Chip ordering information - Syfer parts

1210	Y	100	0103	K	X	T	_ _ _
Chip Size	Termination	Voltage	Capacitance in picofarads (pF)	Capacitance Tolerance	Dielectric	Packaging	Suffix code

Case Code

0402
0603
0805
1206
1210
1808
1812
1825
2220
2225
3640
5550
8060

Termination Codes

A	Nickel barrier	90/10% tin/lead
F	Palladium Silver*	
H	FlexiCap™/Nickel Barrier	90/10% tin/lead
J	Nickel Barrier*	100% tin
Y	FlexiCap™/Nickel Barrier*	100% tin
2	Copper Barrier* (Non Mag)	100% tin
3	FlexiCap™/Copper Barrier* (Non Mag)	100% tin
4	Copper Barrier (Non Mag)	90/10% tin/lead
5	FlexiCap™/Copper Barrier (Non Mag)	90/10% tin/lead

*Indicates RoHS terminations

Voltage Code

Code	Value	Code	Value	Code	Value
010	10Vdc	**1K0**	1kVdc	**A25**	250Vac
016	16Vdc	**1K2**	1.2kVdc		
025	25Vdc	**1K5**	1.5kVdc		
050	50Vdc	**2K0**	2kVdc		
063	63Vdc	**2K5**	2.5kVdc		
100	100Vdc	**3K0**	3kVdc		
200	200Vdc	**4K0**	4kVdc		
250	250Vdc	**5K0**	5kVdc		
500	500Vdc	**6K0**	6kVdc		
630	630Vdc	**8K0**	8kVdc		
		10K	10kVdc		
		12K	12kVdc		

Capacitance Tolerance Codes

Code	Tolerance	
H	±0.05pF	< 4.7pF
H	±0.05pF	Cap. Value < 10pF
B	±0.10pF	
C	±0.25pF	
D	±0.50pF	
F	±1%	Cap. Value ≥ 10pF
G	±2%	
J	±5%	
K	±10%	
M	±20%	

Packaging

Code	
T	178mm (7") reel
R	330mm (13") reel
B	Bulk pack - tubs or trays

Suffix Definitions

Used for specific customer requirements	
PXX	Palladium electrodes
LS*	Chip marking *(consult sales office)

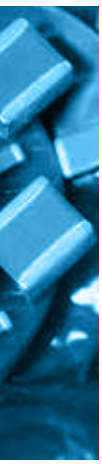
Dielectric Codes

Code	Dielectric	Features
C	C0G/NP0 (1B)	Ultra Stable
H	X8G	Ultra Stable/High Q
P	X5R	Stable
X	X7R (2R1)	Stable
J	X7R (2R1)(BME)	Stable
N	X8R	Stable
Q	C0G/NP0 (1B)	Ultra Stable/High Q
U	C0G/NP0 (1B)	Ultra Stable/Ultra-low ESR
A	C0G/NP0 (1B)	AEC -Q200 approved
S	X7R (2R1)(BME)	AEC -Q200 approved
E	X7R (2R1)	AEC -Q200 approved
T	X8R	AEC -Q200 approved
K	C0G/NP0 (1B)(BME)	AEC -Q200 approved
F	C0G/NP0 (1B)	IECQ-CECC release
D	X7R (2R1)	IECQ-CECC release
R	BZ (2C1)	IECQ-CECC release
B	BX (2X1)	IECQ-CECC release
G	C0G/NP0 (1B)(BME)	Ultra Stable

Capacitance Code

Calculation	Example	Capacaitance value
<1.0pF Insert a P for the decimal point as the 1st character.	**P300**	0.3pF (values in 0.1pF steps)
≥1.0pF & <10pF Insert a P for the decimal point as the 2nd character.	**8P20**	8.2pF (values are E24 series)
≥10pF 1st digit is 0. 2nd and 3rd digits are significant figures of capacitance value. 4th digit is number of zeros.	**0101**	100pF (values are E24 series)

MLCC standard range - 10V to 12kVdc



	10V		16V			25V			50/63V			100V		200/250V		500V		630V		1kV	
	C0G/NP0	X5R	C0G/NP0	X7R	X5R	C0G/NP0	X7R	X5R	C0G/NP0	X7R	X5R	C0G/NP0	X7R	C0G/NP0	X7R	C0G/NP0	X7R	C0G/NP0	X7R	C0G/NP0	X7R
0402	—	—	0.3p - 270p	120p - 5.6n	—	0.3p - 220p	120p - 4.7n	—	0.3p - 180p	120p - 4.7n	—	0.3p - 180p	120p - 4.7n	0.3p - 100p	120p - 2.2n	—	—	—	—	—	—
0603	0.47p - 3.9n	120n - 150n	0.47p - 2.7n	100p - 100n	120n	0.47p - 2.2n	100p - 100n	—	0.47p - 1.5n	100p - 100n	56n - 68n	0.47p - 470p	100p - 47n	0.47p - 220p	100p - 10n	0.47p - 150p*	100p - 1.5n*	—	—	—	—
0805	1.0p - 15n	390n - 680n	1.0p - 12n	100p - 330n	390n - 470n	1.0p - 10n	100p - 220n	270n - 390n	1.0p - 5.6n	100p - 220n	270n - 330n	1.0p - 2.2n	100p - 100n	1.0p - 1.0n	100p - 56n	1.0p - 820p	100p - 15n	1.0p - 820p	100p - 12n	1.0p - 180p	100p - 10n
1206	1.0p - 47n	1.2µ - 1.5µ	1.0p - 33n	100p - 1.0µ	1.2µ	1.0p - 27n	100p - 820n	1.0µ	1.0p - 22n	100p - 470n	560n - 680n	1.0p - 8.2n	100p - 330n	1.0p - 3.9n	100p - 150n	1.0p - 2.7n	100p - 68n	1.0p - 2.7n	100p - 47n	1.0p - 1.5n	100p - 27n
1210	3.9p - 100n	1.8µ - 3.3µ	3.9p - 68n	100p - 1.5µ	1.8µ - 2.7µ	3.9p - 56n	100p - 1.2µ	1.5µ - 2.2µ	3.9p - 33n	100p - 1.0µ	1.2µ - 1.5µ	3.9p - 18n	100p - 680n	3.9p - 8.2n	100p - 330n	3.9p - 6.8n	100p - 150n	3.9p - 6.8n	100p - 100n	3.9p - 2.2n	100p - 47n
1808	4.7p - 100n	1.8µ - 2.7µ	4.7p - 68n	100p - 1.5µ	1.8µ - 2.2µ	4.7p - 47n	100p - 1.2µ	1.5µ	4.7p - 33n	100p - 680n	820n - 1.0µ	4.7p - 18n	100p - 560n	4.7p - 8.2n	100p - 270n	4.7p - 6.8n	100p - 150n	4.7p - 6.8n	100p - 100n	4.7p - 2.2n	100p - 47n
1812 T=2.5mm	10p - 220n	3.9µ - 10µ	10p - 180n	150p - 3.3µ	3.9µ - 6.8µ	10p - 150n	150p - 2.2µ	2.7µ - 4.7µ	10p - 100n	150p - 2.2µ	2.7µ - 3.3µ	10p - 47n	150p - 1.5µ	10p - 22n	150p - 680n	10p - 15n	150p - 330n	10p - 10n	150p - 180n	10p - 6.8n	150p - 100n
1812 T=3.2mm	—	—	—	—	—	—	—	—	—	—	—	—	—	27n	820n - 1000n	18n - 22n	390n - 470n	12n - 22n	220n - 330n	8.2n	120n - 180n
1825 T=2.5mm	10p - 470n	5.6µ - 15µ	10p - 330n	220p - 4.7µ	5.6µ - 12µ	10p - 220n	220p - 3.9µ	4.7µ - 10µ	10p - 150n	220p - 2.2µ	2.2µ - 6.8µ	10p - 68n	220p - 1.5µ	10p - 33n	220p - 1.0µ	10p - 27n	220p - 560n	10p - 22n	220p - 200n	10p - 12n	220p - 200n
1825 T=3.2mm	—	—	—	—	—	—	—	—	—	—	—	—	—	39n - 47n	—	33n	—	27n	—	15n	—
2220 T=2.5mm	10p - 470n	6.8µ - 18µ	10p - 330n	220p - 5.6µ	6.8µ - 12µ	10p - 220n	220p - 4.7µ	5.6µ - 10µ	10p - 150n	220p - 3.3µ	3.9µ - 6.8µ	10p - 68n	220p - 2.2µ	10p - 33n	220p - 1.0µ	10p - 22n	220p - 560n	10p - 18n	220p - 330n	10p - 15n	220p - 120n
2220 T=4.2mm	—	—	—	—	—	—	—	—	—	—	—	—	—	39n - 56n	1.2µ - 2.2u	27n - 39n	680n - 1µ	22n - 33n	390n - 1µ	18n - 22n	150n - 470n
2225 T=2.5mm	10p - 560n	8.2µ - 22µ	10p - 470n	330p - 6.8µ	8.2µ - 15µ	10p - 330n	330p - 5.6µ	6.8µ - 12µ	10p - 220n	330p - 3.3µ	3.9µ - 10µ	10p - 82n	330p - 2.7µ	10p - 47n	330p - 1.5µ	10p - 33n	330p - 820n	10p - 22n	330p - 390n	10p - 18n	330p - 150n
2225 T=4.0mm	—	—	—	—	—	—	—	—	—	—	—	—	—	56n - 68n	—	39n - 47n	—	27n - 39n	—	22n - 27n	—
3640 T=2.5mm	—	—	—	—	—	—	—	—	10p - 330n	470p - 10µ	—	10p - 270n	470p - 5.6µ	10p - 120n	470p - 3.3µ	10p - 82n	470p - 1.0µ	10p - 68n	470p - 680n	10p - 47n	470p - 180n
3640 T=4.0mm	—	—	—	—	—	—	—	—	—	—	—	—	—	150n - 180n	3.9µ - 5.6µ	100n - 120n	1.2µ - 2.7µ	82n - 100n	820n - 2.2µ	56n - 82n	220n - 1µ
5550 T=2.5mm	—								27p - 680n	1.0n - 15µ	—	27p - 470n	1.0n - 10µ	27p - 270n	1.0n - 5.6µ	27p - 180n	1.0n - 1.8µ	27p - 120n	1.0n - 1.2µ	27p - 82n	1.0n - 390n
5550 T=4.0mm	—								—	—	—	—	—	330n	—	220n - 270n	—	150n - 180n	—	100n - 150n	—
8060 T=2.5mm	—								47p - 1.0µ	2.2n - 22µ	—	47p - 680n	2.2n - 15µ	47p - 390n	2.2n - 10µ	47p - 270n	2.2n - 3.3µ	47p - 220n	2.2n - 2.2µ	47p - 150n	2.2n - 1.0µ
8060 T=4.0mm	—								—	—	—	—	—	470n - 560n	—	330n - 470n	—	270n - 390n	—	180n - 270n	—
	10V		16V			25V			50/63V			100V		200/250V		500V		630V		1kV	

