Insertion Loss @P <sub>IN</sub> =+33 dBm (dB)
50	53.12	2.15	2.18
75	53.11	2.32	2.38
100	53.10	2.49	2.58
200	53.28	-	-
300	53.76	2.78	2.80
500	53.23	3.08	3.10
700	53.36	-	-
900	54.63	3.43	3.43
1000	55.59	3.49	3.49
1200	54.61	-	-
1350	53.88	3.80	3.83
1500	53.81	3.93	3.97
1700	55.09	-	-
1900	53.33	4.27	4.32
2100	53.37	-	-
2300	55.39	5.06	5.34
2500	57.15	5.44	5.69
2700	52.29	5.81	6.04
2900	49.27	-	-
3000	48.46	6.27	6.57

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# Programmable Atten.

# RCDAT-3000-63W2

## Typical Performance Data @ +25°C

FREQUENCY (MHz)	Attenuation relative to Insertion Loss (dB)							
	1 dB	10 dB	15 dB	20 dB	30 dB	40 dB	50 dB	63 dB
50	1.00	10.07	15.07	19.87	29.89	40.00	49.97	62.96
75	1.01	10.07	15.07	19.86	29.87	39.99	49.96	62.96
100	1.01	10.06	15.06	19.84	29.85	39.97	49.94	62.93
200	1.02	10.03	15.02	19.76	29.77	39.89	49.87	62.86
300	1.02	10.00	14.98	19.67	29.67	39.81	49.79	62.77
500	1.02	9.99	14.96	19.59	29.58	39.76	49.78	62.74
700	1.02	10.06	15.01	19.67	29.66	39.89	49.95	62.92
900	1.05	10.11	15.07	19.74	29.76	40.04	50.15	63.14
1000	1.06	10.13	15.09	19.73	29.77	40.09	50.22	63.23
1200	1.05	10.20	15.14	19.69	29.78	40.15	50.33	63.40
1350	1.05	10.29	15.21	19.69	29.80	40.22	50.43	63.56
1500	1.08	10.39	15.31	19.70	29.83	40.30	50.56	63.75
1700	1.13	10.49	15.43	19.71	29.84	40.40	50.74	63.98
1900	1.19	10.58	15.52	19.71	29.81	40.50	50.91	64.14
2100	1.30	10.63	15.54	19.65	29.73	40.55	51.03	64.22
2300	1.34	10.56	15.40	19.48	29.53	40.48	50.99	64.09
2500	1.19	10.47	15.27	19.27	29.31	40.40	50.86	63.91
2700	1.09	10.62	15.33	19.22	29.26	40.47	50.82	63.86
2900	1.29	10.89	15.47	19.33	29.35	40.66	50.82	63.87
3000	1.40	10.94	15.46	19.32	29.32	40.69	50.72	63.75

FREQUENCY (MHz)	Attenuation accuracy relative to nominal attenuation setting (dB)							
	1 dB	10 dB	15 dB	20 dB	30 dB	40 dB	50 dB	63 dB
50	0.00	-0.07	-0.07	0.13	0.11	0.00	0.03	0.04
75	-0.01	-0.07	-0.07	0.14	0.13	0.01	0.04	0.04
100	-0.01	-0.06	-0.06	0.16	0.15	0.03	0.06	0.07
200	-0.02	-0.03	-0.02	0.24	0.23	0.11	0.13	0.14
300	-0.02	0.00	0.02	0.33	0.33	0.19	0.21	0.23
500	-0.02	0.01	0.04	0.41	0.42	0.24	0.22	0.26
700	-0.02	-0.06	-0.01	0.33	0.34	0.11	0.05	0.08
900	-0.05	-0.11	-0.07	0.26	0.24	-0.04	-0.15	-0.14
1000	-0.06	-0.13	-0.09	0.27	0.23	-0.09	-0.22	-0.23
1200	-0.05	-0.20	-0.14	0.31	0.22	-0.15	-0.33	-0.40
1350	-0.05	-0.29	-0.21	0.31	0.20	-0.22	-0.43	-0.56
1500	-0.08	-0.39	-0.31	0.30	0.17	-0.30	-0.56	-0.75
1700	-0.13	-0.49	-0.43	0.29	0.16	-0.40	-0.74	-0.98
1900	-0.19	-0.58	-0.52	0.29	0.19	-0.50	-0.91	-1.14
2100	-0.30	-0.63	-0.54	0.35	0.27	-0.55	-1.03	-1.22
2300	-0.34	-0.56	-0.40	0.52	0.47	-0.48	-0.99	-1.09
2500	-0.19	-0.47	-0.27	0.73	0.69	-0.40	-0.86	-0.91
2700	-0.09	-0.62	-0.33	0.78	0.74	-0.47	-0.82	-0.86
2900	-0.29	-0.89	-0.47	0.67	0.65	-0.66	-0.82	-0.87
3000	-0.40	-0.94	-0.46	0.68	0.68	-0.69	-0.72	-0.75

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# Programmable Atten.

