APPENDIX H

STANDARD RESISTANCE VALUES AND UNIT PREFIXES

Discrete resistors are available only in standard values. Table H.1 provides the multipliers for the standard values of 5%-tolerance and 1%-tolerance resistors. Thus, in the kilohm

Table H.1 Standard Resistance Values

	1% Resistor Values (kΩ)			
5% Resistor Values (kΩ)	100–174	178–309	316–549	562–976
10	100	178	316	562
11	102	182	324	576
12	105	187	332	590
13	107	191	340	604
15	110	196	348	619
16	113	200	357	634
18	115	205	365	649
20	118	210	374	665
22	121	215	383	681
24	124	221	392	698
27	127	226	402	715
30	130	232	412	732
33	133	237	422	750
36	137	243	432	768
39	140	249	442	787
43	143	255	453	806
47	147	261	464	825
51	150	267	475	845
56	154	274	487	866
62	158	280	499	887
68	162	287	511	909
75	165	294	523	931
82	169	301	536	953
91	174	309	549	976

range of 5% resistors, one finds resistances of 1.0, 1.1, 1.2, 1.3, 1.5, ... In the same range, one finds 1% resistors of kilohm values of 1.00, 1.02, 1.05, 1.07, 1.10, ...

Table H.2 provides the SI unit prefixes used in this book and in all modern works in English.

Table H.2 SI Unit Prefixes

Name	Symbol	Factor
femto	f	$\times 10^{-15}$
pico	p	$\times 10^{-12}$
nano	n	$\times 10^{-9}$
micro	μ	$\times 10^{-6}$
milli	m	$\times 10^{-3}$
kilo	k	$\times 10^{3}$
mega	M	$\times 10^{6}$
giga	G	$\times 10^{9}$
tera	T	$\times 10^{12}$
peta	P	$\times 10^{15}$

Table H.3 provides the meter conversion factors.

Table H.3 Meter Conversion factors

$1\ \mu m = 10^{-4}\ cm = 10^{-6}\ m$
$1\ m = 10^{2}\ cm = 10^{6}\ \mu m$
$0.1\ \mu m = 100\ nm$
$1\ Å = 10^{-8}\ cm = 10^{-10}\ m$