knowles
DLI•JohansonMFG•Novacap•Syfer•Voltronics

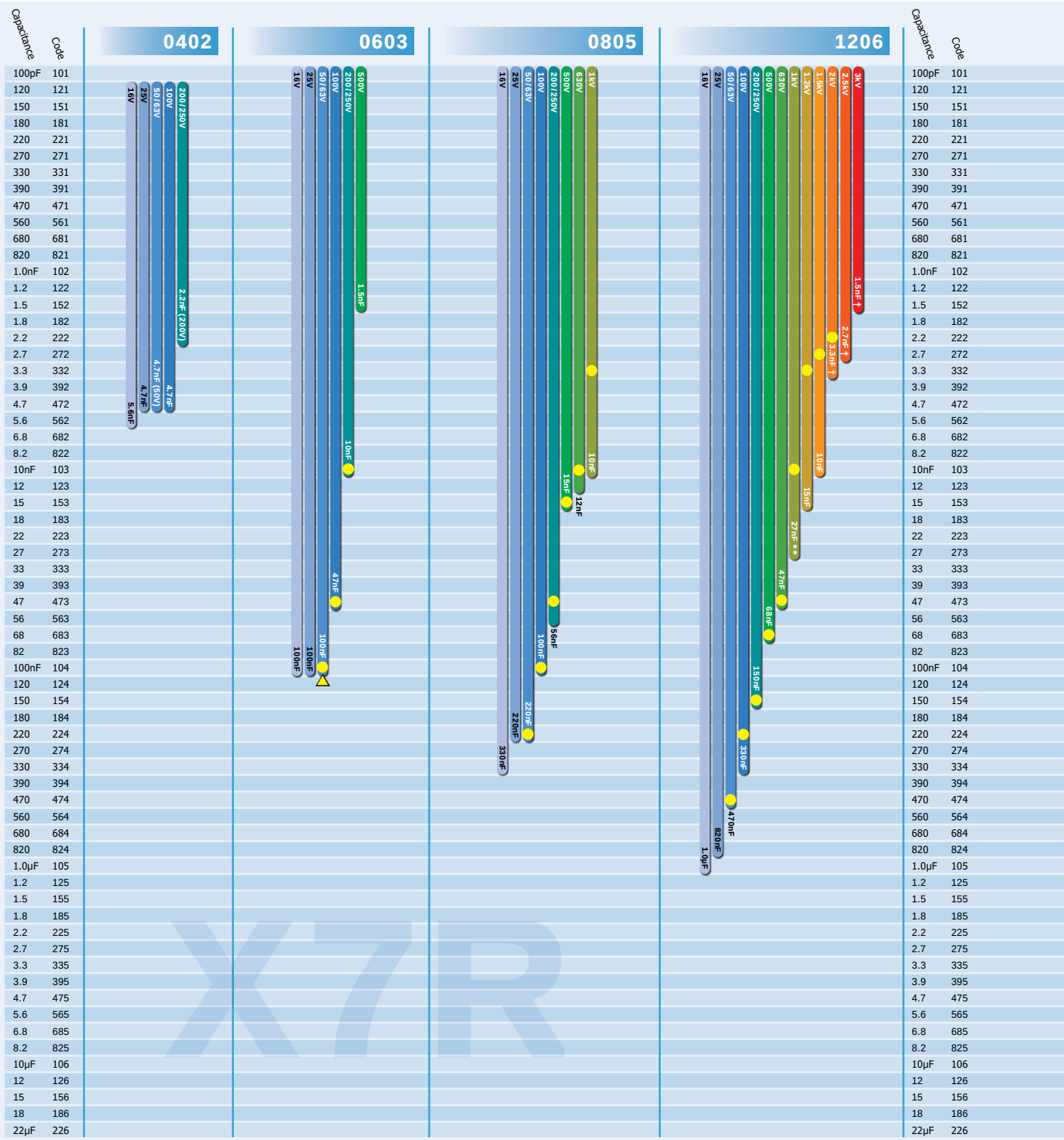
Note: 0505, 1111 and 2211 case sizes are available in our specialty ranges.

Please refer to the relevant sections of this catalogue for more details.

Notes: **1)** Capacitance in F - min value above max value. **2)** *These parts may require conformal coating post soldering. **3)** T = Maximum thickness.
4) †Higher capacitance values available from the NC range - see page 63. **5)** StackiCap™ high capacitance versions are now available. Please refer to datasheet.
6) Parts in this range may be defined as dual-use under export control legislation as such may be subject to export licence restrictions. Please refer to p12 for more information on the dual-use regulations and contact the Sales Office for further information on specific part numbers.

