

Syfer Branded Product Range Environmental Status

Surface Mount Capacitor Status

1210	Y	100	0103	J	X	T	□□□
Chip Size	Termination	Voltage d.c. (unless stated)	Capacitance in Pico farads (pF)	Capacitance Tolerance	Dielectric	Packaging	Suffix Code*
0402	Y = FlexiCap™ termination base with nickel barrier (100% matte tin plating). RoHS compliant.	010 = 10V	<1.0pF	<4.7pF	A = COG/NP0 AEC-Q200 B = 2X1/BX C = COG/NP0	T = 178mm (7") reel R = 330mm (13") reel	Used for specific customer requirements
0603		016 = 16V	Insert a P for the decimal point as the first character.	H: ± 0.05pF			
0505	H = FlexiCap™ termination base with nickel barrier (tin/lead plating with min. 10% lead). Not RoHS compliant.	025 = 25V	e.g., P300 = 0.3pF	B: ± 0.10pF	D = X7R (2R1) with IECQ-CECC E = X7R AEC-Q200	B = Bulk pack – tubs or trays	Standard Suffix Codes that Apply
0805		050 = 50V	Values in 0.1pF steps	C: ± 0.25pF			
1111	F = Silver Palladium. RoHS compliant	063 = 63V	≥1.0pF & <10pF	<10pF	F = COG/NP0 with IECQ-CECC G = COG/NP0		M01 = Open Mode
1206		100 = 100V	Insert a P for the decimal point as the second character.	B: ± 0.10pF			
1210	J = nickel barrier (100% matte tin plating). RoHS compliant	200 = 200V	e.g., 8P20 = 8.2pF	C: ± 0.25pF	H = X8G HiQ J = X7R (2R1)		T01 = Tandem design
1808		250 = 250V	Values are E24 series	D: ± 0.5pF			
1812	A = nickel barrier (tin/lead plating with min. 10% lead). Not RoHS compliant	500 = 500V	≥10pF	F: ± 1%	K = COG/NP0 AEC-Q200 N = X8R		WS2 = StackiCap construction
1825		630 = 630V	First digit is 0.	G: ± 2%			
2220	G = nickel barrier (100% gold plating). RoHS compliant	1K0 = 1kV	Second and third digits are significant figures of capacitance code.	J: ± 5%	P = X5R Q = High Q		NC = Mandatory conformal coating
2225		1K2 = 1.2kV	The fourth digit is the number of zeros following.	K: ± 10%			
3640	2 = non-magnetic (100% matt tin plating) RoHS compliant.	1K5 = 1.5kV	e.g., 0101 = 100 pF	M: ± 20%	R = 2C1/BZ S = X7R AEC-Q200 T = X8R AEC-Q200		E01 = 3-terminal EMI filter
4040		2K0 = 2kV	Values are E12 series				
5550	3 = FlexiCap™ base with non-magnetic (100% matt tin plating) RoHS compliant.	2K5 = 2.5kV			U = Ultra Low ESR V = X8G HiQ AEC-Q200 X = X7R (2R1)		E07 = 3-terminal EMI filter
8060		3K0 = 3kV					
	4 = non-magnetic (Tin/Lead Plating) Not RoHS compliant	4K0 = 4kV					E03 = X2Y 3-terminal EMI filter
		4K4 = 4kV					SY2, PY2, SP, SPU, B16, U16, B17 & U17 = Safety Rated
	5 = FlexiCap™ base with non-magnetic (Tin/Lead Plating) Not RoHS compliant.	5K0 = 5kV					U99 & AG1 = Extended thickness
		6K0 = 6kV					H20 & H25 = High Temperature
	6 = nickel barrier (tin/lead plating with min. 5% lead). Not RoHS compliant	8K0 = 8kV					VC1 = Residual Voltage range
		10K = 10kV					AF9 = RF non magnetic
	7 = FlexiCap™ base nickel barrier (tin/lead plating with min. 5% lead). Not RoHS compliant	12K = 12kV					AF7 = RF high power
		A15 = 115Vac 400Hz					HPB = legacy contains lead
		A25 = 250Vac 50/60Hz					

* Parts with customisation suffix codes applied (2 or 3 digit codes added to the end of the standard part number) may have a different RoHS status to the basic part number. In case of doubt, always check the status of customised parts with the factory.

