

## Surge Protection and Safety capacitors classification and approval specification.

	CHIP SIZE	DIELECTRIC	CAP RANGE	SYFER FAMILY CODE	CLASSIFICATION	APPROVAL SPECIFICATION	APPROVAL BODY	
<b>SURGE PROTECTION</b>	1808	COG/NPO	4.7pF to 220pF	<b>PY2</b> <sup>(1)</sup>	Y2/X1 NWGQ2, NWGQ8	IEC60384-14:2005 EN60384-14:2005 UL-60950-1, 2nd Ed CSA 60950-1-07 2nd Ed	TÜV UL	
	1808	X7R	150pF to 1nF	<b>PY2</b> <sup>(1)</sup>	Y2/X1 NWGQ2, NWGQ8	IEC60384-14:2005 EN60384-14:2005 UL-60950-1, 2nd Ed CSA 60950-1-07 2nd Ed	TÜV UL	
	1808	COG/NPO	4.7pF to 1.0nF	<b>SP</b> <sup>(1)</sup>	Y3/X2 NWGQ2, NWGQ8	IEC60384-14:2005 EN60384:2005 UL-60950-1, 2nd Ed CSA 60950-1-07 2nd Ed	TÜV UL	
	1808	X7R	150pF to 2.2nF	<b>SP</b> <sup>(1)</sup>	Y3/X2 NWGQ2, NWGQ8	IEC60384-14:2005 EN60384:2005 UL-60950-1, 2nd Ed CSA 60950-1-07 2nd Ed	TÜV UL	
	1812	COG/NPO	4.7pF to 470pF	<b>PY2</b> <sup>(1)</sup>	Y2/X1 NWGQ2, NWGQ8	IEC60384-14:1993 EN132400:1994 UL-60950-1, 2nd Ed CSA 60950-1-07 2nd Ed	TÜV UL	
	1812	X7R	150pF to 1.0nF	<b>PY2</b> <sup>(1)</sup>	Y2/X1 NWGQ2, NWGQ8	IEC60384-14:1993 EN132400:1994 UL-60950-1, 2nd Ed CSA 60950-1-07 2nd Ed	TÜV UL	
	<b>SAFETY</b>	2211	COG/NPO	4.7pF to 680pF	<b>SP</b> <sup>(2)</sup>	Y2/X1 NWGQ2, NWGQ8	IEC60384-14:2005 EN60384:2005 UL-60950-1, 2nd Ed CSA 60950-1-07 2nd Ed	TÜV UL
		2211	X7R	100pF to 2.2nF	<b>SP</b> <sup>(2)</sup>	Y2/X1 NWGQ2, NWGQ8	IEC60384-14:2005 EN60384-14:2005 UL-60950-1, 2nd Ed CSA 60950-1-07 2nd Ed	TÜV UL
		2215	COG/NPO	820pF to 1.0nF	<b>SP</b> <sup>(2)</sup>	Y2/X1 NWGQ2, NWGQ8	IEC60384-14:2005 EN60384:2005 UL-60950-1, 2nd Ed CSA 60950-1-07 2nd Ed	TÜV UL
		2215	X7R	2.7nF to 3.3nF	<b>SP</b> <sup>(2)</sup>	Y2/X1 NWGQ2, NWGQ8	IEC60384-14:2005 EN60384-14:2005 UL-60950-1, 2nd Ed CSA 60950-1-07 2nd Ed	TÜV UL
		2220	X7R	150pF to 4.7nF	<b>B16</b> <sup>(2)</sup>	Y2/X1 Y2/X1, FOWX2	IEC60384-14:2005 EN132400:2005 UL1414: 6th Edition	TÜV UL
		2220	X7R	150pF to 10nF	<b>B17</b> <sup>(2)</sup>	X2	IEC60384-14:2005 EN60384:2005	TÜV

**Notes**  
 (1), (2)  
 (1), (2)  
 (2)  
 (2)  
 PY2  
 SP

**Termination Availability**

J: Silver base with Nickel Barrier (100% Matte Tin Plating). RoHS compliant.  
 Y: FlexiCap termination base with Nickel Barrier (100% Tin Plating). RoHS compliant.  
 H: FlexiCap termination base with Nickel Barrier (Tin/ Lead plating with min 10% Lead).  
 A: Silver base with Nickel Barrier (Tin/ Lead Plating with min 10% Lead).

Unmarked capacitors also available as released in accordance with approval specifications. Family code SY2 applies.  
 Unmarked capacitors also available as released in accordance with approval specifications. Family code SPU applies.



**t** +44 1603 723310  
**e** sales@syfer.co.uk  
**f** +44 1603 723301  
**w** www.syfer.com

# Syfer Technology Limited