1.2kV		1.5kV		2kV		2.5kV		3kV		4kV		5kV		6kV		8kV		10kV		12kV		
C0G / NP0	X7R	C0G / NP0	X7R	C0G / NP0	X7R	C0G / NP0	X7R	C0G / NP0	X7R	C0G / NP0	X7R	C0G / NP0	X7R	C0G / NP0	X7R	C0G / NP0	X7R	C0G / NP0	X7R	C0G / NP0	X7R	
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0402
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0603
1.0p - 120p	—	1.0p - 82p	—	1.0p - 47p	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0805
1.0p - 680p	100p - 15n	1.0p - 330p	100p - 10n	1.0p - 220p	100p - 3.3n†	1.0p - 100p	100p - 2.7n†	1.0p - 68p	100p - 1.5n†	—	—	—	—	—	—	—	—	—	—	—	—	1206
3.9p - 1.5n	100p - 18n	3.9p - 820p	100p - 12n	3.9p - 470p	100p - 5.6n†	3.9p - 220p	100p - 4.7n†	3.9p - 150p	100p - 3.3n†	—	—	—	—	—	—	—	—	—	—	—	—	1210
4.7p - 1.5n	100p - 22n	4.7p - 1.0n	100p - 15n	4.7p - 470p	100p - 5.6n†	4.7p - 270p	100p - 4.7n†	4.7p - 220p	100p - 3.3n†	4.7p - 120p*	100p - 2.2n*†	4.7p - 68p*	100p - 680p*†	4.7p - 47p*	100p - 390p*†	—	—	—	—	—	—	1808
10p - 4.7n	150p - 33n	10p - 2.7n	150p - 22n	10p - 1.5n	150p - 10n†	10p - 820p	150p - 8.2n†	10p - 560p	150p - 4.7n†	10p - 270p*	150p - 3.3n*†	10p - 180p*	150p - 1.2n*†	10p - 120p*	150p - 1.0n*†	—	—	—	—	—	—	1812 T=2.5mm
5.6n - 6.8n	39n - 100n	3.3n	27n - 56n	1.8n	12n - 33n	1.0n	—	680p	—	330p - 390p*	—	220p - 270p*	—	150p - 180p*	—	—	—	—	—	—	—	1812 T=3.2mm
10p - 6.8n	220p - 68n	10p - 4.7n	220p - 47n	10p - 3.3n	220p - 10n	10p - 1.5n	220p - 6.8n	10p - 1.2n	220p - 3.9n	10p - 560p*	220p - 2.2n*	10p - 390p*	220p - 1.8n*	10p - 270p*	220p - 1.5n*	—	—	—	—	—	—	1825 T=2.5mm
8.2n - 10n	—	5.6n - 6.8n	—	3.9n	—	1.8n - 2.2n	—	1.5n	—	680p*	—	470p*	—	330p*	—	—	—	—	—	—	—	1825 T=3.2mm
10p - 10n	220p - 82n	10p - 5.6n	220p - 47n	10p - 3.3n	220p - 33n	10p - 1.8n	220p - 22n†	10p - 1.5n	220p - 10n†	10p - 680p*	220p - 6.8n*†	10p - 470p*	220p - 4.7n*†	10p - 330p*	220p - 2.2n*†	—	—	—	—	—	—	2220 T=2.5mm
12n - 15n	100n - 220n	6.8n - 10n	50n - 150n	3.9n - 5.6n	39n - 100n	2.2n - 3.3n	—	1.8n - 2.2n	—	820p - 1.2n*	—	560p - 820p*	—	390p - 560p*	—	—	—	—	—	—	—	2220 T=4.2mm
10p - 12n	330p - 100n	10p - 6.8n	330p - 68n	10p - 4.7n	330p - 33n	10p - 2.2n	330p - 12n	10p - 1.8n	330p - 8.2n	10p - 820p*	330p - 5.6n*	10p - 560p*	330p - 4.7n*	10p - 390p*	330p - 2.7n*	—	—	—	—	—	—	2225 T=2.5mm
15n - 22n	—	8.2n - 12n	—	5.6n - 6.8n	—	2.7n - 3.9n	—	2.2n - 2.7n	—	1.0n - 1.5n*	—	680p - 1.0n*	—	470p - 680p*	—	—	—	—	—	—	—	2225 T=4.0mm
10p - 33n	470p - 150n	10p - 22n	470p - 100n	10p - 10n	470p - 47n	10p - 6.8n	470p - 33n	10p - 4.7n	470p - 22n	10p - 1.8n	470p - 6.8n	10p - 1.5n	470p - 5.6n	10p - 1.0n	470p - 4.7n	10p - 150p	470p - 1.5n*	10p - 100p	470p - 1.0n*	10p - 68p	470p - 820p*	3640 T=2.5mm
39n - 56n	180n - 470n	27n - 39n	120n - 330n	12n - 18n	56n - 150n	8.2n - 12n	—	5.6n - 8.2n	—	2.2n - 3.3n	—	1.8n - 2.2n	—	1.2n - 1.5n	—	—	—	—	—	—	—	3640 T=4.0mm
27p - 68n	1.0n - 220n	27p - 39n	1.0n - 150n	27p - 22n	1.0n - 82n	27p - 12n	1.0n - 68n	27p - 10n	1.0n - 47n	27p - 4.7n	1.0n - 15n	27p - 2.7n	1.0n - 10n	27p - 1.8n	1.0n - 8.2n	27p - 330p	1.0n - 4.7n*	27p - 180p	1.0n - 2.2n*	27p - 120p	1.0n - 1.2n*	5550 T=2.5mm
82n - 100n	—	47n - 68n	—	27n - 39n	—	15n - 22n	—	12n - 18n	—	5.6n - 6.8n	—	3.3n - 4.7n	—	2.2n - 3.3n	—	—	—	—	—	—	—	5550 T=4.0mm
47p - 100n	2.2n - 470n	47p - 68n	2.2n - 330n	47p - 39n	2.2n - 150n	47p - 22n	2.2n - 100n	47p - 15n	2.2n - 82n	47p - 8.2n	2.2n - 33n	47p - 5.6n	2.2n - 22n	47p - 3.9n	2.2n - 15n	47p - 680p	2.2n - 6.8n*	47p - 470p	2.2n - 4.7n*	47p - 220p	2.2n - 2.2n*	8060 T=2.5mm
120n - 180n	—	82n - 120n	—	47n - 68n	—	27n - 39n	—	18n - 27n	—	10n - 15n	—	6.8n - 10n	—	4.7n - 6.8n	—	—	—	—	—	—	—	8060 T=4.0mm
1.2kV		1.5kV		2kV		2.5kV		3kV		4kV		5kV		6kV		8kV		10kV		12kV		

Industry Standard - MLC chip range - X7R



For 0504, 0907, 1005, 2020, 2221, 4040, 5440 and 43100 range information please refer to your local Knowles Sales Office.

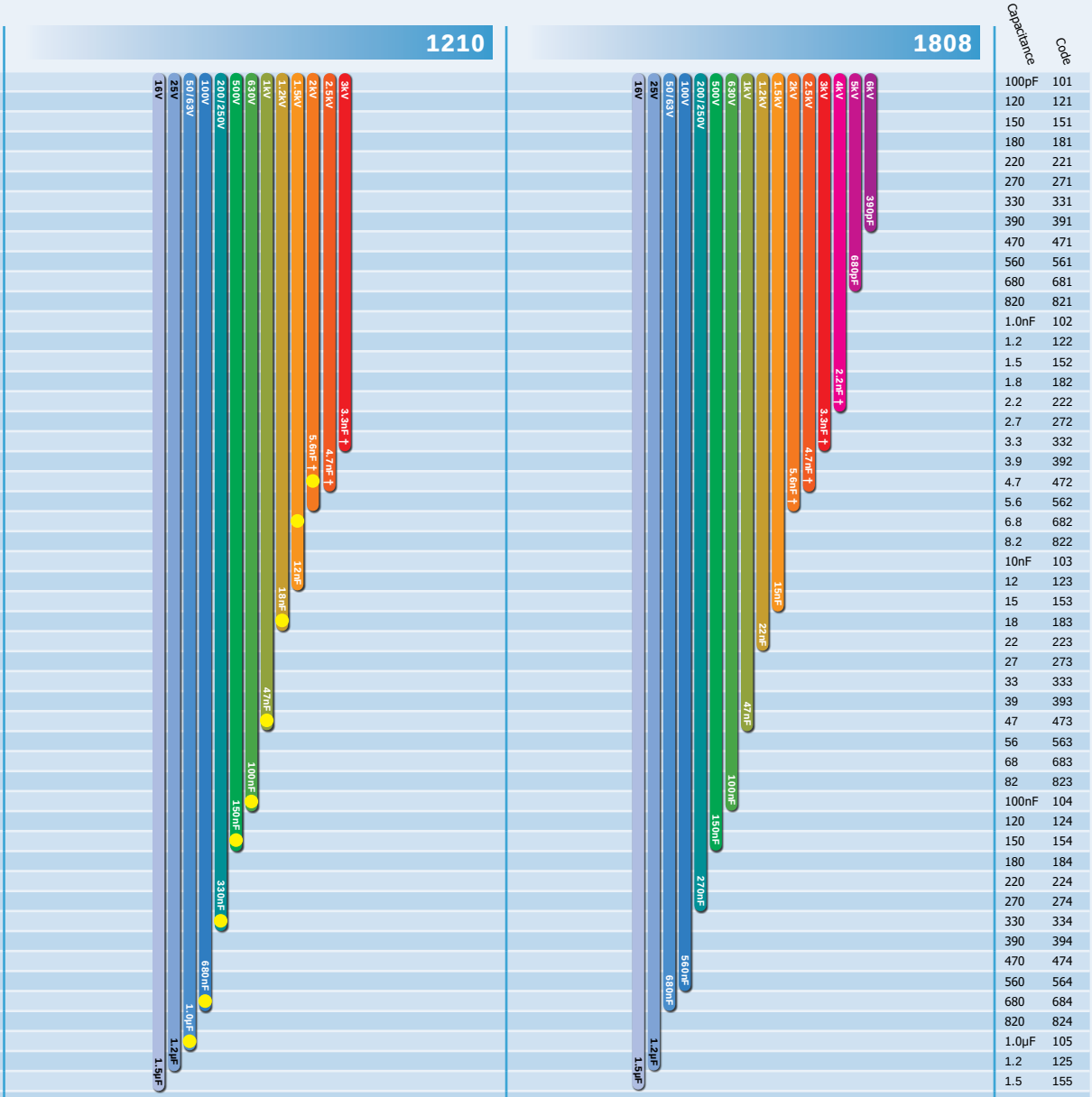
* StackiCap™ high capacitance versions available from the StackiCap™ range - see page 62 for details.