# RCDAT-3000-63W2

## Typical Performance Data @ +25°C

FREQUENCY (MHz)	Input VSWR (:1)							
	1 dB	10 dB	15 dB	20 dB	30 dB	40 dB	50 dB	63 dB
50	1.35	1.24	1.19	1.19	1.14	1.19	1.13	1.11
75	1.35	1.24	1.19	1.20	1.14	1.19	1.14	1.11
100	1.34	1.24	1.19	1.20	1.14	1.19	1.14	1.12
200	1.34	1.24	1.19	1.21	1.15	1.20	1.15	1.13
300	1.31	1.23	1.19	1.22	1.17	1.22	1.17	1.15
500	1.20	1.18	1.15	1.25	1.19	1.25	1.19	1.18
700	1.11	1.12	1.11	1.25	1.20	1.26	1.20	1.17
900	1.18	1.14	1.16	1.22	1.17	1.22	1.18	1.14
1000	1.20	1.18	1.18	1.19	1.16	1.19	1.16	1.12
1200	1.14	1.21	1.18	1.12	1.12	1.11	1.11	1.12
1350	1.07	1.19	1.15	1.05	1.12	1.04	1.11	1.17
1500	1.12	1.14	1.17	1.05	1.16	1.05	1.14	1.24
1700	1.22	1.15	1.29	1.15	1.24	1.15	1.23	1.34
1900	1.31	1.28	1.42	1.25	1.32	1.26	1.33	1.42
2100	1.48	1.41	1.49	1.34	1.40	1.35	1.42	1.47
2300	1.62	1.49	1.50	1.41	1.45	1.42	1.49	1.48
2500	1.56	1.51	1.50	1.44	1.48	1.46	1.52	1.47
2700	1.38	1.55	1.51	1.44	1.51	1.48	1.54	1.47
2900	1.45	1.63	1.50	1.44	1.54	1.49	1.56	1.49
3000	1.54	1.66	1.49	1.46	1.56	1.50	1.57	1.51

FREQUENCY (MHz)	Output VSWR (:1)							
	1 dB	10 dB	15 dB	20 dB	30 dB	40 dB	50 dB	63 dB
50	1.42	1.11	1.06	1.11	1.05	1.08	1.19	1.05
75	1.42	1.11	1.07	1.11	1.06	1.08	1.19	1.06
100	1.41	1.11	1.07	1.11	1.06	1.09	1.20	1.06
200	1.39	1.12	1.08	1.13	1.07	1.10	1.21	1.07
300	1.35	1.13	1.09	1.14	1.09	1.11	1.23	1.09
500	1.22	1.14	1.13	1.17	1.13	1.15	1.26	1.13
700	1.13	1.16	1.16	1.18	1.17	1.18	1.27	1.17
900	1.19	1.21	1.21	1.18	1.21	1.21	1.24	1.21
1000	1.21	1.24	1.23	1.17	1.22	1.22	1.21	1.22
1200	1.16	1.27	1.26	1.18	1.25	1.25	1.13	1.25
1350	1.10	1.29	1.28	1.22	1.28	1.28	1.06	1.28
1500	1.10	1.31	1.30	1.27	1.30	1.30	1.04	1.30
1700	1.09	1.34	1.32	1.35	1.33	1.35	1.15	1.33
1900	1.14	1.37	1.34	1.43	1.34	1.39	1.27	1.34
2100	1.42	1.41	1.36	1.48	1.35	1.43	1.39	1.35
2300	1.64	1.45	1.35	1.49	1.34	1.44	1.46	1.35
2500	1.57	1.45	1.33	1.50	1.33	1.44	1.49	1.33
2700	1.32	1.42	1.32	1.49	1.32	1.43	1.48	1.32
2900	1.42	1.40	1.33	1.51	1.32	1.42	1.47	1.32
3000	1.55	1.40	1.32	1.52	1.32	1.40	1.45	1.32

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# Programmable Atten.

# RCDAT-3000-63W2

## Typical Performance Data @ +25°C

FREQUENCY (MHz)	IP3 (dBm)	Insertion Loss @P <sub>IN</sub> =0 dBm (dB)	Insertion Loss @P <sub>IN</sub> =+33 dBm (dB)
50	52.40	2.27	2.30
75	52.67	2.45	2.51
100	52.93	2.63	2.71
200	52.69	-	-
300	52.52	2.99	3.00
500	52.49	3.29	3.31
700	49.94	-	-
900	57.65	3.66	3.68
1000	58.41	3.72	3.74
1200	55.91	-	-
1350	54.79	4.02	4.08
1500	54.25	4.15	4.22
1700	55.48	-	-
1900	53.70	4.51	4.61
2100	55.11	-	-
2300	57.59	5.45	5.61
2500	53.99	5.87	6.00
2700	51.15	6.28	6.39
2900	48.59	-	-
3000	48.16	6.76	6.92

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# Programmable Atten.

