

APPENDIX E: Standard Resistance Values

The standard 1% (and 1/2%) resistor values are recommended for ease of design and for best availability when designing precision analog circuits.

Standard Resistance Values for the 10-to-100 Decade

Resistance Tolerance (+ %)

0.1			0.1			0.1			0.1			0.1			0.1		
0.25	1	2	0.25	1	2	0.25	1	2	0.25	1	2	0.25	1	2	0.25	1	2
0.5		5	0.5		5	0.5		5	0.5		5	0.5		5	0.5		5
10.0	10.0	10	14.7	14.7	—	21.5	21.5	—	31.6	31.6	—	46.4	46.4	—	68.1	68.1	68
10.1	—	—	14.9	—	—	21.8	—	—	32.0	—	—	47.0	—	47	69.0	—	—
10.2	10.2	—	15.0	15.0	15	22.1	22.1	22	32.4	32.4	—	47.5	47.5	—	69.8	69.8	—
10.4	—	—	15.2	—	—	22.3	—	—	32.8	—	—	48.1	—	—	70.6	—	—
10.5	10.5	—	15.4	15.4	—	22.6	22.6	—	33.2	33.2	33	48.7	48.7	—	71.5	71.5	—
10.6	—	—	15.6	—	—	22.9	—	—	33.6	—	—	49.3	—	—	72.3	—	—
10.7	10.7	—	15.8	15.8	—	23.2	23.2	—	34.0	34.0	—	49.9	49.9	—	73.2	73.2	—
10.9	—	—	16.0	—	16	23.4	—	—	34.4	—	—	50.5	—	—	74.1	—	—
11.0	11.0	11	16.2	16.2	—	23.7	23.7	—	34.8	34.8	—	51.1	51.1	51	75.0	75.0	75
11.1	—	—	16.4	—	—	24.0	—	24	35.2	—	—	51.7	—	—	75.9	—	—
11.3	11.3	—	16.5	16.5	—	24.3	24.3	—	35.7	35.7	—	52.3	52.3	—	76.8	76.8	—
11.4	—	—	16.7	—	—	24.6	—	—	36.1	—	36	53.0	—	—	77.7	—	—
11.5	11.5	—	16.9	16.9	—	24.9	24.9	—	36.5	36.5	—	53.6	53.6	—	78.7	78.7	—
11.7	—	—	17.2	—	—	25.2	—	—	37.0	—	—	54.2	—	—	79.6	—	—
11.8	11.8	—	17.4	17.4	—	25.5	25.5	—	37.4	37.4	—	54.9	54.9	—	80.6	80.6	—
12.0	—	12	17.6	—	—	25.8	—	—	37.9	—	—	56.6	—	—	81.6	—	—
12.1	12.1	—	17.8	17.8	—	26.1	26.1	—	38.3	38.3	—	56.2	56.2	56	82.5	82.5	82
12.3	—	—	18.0	—	18	26.4	—	—	38.8	—	—	56.9	—	—	83.5	—	—
12.4	12.4	—	18.2	18.2	—	26.7	26.7	—	39.2	39.2	39	57.6	57.6	—	84.5	84.5	—
12.6	—	—	18.4	—	—	27.1	—	27	39.7	—	—	58.3	—	—	85.6	—	—
12.7	12.7	—	18.7	18.7	—	27.4	27.4	—	40.2	40.2	—	59.0	59.0	—	86.6	86.6	—
12.9	—	—	18.9	—	—	27.7	—	—	40.7	—	—	59.7	—	—	87.6	—	—
13.0	13.0	13	19.1	19.1	—	28.0	28.0	—	41.2	41.2	—	60.4	60.4	—	88.7	88.7	—
13.2	—	—	19.3	—	—	28.4	—	—	41.7	—	—	61.2	—	—	89.8	—	—
13.3	13.3	—	19.6	19.6	—	28.7	28.7	—	42.2	42.2	—	61.9	61.9	62	90.9	90.9	91
13.5	—	—	19.8	—	—	29.1	—	—	42.7	—	—	62.6	—	—	92.0	—	—
13.7	13.7	—	20.0	20.0	20	29.4	29.4	—	43.2	43.2	43	63.4	63.4	—	93.1	93.1	—
13.8	—	—	20.3	—	—	29.8	—	—	43.7	—	—	64.2	—	—	94.2	—	—
14.0	14.0	—	20.5	20.5	—	30.1	30.1	30	44.2	44.2	—	64.9	64.9	—	95.3	95.3	—
14.2	—	—	20.8	—	—	30.5	—	—	44.8	—	—	65.7	—	—	96.5	—	—
14.3	14.3	—	21.0	21.0	—	30.9	30.9	—	45.3	45.3	—	66.5	66.5	—	97.6	97.6	—
14.5	—	—	21.3	—	—	31.2	—	—	45.9	—	—	67.3	—	—	98.8	—	—

Standard Resistance Values are obtained from the Decade Table by multiplying by multiples of 10. As an example, 12.1 can represent 1.21Ω, 12.1Ω, 121Ω, 1.21 kΩ, etc.