† Higher capacitance values available from the NC capacitor range - see page 63 for details.

** Max. capacitance of 27nF, has increased chip length of 3.5mm. Reduced max. cap value of 22nF, for standard dimension.

◯ **= AEC-Q200 approved parts - maximum values.**

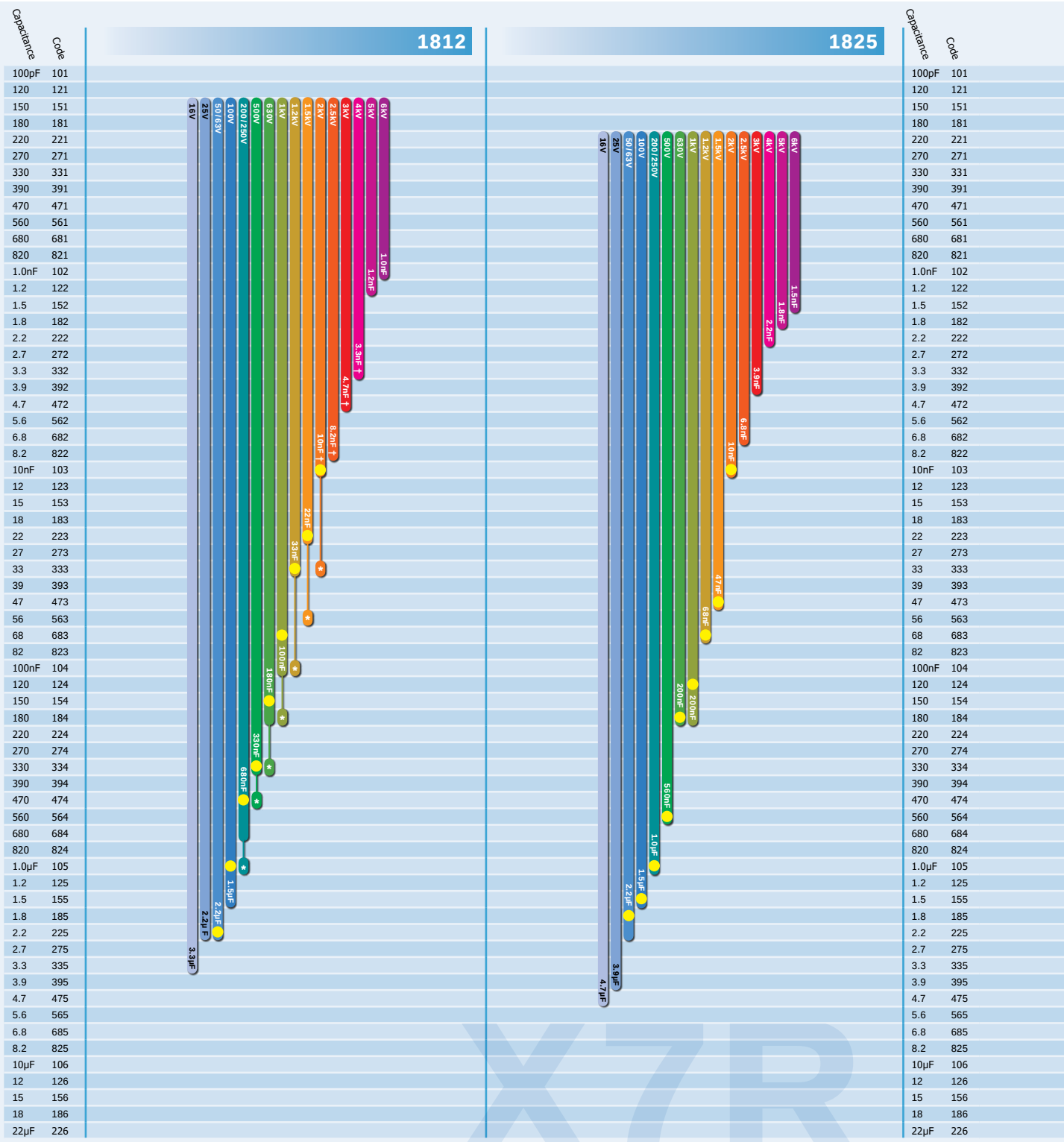
△ For 0603 50/63V values from 68nF to 100nF should be ordered with FB6 suffix.



Capacitance	Code
100pF	101
120	121
150	151
180	181
220	221
270	271
330	331
390	391
470	471
560	561
680	681
820	821
1.0nF	102
1.2	122
1.5	152
1.8	182
2.2	222
2.7	272
3.3	332
3.9	392
4.7	472
5.6	562
6.8	682
8.2	822
10nF	103
12	123
15	153
18	183
22	223
27	273
33	333
39	393
47	473
56	563
68	683
82	823
100nF	104
120	124
150	154
180	184
220	224
270	274
330	334
390	394
470	474
560	564
680	684
820	824
1.0µF	105
1.2	125
1.5	155
1.8	185
2.2	225
2.7	275
3.3	335
3.9	395
4.7	475
5.6	565
6.8	685
8.2	825
10µF	106
12	126
15	156
18	186
22µF	226

Capacitance | Code
100pF | 101
120 | 121
150 | 151
180 | 181
220 | 221
270 | 271
330 | 331
390 | 391
470 | 471
560 | 561
680 | 681
820 | 821
1.0nF | 102
1.2 | 122
1.5 | 152
1.8 | 182
2.2 | 222
2.7 | 272
3.3 | 332
3.9 | 392
4.7 | 472
5.6 | 562
6.8 | 682
8.2 | 822
10nF | 103
12 | 123
15 | 153
18 | 183
22 | 223
27 | 273
33 | 333
39 | 393
47 | 473
56 | 563
68 | 683
82 | 823
100nF | 104
120 | 124
150 | 154
180 | 184
220 | 224
270 | 274
330 | 334
390 | 394
470 | 474
560 | 564
680 | 684
820 | 824
1.0µF | 105
1.2 | 125
1.5 | 155
1.8 | 185
2.2 | 225
2.7 | 275
3.3 | 335
3.9 | 395
4.7 | 475
5.6 | 565
6.8 | 685
8.2 | 825
10µF | 106
12 | 126
15 | 156
18 | 186
22µF | 226

Industry Standard - MLC chip range - X7R



For 0504, 0907, 1005, 2020, 2221, 4040, 5440 and 43100 range information please refer to your local Knowles Sales Office.

* StackiCap™ high capacitance versions available from the StackiCap™ range - see page 62 for details.