Standard suffix codes shown follow the rules in the following table

Termination Type	Dielectric	RoHS Compliant? 2011/65/EU (2015/863/EU)	RoHS Exemption?	REACH SVHC (Candidate List) REACH 219 08/07/21	REACH Annex XIV (Authorisation List)	REACH Annex XVII (Restricted List)	Prop 65
Y, J & G	A, C, D, E, F, G, H, J, K, P, Q, S, U, V & X	Yes (Since 1 st October 2012)	None applied	None present	None present	Nickel, as an undercoat to the plating finish	No risk of exposure
F, Q, 2 & 3	A, C, D, E, F, G, H, J, K, P, Q, S, U, V & X	Yes (Since 1 st October 2012)	None applied	None present	None present	None present	No risk of exposure
Y, J & G	B, R, N & T	Yes (Since 1 st February 2017)	None applied	None present	None present	Nickel, as an undercoat to the plating finish	No risk of exposure
F, Q, 2 & 3	B, R, N & T	Yes (Since 1 st February 2017)	None applied	None present	None present	None present	No risk of exposure

Termination Type	Dielectric	RoHS Compliant? 2011/65/EU (2015/863/EU)	RoHS Exemption?	REACH SVHC (Candidate List) REACH 219 08/07/21	REACH Annex XIV (Authorisation List)	REACH Annex XVII (Restricted List)	Prop 65
J, Y	B, R, N & T When suffix code HPB is applied	Voltage Dependent Voltage ≥250Vdc, compliant thru exemption Voltage <250Vdc, not compliant (Since 1 st February 2017)	Voltage ≥250Vdc, compliant – exemption 7(C)-II	Lead Titanium Oxide (PbTiO ₃ , CAS number 12060-00-3)	None present	Nickel, as an undercoat to the plating finish Lead – as per SVHC / Authorisation List	No risk of exposure
F, Q	B, R, N & T When suffix code HPB is applied	Voltage Dependent Voltage ≥250Vdc, compliant thru exemption Voltage <250Vdc, not compliant (Since 1 st February 2017)	Voltage ≥250Vdc, compliant – exemption 7(C)-II	Lead Titanium Oxide (PbTiO ₃ , CAS number 12060-00-3)	None present	Lead – as per SVHC / Authorisation List	No risk of exposure
H, A, 6 & 7 (SnPb plated terminations)	A, B, C, D, E, F, G, H, J, K, N, P, Q, R, S, T, U, V & X	No	N/A	Lead (Pb) CAS number 7439-92-1	None present	Nickel, as an undercoat to the plating finish Lead – as per SVHC / Authorisation List	Terminations have exposed lead (CAS 7439-92-1) that could represent a risk of exposure through touch

Termination Type	Dielectric	RoHS Compliant? 2011/65/EU (2015/863/EU)	RoHS Exemption?	REACH SVHC (Candidate List) REACH 219 08/07/21	REACH Annex XIV (Authorisation List)	REACH Annex XVII (Restricted List)	Prop 65
4 & 5 (SnPb plated terminations)	C, Q, & X	No	N/A	Lead (Pb) CAS number 7439-92-1	None present	Lead – as per SVHC / Authorisation List	Terminations have exposed lead (CAS 7439-92-1) that could represent a risk of exposure through touch
H, A, 6 & 7 (SnPb plated terminations)	B, R, N & T When suffix code HPB is applied	No	N/A	Lead Titanium Oxide (PbTiO ₃ , CAS number 12060-00-3) And Lead (Pb) CAS number 7439-92-1	None present	Nickel, as an undercoat to the plating finish Lead – as per SVHC / Authorisation List	Terminations have exposed lead (CAS 7439-92-1) that could represent a risk of exposure through touch

