SMD cheat sheet

PASSIVE RECTANGULAR

IMP	Size	MET	Power Rating (resistors)
01005	-	0402	0.031w
0201	-	0603	0.05w
0402	-	1005	0.062w – 0.1w
0603	▪	1608	0.1w
0805	▬	2012	0.125w
1008	▬	2520	
1206	▬	3216	0.25w
1210	▬	3225	0.5w
1806	▬	4516	
1812	▬	4532	0.75w
2010	▬	5025	0.75w
2512	▬	6332	1w

TANTALUM CAPACITORS

EIA	Size	KEMET	AVX	Dimensions
2012-12	▪	R	R	2.0 x 1.3 x 1.2
3216-10	▪	I	K	3.2 x 1.6 x 1.0
3216-12	▪	S	S	3.2 x 1.6 x 1.2
3216-18	▪	A	A	3.2 x 1.6 x 1.8
3528-12	▬	T	T	3.5 x 2.8 x 1.2
3528-21	▬	B	B	3.5 x 2.8 x 2.1
6032-15	▬	U	W	6.0 x 3.2 x 1.5
6032-28	▬	C	C	6.0 x 3.2 x 2.8
7260-38	▬	E	V	7.3 x 6.0 x 3.8
7343-20	▬	V	Y	7.3 x 4.3 x 2.0
7343-31	▬	D	D	7.3 x 4.3 x 3.1
7343-43	▬	X	E	7.3 x 4.3 x 4.3

ALUMINIUM CAPACITORS

Panasonic	Size	Chemi-Con	Dimensions
A	▪	B	3.3 x 3.3
B	▪	D	4.3 x 4.3
C	▪	E	5.3 x 5.3
D	▪	F	6.6 x 6.6
E/F	▪	H	8.3 x 8.3
G	▪	J	10.3 x 10.3
	▪	K	13.0 x 13.0
H			13.5 x 13.5
J		L	17.0 x 17.0
K		M	19.0 x 19.0

SOD (Small Outline Diode)

CODE	Size	Alt	Dimensions
SOD-723	▬		1.4 x 0.6 x 0.59
SOD-523	▪	SC-79	1.25 x 0.85 x 0.65
SOD-323	▪	SC-90	1.7 x 1.25 x 0.95
SOD-128	▬		5 x 2.7 x 1.1
SOD-123	▬		3.68 x 1.17 x 1.6
SOD-80C	▬		3.5 x 1.5

MELF (Metal Electrode Leadless Face)

CODE	Size	Alt	l x diam	Typical Rating
MicroMELF	▬	0102	MMU	2.2 x 1.1	0.2 to 0.3w / 150V
MiniMELF	▪	0204	MMA	3.6 x 1.4	0.25 to 0.4w / 200V
MELF	▪	0207	MMB	5.8 x 2.2	0.4 to 1w / 300V

DO-214

CODE	Size	Alt	Dimensions
DO-214AA	▪	SMB	5.3 x 3.6 x 2.25
DO-214AB	▬	SMC	7.95 x 5.9 x 2.25
DO-214AC	▬	SMA	5.2 x 2.6 x 2.15

Hole Diameter

.5 .6 .7 .8 .9 1
1.2 1.4 1.5 1.6
2.2 2.8 3 3.2

Trace Width

@ 25°C & copper 35µm
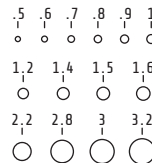
mils	Size	mA
6		
8		
10		
12		
14		
16		
18		
20		
24		
30		
40		
60		

Crystals & Oscillators

Code	Size	Dimensions
SX3512	▬	8.7 x 3.4
SXE4016	▬	10.4 x 4.2
SX4516	▬	11.6 x 4.2
SX5020	▬	13.2 x 5
SM49S		24 x 12
LCNx	▬	5 x 3.2
LCNx	▬	6 x 3.5
LCNx	▬	7 x 5
LCNx/LCCx	▬	7 x 5

AWG

AWG	ømm	Size	A
10	2.59		55A
15	1.45		28A
20	0.81		11A
25	0.45		2.7A
28	0.32		1.4A
30	0.25		860mA

CAPS Value Converter

pF	nF	µF	mF
1k	1	0.001	
10k	10	0.01	
1000k	1,000	1	0.001
	10,000	10	0.01
		100	0.1
		1,000	1

Units Converter

inch	mils	mm
.05	50	1.27
.1	100	2.54
.5	500	12.7
1	1,000	25.4
2	2,000	50.8

Pitch Reference

2.54
2.00
1.27

SO8 TSSOP8 SSOP8 SOP8 SO14 TSSOP14 SSOP14 SOM14 SOP14 SO16 TSSOP16 SSOP16 SOP16 SOM16 SOL16

TQFP44
QFN44
QFP44

D2PAK DPAK SOT-223 SOT-89 SOT-23 SOT-323 SOT-416 SOT-663 SOT-723 SOT-883 SOT-23-5 SOT-23-6 SOT-23-8 SOT-143 SOT-343 SOT-353 SOT-363 SOT-563 SOT-665 SOT-886

Vias (mils)
15 18 20 22 24 30