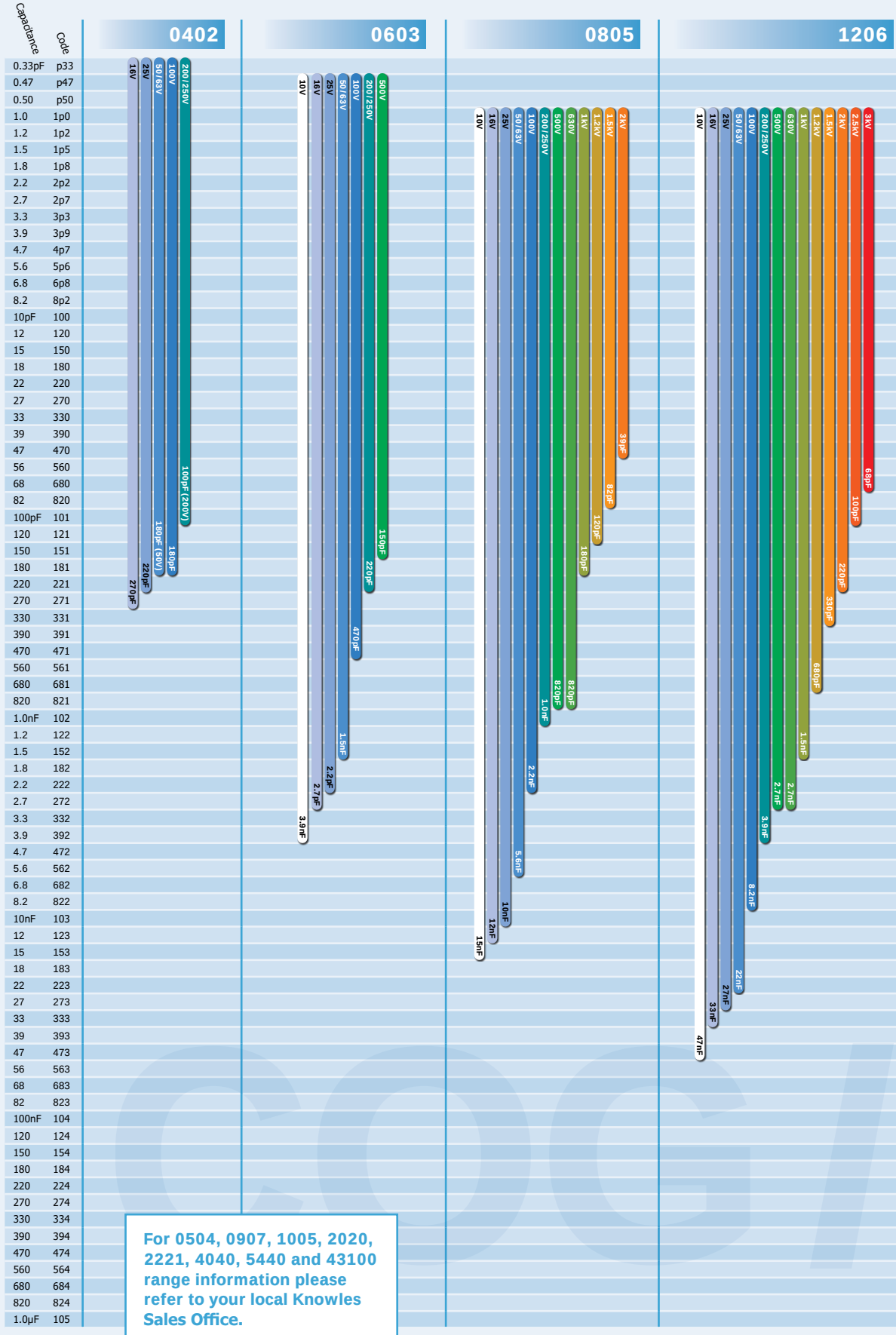
† Higher capacitance values available from the NC capacitor range - see page 63 for details.

◯ **= AEC-Q200 approved parts - maximum values.**

Capacitance	Code	2220	2225
100pF	101		
120	121		
150	151		
180	181		
220	221		
270	271		
330	331		
390	391		
470	471		
560	561		
680	681		
820	821		
1.0nF	102		
1.2	122		
1.5	152		
1.8	182		
2.2	222		
2.7	272		
3.3	332		
3.9	392		
4.7	472		
5.6	562		
6.8	682		
8.2	822		
10nF	103		
12	123		
15	153		
18	183		
22	223		
27	273		
33	333		
39	393		
47	473		
56	563		
68	683		
82	823		
100nF	104		
120	124		
150	154		
180	184		
220	224		
270	274		
330	334		
390	394		
470	474		
560	564		
680	684		
820	824		
1.0µF	105		
1.2	125		
1.5	155		
1.8	185		
2.2	225		
2.7	275		
3.3	335		
3.9	395		
4.7	475		
5.6	565		
6.8	685		
8.2	825		
10µF	106		
12	126		
15	156		
18	186		
22µF	226		

Industry Standard - MLC chip range - C0G/NP0

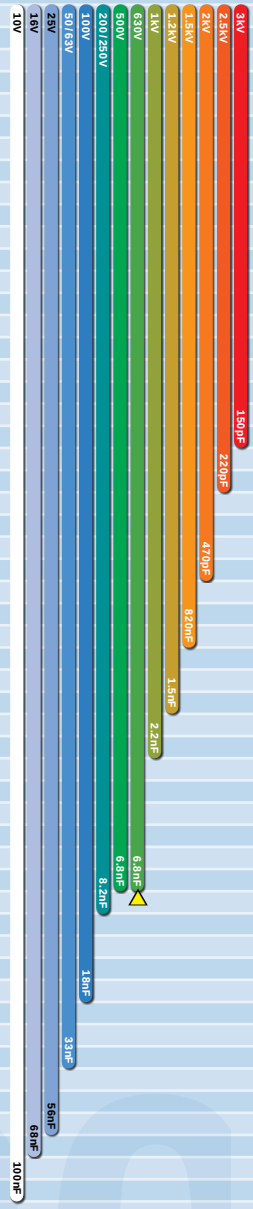
C0G / NP0

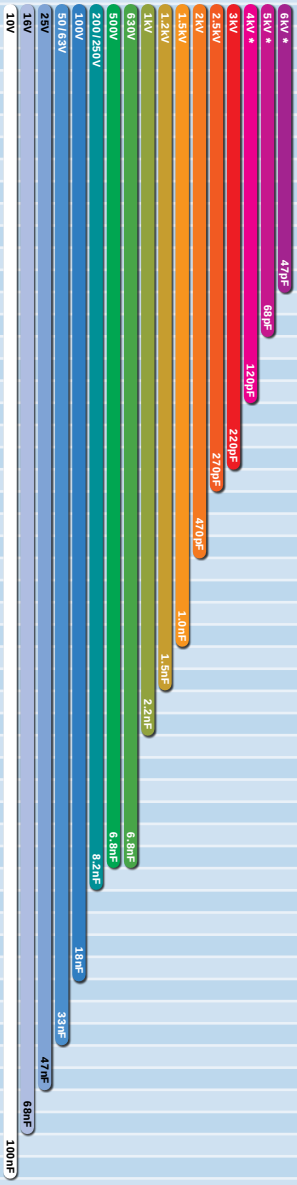


Capacitance	Code
0.33pF	p33
0.47	p47
0.50	p50
1.0	1p0
1.2	1p2
1.5	1p5
1.8	1p8
2.2	2p2
2.7	2p7
3.3	3p3
3.9	3p9
4.7	4p7
5.6	5p6
6.8	6p8
8.2	8p2
10pF	100
12	120
15	150
18	180
22	220
27	270
33	330
39	390
47	470
56	560
68	680
82	820
100pF	101
120	121
150	151
180	181
220	221
270	271
330	331
390	391
470	471
560	561
680	681
820	821
1.0nF	102
1.2	122
1.5	152
1.8	182
2.2	222
2.7	272
3.3	332
3.9	392
4.7	472
5.6	562
6.8	682
8.2	822
10nF	103
12	123
15	153
18	183
22	223
27	273
33	333
39	393
47	473
56	563
68	683
82	823
100nF	104
120	124
150	154
180	184
220	224
270	274
330	334
390	394
470	474
560	564
680	684
820	824
1.0µF	105

For 0504, 0907, 1005, 2020, 2221, 4040, 5440 and 43100 range information please refer to your local Knowles Sales Office.

Capacitance	Code	1210	1808
0.33pF	p33		
0.47	p47		
0.50	p50		
1.0	1p0		
1.2	1p2		
1.5	1p5		
1.8	1p8		
2.2	2p2		
2.7	2p7		
3.3	3p3		
3.9	3p9		
4.7	4p7		
5.6	5p6		
6.8	6p8		
8.2	8p2		
10pF	100		
12	120		
15	150		
18	180		
22	220		
27	270		
33	330		
39	390		
47	470		
56	560		
68	680		
82	820		
100pF	101		
120	121		
150	151		
180	181		
220	221		
270	271		
330	331		
390	391		
470	471		
560	561		
680	681		
820	821		
1.0nF	102		
1.2	122		
1.5	152		
1.8	182		
2.2	222		
2.7	272		
3.3	332		
3.9	392		
4.7	472		
5.6	562		
6.8	682		
8.2	822		
10nF	103		
12	123		
15	153		
18	183		
22	223		
27	273		
33	333		
39	393		
47	473		
56	563		
68	683		
82	823		
100nF	104		
120	124		
150	154		
180	184		
220	224		
270	274		
330	334		
390	394		
470	474		
560	564		
680	684		
820	824		
1.0µF	105		