# RCDAT-3000-63W2

## Typical Performance Data @ 50°C

FREQUENCY (MHz)	Attenuation relative to Insertion Loss (dB)							
	1 dB	10 dB	15 dB	20 dB	30 dB	40 dB	50 dB	63 dB
50	1.00	10.07	15.08	19.88	29.89	40.00	49.96	62.95
75	1.01	10.07	15.08	19.87	29.88	39.99	49.95	62.95
100	1.01	10.07	15.08	19.85	29.86	39.97	49.93	62.93
200	1.02	10.04	15.04	19.76	29.77	39.88	49.85	62.85
300	1.02	10.00	14.98	19.65	29.66	39.79	49.77	62.75
500	1.02	9.99	14.96	19.57	29.56	39.73	49.75	62.72
700	1.03	10.06	15.02	19.65	29.65	39.87	49.93	62.90
900	1.05	10.11	15.08	19.72	29.74	40.02	50.13	63.12
1000	1.06	10.13	15.10	19.72	29.76	40.07	50.20	63.21
1200	1.05	10.20	15.15	19.68	29.77	40.14	50.32	63.40
1350	1.06	10.29	15.22	19.67	29.79	40.21	50.44	63.57
1500	1.08	10.39	15.31	19.68	29.82	40.29	50.57	63.76
1700	1.13	10.50	15.44	19.69	29.83	40.39	50.76	63.99
1900	1.19	10.59	15.54	19.69	29.81	40.49	50.94	64.19
2100	1.30	10.64	15.55	19.63	29.72	40.54	51.06	64.25
2300	1.34	10.57	15.43	19.46	29.52	40.48	51.03	64.17
2500	1.20	10.50	15.30	19.25	29.31	40.39	50.91	63.99
2700	1.11	10.64	15.36	19.21	29.26	40.47	50.86	63.92
2900	1.30	10.91	15.50	19.30	29.33	40.65	50.83	63.90
3000	1.40	10.96	15.48	19.29	29.30	40.67	50.72	63.77

FREQUENCY (MHz)	Attenuation accuracy relative to nominal attenuation setting (dB)							
	1 dB	10 dB	15 dB	20 dB	30 dB	40 dB	50 dB	63 dB
50	0.00	-0.07	-0.08	0.12	0.11	0.00	0.04	0.05
75	-0.01	-0.07	-0.08	0.13	0.12	0.01	0.05	0.05
100	-0.01	-0.07	-0.08	0.15	0.14	0.03	0.07	0.07
200	-0.02	-0.04	-0.04	0.24	0.23	0.12	0.15	0.15
300	-0.02	0.00	0.02	0.35	0.34	0.21	0.23	0.25
500	-0.02	0.01	0.04	0.43	0.44	0.27	0.25	0.28
700	-0.03	-0.06	-0.02	0.35	0.35	0.13	0.07	0.10
900	-0.05	-0.11	-0.08	0.28	0.26	-0.02	-0.13	-0.12
1000	-0.06	-0.13	-0.10	0.28	0.24	-0.07	-0.20	-0.21
1200	-0.05	-0.20	-0.15	0.32	0.23	-0.14	-0.32	-0.40
1350	-0.06	-0.29	-0.22	0.33	0.21	-0.21	-0.44	-0.57
1500	-0.08	-0.39	-0.31	0.32	0.18	-0.29	-0.57	-0.76
1700	-0.13	-0.50	-0.44	0.31	0.17	-0.39	-0.76	-0.99
1900	-0.19	-0.59	-0.54	0.31	0.19	-0.49	-0.94	-1.19
2100	-0.30	-0.64	-0.55	0.37	0.28	-0.54	-1.06	-1.25
2300	-0.34	-0.57	-0.43	0.54	0.48	-0.48	-1.03	-1.17
2500	-0.20	-0.50	-0.30	0.75	0.69	-0.39	-0.91	-0.99
2700	-0.11	-0.64	-0.36	0.79	0.74	-0.47	-0.86	-0.92
2900	-0.30	-0.91	-0.50	0.70	0.67	-0.65	-0.83	-0.90
3000	-0.40	-0.96	-0.48	0.71	0.70	-0.67	-0.72	-0.77

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- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"). Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)



# Programmable Atten.

# RCDAT-3000-63W2

## Typical Performance Data @ 50°C

FREQUENCY (MHz)	IP3 (dBm)	Insertion Loss @P <sub>IN</sub> =0 dBm (dB)	Insertion Loss @P <sub>IN</sub> =+33 dBm (dB)
50	53.67	2.37	2.42
75	53.62	2.56	2.64
100	53.57	2.74	2.85
200	53.11	-	-
300	52.97	3.10	3.12
500	52.11	3.41	3.45
700	53.28	-	-
900	54.88	3.82	3.85
1000	55.96	3.90	3.92
1200	53.68	-	-
1350	53.95	4.25	4.29
1500	54.11	4.40	4.45
1700	54.38	-	-
1900	52.52	4.80	4.90
2100	53.12	-	-
2300	56.22	5.58	5.85
2500	53.99	6.01	6.25
2700	50.16	6.43	6.64
2900	48.06	-	-
3000	47.80	6.95	7.20

### Notes

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