

# ameriCAD Incorporated

## Printed Circuit Board Design • Electronic Packaging

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American Wire Guage (AWG) Reference Chart											
AWG	DIAMETER		AWG	DIAMETER		AWG	DIAMETER		AWG	DIAMETER	
	English	Metric		English	Metric		English	Metric		English	Metric
1	.289"	7.34mm	11	.090"	2.28mm	21	.028"	.711mm	31	.0089"	.226mm
2	.257"	6.52mm	12	.080"	2.03mm	22	.025"	.635mm	32	.0080"	.203mm
3	.229"	5.81mm	13	.072"	1.82mm	23	.022"	.558mm	33	.0071"	.180mm
4	.204"	5.18mm	14	.064"	1.62mm	24	.020"	.508mm	34	.0063"	.160mm
5	.181"	4.59mm	15	.057"	1.44mm	25	.018"	.457mm	35	.0056"	.142mm
6	.162"	4.11mm	16	.050"	1.27mm	26	.016"	.406mm	36	.0050"	.127mm
7	.144"	3.65mm	17	.045"	1.14mm	27	.014"	.355mm	37	.0045"	.114mm
8	.128"	3.25mm	18	.040"	1.01mm	28	.012"	.304mm	38	.0040"	.101mm
9	.114"	2.89mm	19	.036"	.914mm	29	.011"	.279mm	39	.0035"	.088mm
10	.102"	2.59mm	20	.032"	.812mm	30	.010"	.254mm	40	.0031"	.078mm

Current Carrying Capacity Reference Chart											
Max. Temperature Rise >			50° F / 10° C			68° F / 20° C			86° F / 30° C		
Copper (per ft. <sup>2</sup> ) >			1/2 oz.	1 oz.	2 oz.	1/2 oz.	1 oz.	2 oz.	1/2 oz.	1 oz.	2 oz.
Trace Width	English	Metric	Maximum Current (AMPS)								
	.010"	.254mm	.5	1.0	1.4	.6	1.2	1.6	.7	1.5	2.2
	.015"	.381mm	.6	1.2	1.6	.8	1.3	2.4	1.0	1.6	3.0
	.020"	.508mm	.7	1.3	2.1	1.0	1.7	3.0	1.2	2.4	3.6
	.025"	.635mm	.9	1.7	2.5	1.2	2.2	3.3	1.5	2.8	4.0
	.030"	.762mm	1.1	1.9	3.0	1.4	2.5	4.0	1.7	3.2	5.0
	.050"	1.27mm	1.5	2.6	4.0	2.0	3.6	6.0	2.6	4.4	7.3
	.075"	1.90mm	2.0	3.5	5.7	2.8	4.5	7.8	3.5	6.0	10.0
	.100"	2.54mm	2.6	4.2	6.9	3.5	6.6	9.9	4.3	7.5	12.5
	.200"	5.08mm	4.2	7.0	11.5	6.0	10.0	16.0	7.5	13.0	20.5
.250"	6.35mm	5.0	8.3	12.3	7.2	12.3	20.0	9.0	15.0	24.5	

Primary UL Voltage Spacing Reference Chart											
Spacing = .0002" (.005mm) per volt rms + .023" (.58mm)											
VOLTS	SPACING		VOLTS	SPACING		VOLTS	SPACING		VOLTS	SPACING	
	English	Metric		English	Metric		English	Metric		English	Metric
10	.025"	.635mm	110	.045"	1.14mm	210	.065"	1.65mm	310	.085"	2.15mm
20	.027"	.685mm	120	.047"	1.19mm	220	.067"	1.70mm	320	.087"	2.20mm
30	.029"	.736mm	130	.049"	1.24mm	230	.069"	1.75mm	330	.089"	2.26mm
40	.031"	.787mm	140	.051"	1.29mm	240	.071"	1.80mm	340	.091"	2.31mm
50	.033"	.838mm	150	.053"	1.34mm	250	.073"	1.85mm	350	.093"	2.36mm
60	.035"	.889mm	160	.055"	1.39mm	260	.075"	1.90mm	360	.095"	2.41mm
70	.037"	.939mm	170	.057"	1.44mm	270	.077"	1.95mm	370	.097"	2.46mm
80	.039"	.990mm	180	.059"	1.49mm	280	.079"	2.00mm	380	.099"	2.51mm
90	.041"	1.04mm	190	.061"	1.54mm	290	.081"	2.05mm	390	.101"	2.56mm
100	.043"	1.09mm	200	.063"	1.60mm	300	.083"	2.10mm	400	.103"	2.61mm

NOTE: This information is provided "as is" and is intended as a guideline only. All efforts have been made to ensure that it is correct, but it is the ultimate responsibility of the user to verify it's accuracy. amerCAD, Inc. will not be held responsible for any consequential damages resulting from the use of this information.