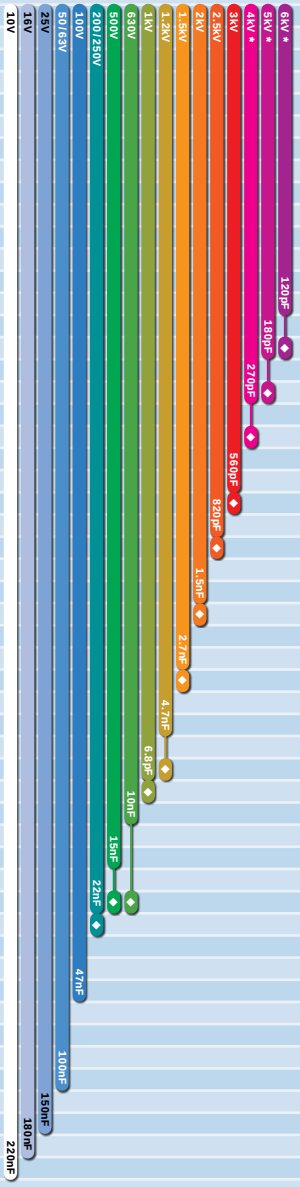


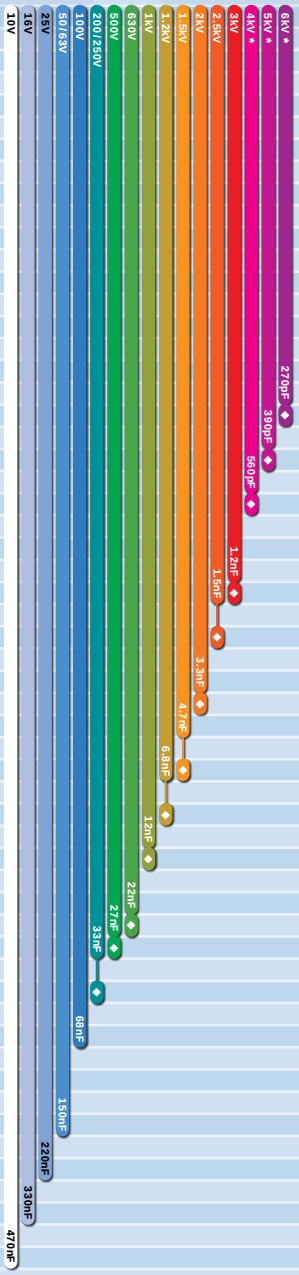


Notes: 1) * These parts may require conformal coating post soldering.
2) Standard chip thickness = 2.5mm maximum unless specified as 3.2 or 4.0mm.

3) △ For 1210 630V 6.8nF, order with AG1 suffix.

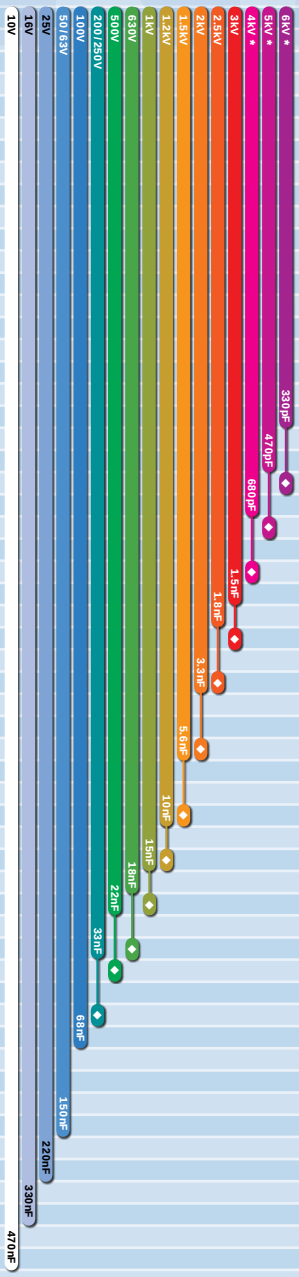
Industry Standard - MLC chip range - C0G/NP0



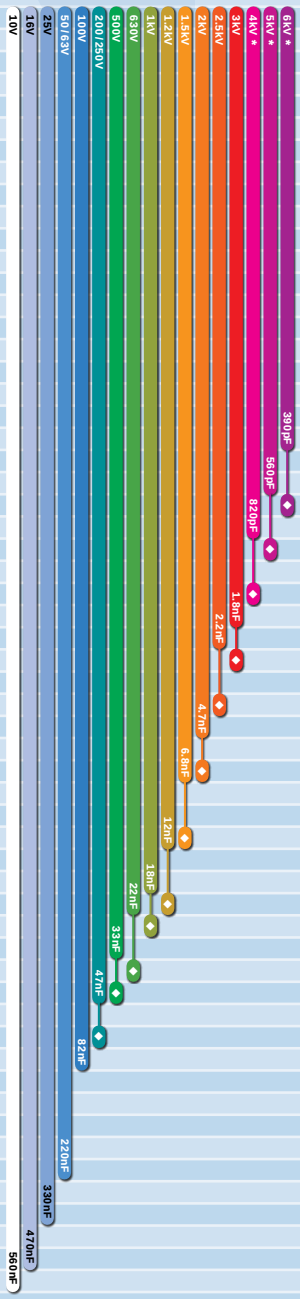


Capacitance	Code	1812	1825	Capacitance	Code
0.33pF	p33			0.33pF	p33
0.47	p47			0.47	p47
0.50	p50			0.50	p50
1.0	1p0			1.0	1p0
1.2	1p2			1.2	1p2
1.5	1p5			1.5	1p5
1.8	1p8			1.8	1p8
2.2	2p2			2.2	2p2
2.7	2p7			2.7	2p7
3.3	3p3			3.3	3p3
3.9	3p9			3.9	3p9
4.7	4p7			4.7	4p7
5.6	5p6			5.6	5p6
6.8	6p8			6.8	6p8
8.2	8p2			8.2	8p2
10pF	100			10pF	100
12	120			12	120
15	150			15	150
18	180			18	180
22	220			22	220
27	270			27	270
33	330			33	330
39	390			39	390
47	470			47	470
56	560			56	560
68	680			68	680
82	820			82	820
100pF	101			100pF	101
120	121			120	121
150	151			150	151
180	181			180	181
220	221			220	221
270	271			270	271
330	331			330	331
390	391			390	391
470	471			470	471
560	561			560	561
680	681			680	681
820	821			820	821
1.0nF	102			1.0nF	102
1.2	122			1.2	122
1.5	152			1.5	152
1.8	182			1.8	182
2.2	222			2.2	222
2.7	272			2.7	272
3.3	332			3.3	332
3.9	392			3.9	392
4.7	472			4.7	472
5.6	562			5.6	562
6.8	682			6.8	682
8.2	822			8.2	822
10nF	103			10nF	103
12	123			12	123
15	153			15	153
18	183			18	183
22	223			22	223
27	273			27	273
33	333			33	333
39	393			39	393
47	473			47	473
56	563			56	563
68	683			68	683
82	823			82	823
100nF	104			100nF	104
120	124			120	124
150	154			150	154
180	184			180	184
220	224			220	224
270	274			270	274
330	334			330	334
390	394			390	394
470	474			470	474
560	564			560	564
680	684			680	684
820	824			820	824
1.0µF	105			1.0µF	105

Capacitance	Code	2220	2225
0.33pF	p33		
0.47	p47		
0.50	p50		
1.0	1p0		
1.2	1p2		
1.5	1p5		
1.8	1p8		
2.2	2p2		
2.7	2p7		
3.3	3p3		
3.9	3p9		
4.7	4p7		
5.6	5p6		
6.8	6p8		
8.2	8p2		
10pF	100		
12	120		
15	150		
18	180		
22	220		
27	270		
33	330		
39	390		
47	470		
56	560		
68	680		
82	820		
100pF	101		
120	121		
150	151		
180	181		
220	221		
270	271		
330	331		
390	391		
470	471		
560	561		
680	681		
820	821		
1.0nF	102		
1.2	122		
1.5	152		
1.8	182		
2.2	222		
2.7	272		
3.3	332		
3.9	392		
4.7	472		
5.6	562		
6.8	682		
8.2	822		
10nF	103		
12	123		
15	153		
18	183		
22	223		
27	273		
33	333		
39	393		
47	473		
56	563		
68	683		
82	823		
100nF	104		
120	124		
150	154		
180	184		
220	224		
270	274		
330	334		
390	394		
470	474		
560	564		
680	684		
820	824		
1.0µF	105		