Table 1: Surface Mount Capacitor RoHS Status

Note:

- X8R (N & T) dielectric material was changed to lead free RoHS compliant from 1st February 2017. If suffix HPB is applied, then the 'old' lead containing dielectric is used

Radial Leaded Capacitor Status

8111M	100	0102	J	C	□□□	□□□
Chip Size	Voltage d.c. (unless stated)	Capacitance in Pico farads (pF)	Capacitance Tolerance	Dielectric	Suffix Code	Suffix Code
8111M	010 = 10V	<10pF	<10pF	C = COG/NP0 (1B/CG; CG/BP)	Used for specific customer requirements and/or bandolier packing variants	C42 denotes RoHS compliant
8111N	016 = 16V	Insert a P for the decimal point as the second character.	D: ± 0.5pF	X = X7R (2R1)		
8121M	025 = 25V	e.g., 8P20 = 8.2pF	F: ± 1.0pF	To special order		
8121N	050 = 50V	≥10pF	≥10pF	R = 2C1/BZ		
8121T	063 = 63V	First digit is 0.	F: ± 1%	B = 2X1/BX		
8131M	100 = 100V	Second and third digits are significant figures of capacitance code.	G: ± 2%			
8131T	200 = 200V	The fourth digit is the number of zeros following.	J: ± 5%			
8141M	250 = 250V	e.g., 0101 = 100 pF	K: ± 10%			
8151M	500 = 500V		M: ± 20%			
8161M	630 = 630V		≥27pF			
8165M	1K0 = 1kV		G: ± 2%			
8171M	1K2 = 1.2kV		(COG/NP0 only)			
81112	1K5 = 1.5kV					
81113	2K0 = 2kV					
81212	2K5 = 2.5kV					
81213	3K0 = 3kV					
81312	4K0 = 4kV					
81313	5K0 = 5kV					
81313	6K0 = 6kV					
81313	8K0 = 8kV					
81313	10K = 10kV					
81313	12K = 12Kv					

Ribbon Leaded Capacitor Status

4040B	7K0	0470	J	Q	B	RW221
Chip Size	Voltage d.c. (unless stated)	Capacitance in Pico farads (pF)	Capacitance Tolerance	Dielectric	Packing	Suffix Code
2225B	010 = 10V	<10pF	<10pF	Q = High Q	B = Bulk Pack	RW001 = Ribbon Leaded
2225V	016 = 16V	Insert a P for the decimal point as the second character.	B: ± 0.10pF			RW221 = Non Magnetic Ribbon Leaded
4040B	025 = 25V	e.g., 8P20 = 8.2pF	C: ± 0.25pF			RW211 = Non Magnetic Leaded Marked
4040V	050 = 50V	≥10pF	D: ± 0.5pF			
	063 = 63V	First digit is 0.	F: ± 1.0pF			
	100 = 100V	Second and third digits are significant figures of capacitance code.	≥10pF			
	200 = 200V	The fourth digit is the number of zeros following.	F: ± 1%			
	250 = 250V	e.g., 0101 = 100 pF	G: ± 2%			
	500 = 500V		J: ± 5%			
	630 = 630V		K: ± 10%			
	1K0 = 1kV		M: ± 20%			
	1K2 = 1.2kV					
	1K5 = 1.5kV					
	2K0 = 2kV					
	2K5 = 2.5kV					
	3K0 = 3kV					
	4K0 = 4kV					
	5K0 = 5kV					
	6K0 = 6kV					
	8K0 = 8kV					
	10K = 10kV					
	12K = 12Kv					