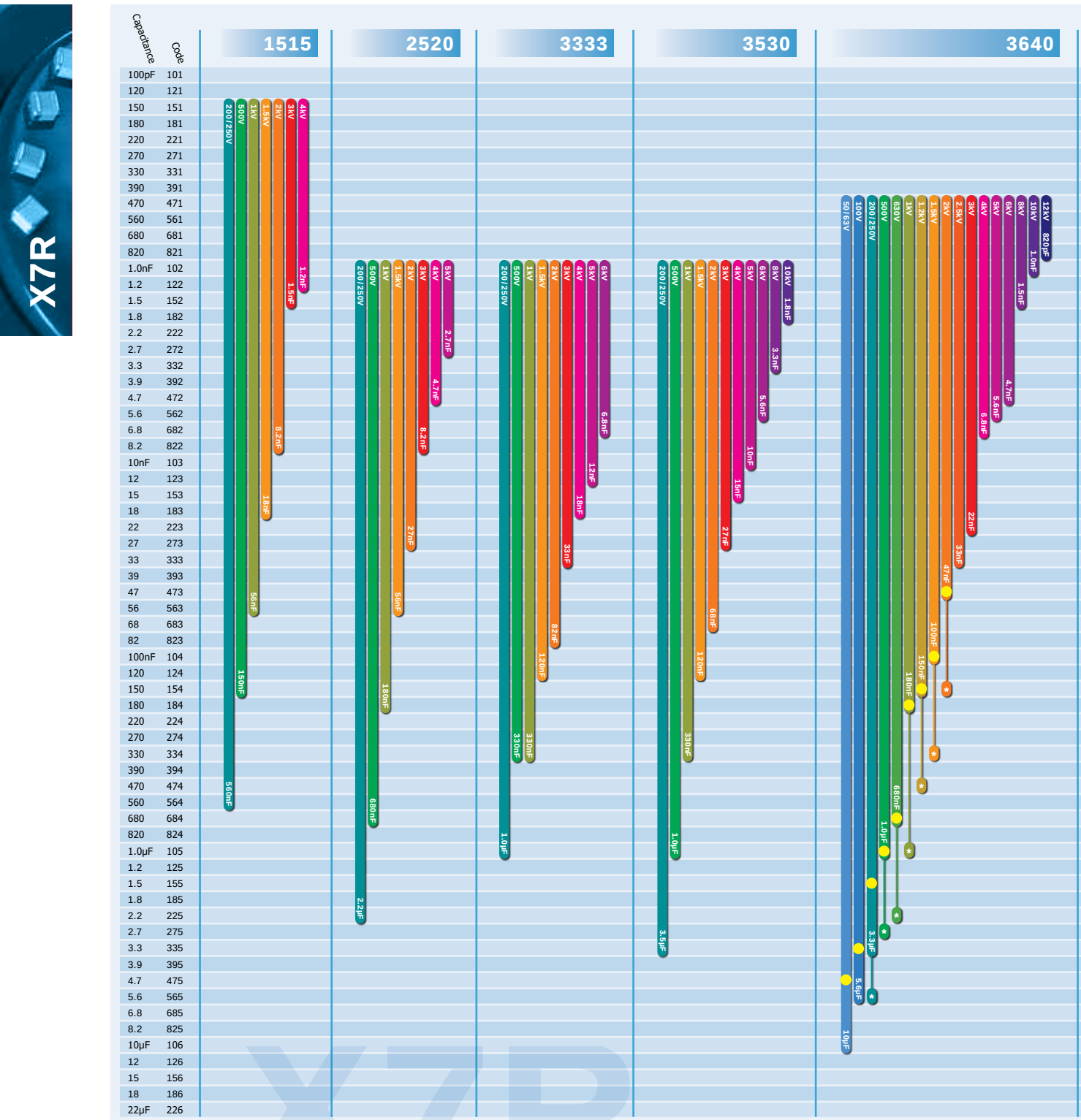


For 0504, 0907, 1005, 2020, 2221, 4040, 5440 and 43100 range information please refer to your local Knowles Sales Office.



Notes: 1) * These parts may require conformal coating post soldering.
2) ◆ Standard chip thickness = 2.5mm maximum unless specified as 3.2 or 4.0mm.

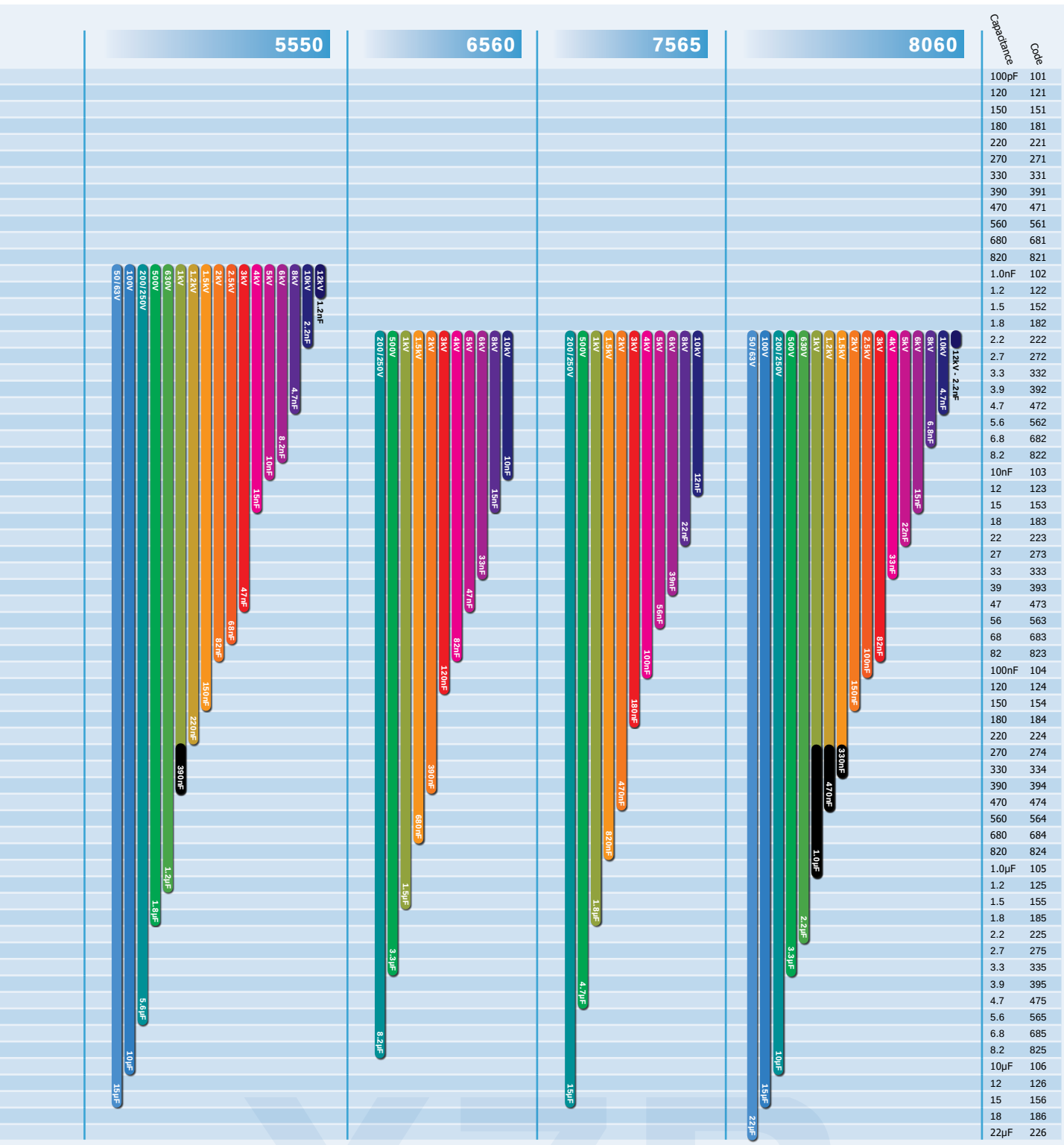
Other Popular Sizes - MLC chip range - X7R



* StackiCap™ high capacitance versions available from the StackiCap™ range - see page 62 for details.

○ = **AEC-Q200 approved parts - maximum values.**

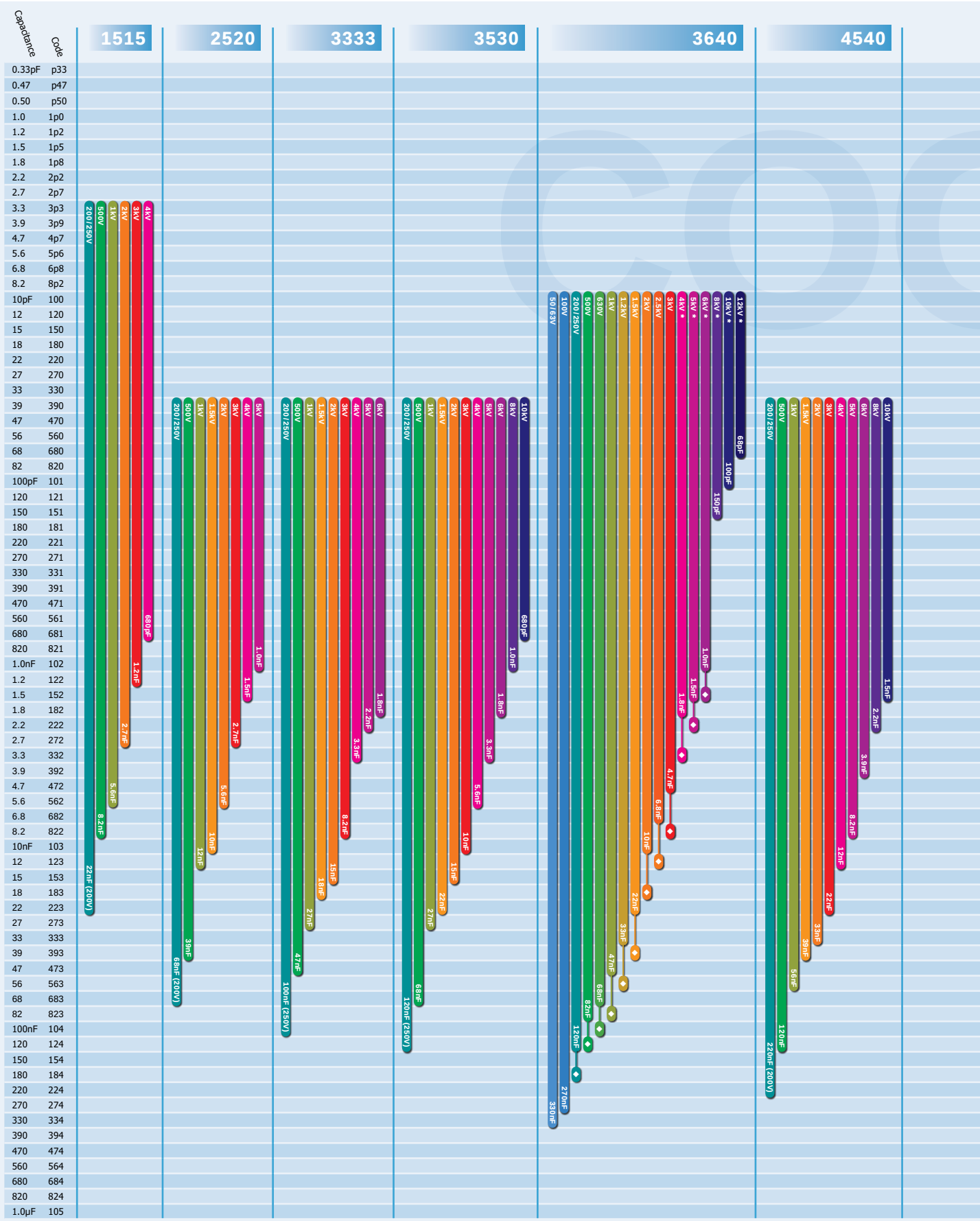
X7R

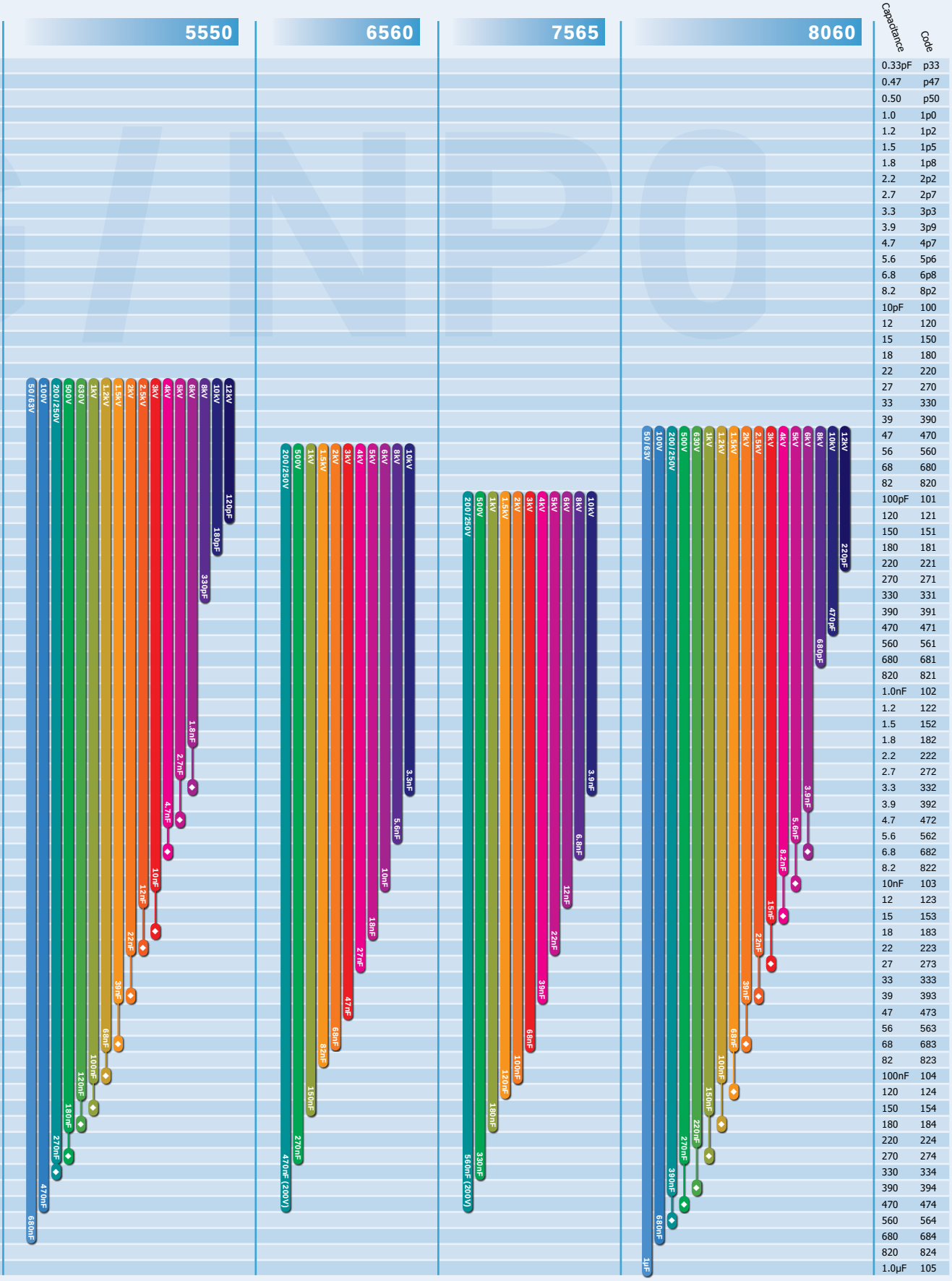


Capacitance	Code
100pF	101
120	121
150	151
180	181
220	221
270	271
330	331
390	391
470	471
560	561
680	681
820	821
1.0nF	102
1.2	122
1.5	152
1.8	182
2.2	222
2.7	272
3.3	332
3.9	392
4.7	472
5.6	562
6.8	682
8.2	822
10nF	103
12	123
15	153
18	183
22	223
27	273
33	333
39	393
47	473
56	563
68	683
82	823
100nF	104
120	124
150	154
180	184
220	224
270	274
330	334
390	394
470	474
560	564
680	684
820	824
1.0µF	105
1.2	125
1.5	155
1.8	185
2.2	225
2.7	275
3.3	335
3.9	395
4.7	475
5.6	565
6.8	685
8.2	825
10µF	106
12	126
15	156
18	186
22µF	226

Note:
● The highlighted parts may be defined as dual-use under export control legislation as such may be subject to export licence restrictions. Please refer to page 12 for more information on the dual-use regulations and contact the Sales Office for further information on specific part numbers.

Other Popular Sizes - MLC chip range - C0G/NP0





Capacitance	Code
0.33pF	p33
0.47	p47
0.50	p50
1.0	1p0
1.2	1p2
1.5	1p5
1.8	1p8
2.2	2p2
2.7	2p7
3.3	3p3
3.9	3p9
4.7	4p7
5.6	5p6
6.8	6p8
8.2	8p2
10pF	100
12	120
15	150
18	180
22	220
27	270
33	330
39	390
47	470
56	560
68	680
82	820
100pF	101
120	121
150	151
180	181
220	221
270	271
330	331
390	391
470	471
560	561
680	681
820	821
1.0nF	102
1.2	122
1.5	152
1.8	182
2.2	222
2.7	272
3.3	332
3.9	392
4.7	472
5.6	562
6.8	682
8.2	822
10nF	103
12	123
15	153
18	183
22	223
27	273
33	333
39	393
47	473
56	563
68	683
82	823
100nF	104
120	124
150	154
180	184
220	224
270	274
330	334
390	394
470	474
560	564
680	684
820	824
1.0µF	105

Note: ✱ These parts may require conformal coating post soldering.