Suffix Code	Dielectric	RoHS Compliant? 2011/65/EU (2015/863/EU)	RoHS Exemption?	REACH SVHC (Candidate List) REACH219 08/07/21	REACH Annex XIV (Authorisation List)	REACH Annex XVII (Restricted List)	Prop 65
C42	C & X	Yes (Since 1 st October 2012)	None applied	None present	None present	None present	No risk of exposure
C42	B & R	Yes (Since 1 st February 2017)	None applied	None present	None present	None present	No risk of exposure
A31 & A97	C & X	No	N/A	Lead (Pb) CAS number 7439-92-1	None present	Lead – as per SVHC / Authorisation List	Terminations have exposed lead (CAS 7439- 92-1) that could represent a risk of exposure through touch

Table 2: Radial Capacitor Status

Notes:

- BX & RX (B & R) dielectric material was changed to lead free RoHS compliant from 1st February 2017

Termination Code	Dielectric	RoHS Compliant? 2011/65/EU (2015/863/EU)	RoHS Exemption?	REACH SVHC (Candidate List) REACH 219 08/07/21	REACH Annex XIV (Authorisation List)	REACH Annex XVII (Restricted List)	Prop 65
B	Q	Yes (Since 1 st October 2012)	Compliant – exemption 7(a)	Lead (Pb) CAS number 7439-92-1	None present	Lead – as per SVHC / Authorisation List	Terminations have exposed lead (CAS 7439- 92-1) that could represent a risk of exposure through touch
V	Q	Yes (Since 1 st October 2012)	Compliant – exemption 7(a)	Lead (Pb) CAS number 7439-92-1	None present	Lead – as per SVHC / Authorisation List	No risk of exposure

Table 3: Ribbon Lead Capacitor Status

Filter Component RoHS Status

If part number has a suffix code other than listed below, then refer to factory.

Filter Series / Suffix Code	Dielectric	RoHS Compliant? 2011/65/EU (2015/863/EU)	RoHS Exemption?	REACH SVHC (Candidate List) REACH 219 08/07/21	REACH Annex XIV (Authorisation List)	REACH Annex XVII (Restricted List)	Prop 65
SB**	C & X	Yes	None applied	None present	None present	Nickel, as an undercoat to the plating finish	No risk of exposure
SB** Suffix /0107	X	No	N/A	Lead (Pb) CAS number 7439-92-1	None present	Nickel, as an undercoat to the plating finish	Terminations have exposed lead (CAS 7439-92-1) that could represent a risk of exposure through touch
SFS* Solder-in Panel Mount	C & X	Yes	Exemption 24	Lead (Pb) CAS number 7439-92-1	None present	Nickel, as an undercoat to the plating finish	No risk of exposure
SF** Bolt-in Panel Mount	C & X	Yes	Exemptions 6(C) & 24	Lead (Pb) CAS number 7439-92-1	None present	Nickel, as an undercoat to the plating finish of internal component	No risk of exposure

Filter Series / Suffix Code	Dielectric	RoHS Compliant? 2011/65/EU (2015/863/EU)	RoHS Exemption?	REACH SVHC (Candidate List) REACH 219 08/07/21	REACH Annex XIV (Authorisation List)	REACH Annex XVII (Restricted List)	Prop 65
SF** Bolt-in Panel Mount Suffix /0100	C & X	No	N/A	Lead (Pb) CAS number 7439-92-1	None present	Nickel, as an undercoat to the plating finish of internal component	Terminations have exposed lead (CAS 7439-92-1) that could represent a risk of exposure through touch

Table 4: EMI Filter Status

Exemptions that may apply to Table 4 :

- 6(c) Lead as an alloying element in aluminium Copper alloy containing up to 4 % lead by weight
- 24 Lead in solders for the soldering to machined through-hole discoidal and planar array ceramic multilayer capacitors

Individual datasheets and environmental certificates are available by part number direct from the Knowles website www.knowlescapacitors.com

For further enquiries, please contact us through the following e-mail addresses:

- Europe : KPD-Europe-sales@knowles.com
- Asia : KPD-KC-CS@knowles.com
- USA : KPD-NA-sales@knowles.com