

Chip Size 1808

Length (L1)

4.5mm $\pm$ 0.35mm (0.18" $\pm$ 0.014")

Width (W)

2.0mm $\pm$ 0.30mm (0.08" $\pm$ 0.012")

Thickness (H)

2.0mm (0.08") Max.

Termination Bands (L2, L3)

0.25 - 0.80mm (0.01" - 0.03")

Creepage distance (L4)

2.5mm (0.1") Min.

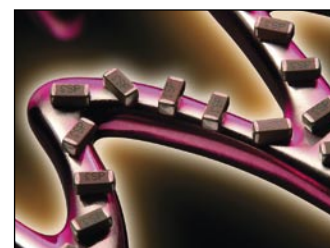
1808 Y2/ X1 Surge Protection Capacitors

SY2 Range

Syfer Technology's Surge Protection (SY2) range of 1808 ceramic chip capacitors are Class Y2/X1 compliant and designed for use in equipment certified to IEC 60950 (2000 edition) where over-voltage surges can occur.

This range is approved and certified by TÜV and meet the electrical requirements of IEC 60384-14: 1993 and EN 132400: 1994.

These parts offer the highest available capacitance values in the popular 1808 case size.



Specification

Capacitance Values

COG/NP0

4.7pF - 220pF

X7R

150pF - 1nF

Electrical

Operating Temperature

-55°C to +125°C

Temperature Coefficient

COG/NP0 = 0 $\pm$ 30 ppm/°C, Ultra Stable Class 1 Ceramic (EIA Class 1)
X7R = $\pm$ 15%, Stable Class II Ceramic (EIA Class II)

Insulation resistance at +25°C

>100G Ω

Insulation resistance at +125°C

>10G Ω

Dielectric Strength (DWV)

2000VAC/3000VDC

Impulse Capability

5KV, 1.2/50 μ Sec waveform 2 Ω source Impedance

Rated voltage

250VAC

Climatic Category (IEC)

55/125/56

Ageing rate

COG/NP0 = zero
X7R = 1% per decade of time

Test parameters for capacitance and DF

COG/NP0 = 1Vrms @ 1MHz @ 20°C
X7R = 1Vrms @ 1kHz @ 20°C

Mechanical

Termination Material

Nickel Barrier or FlexiCap™

Solderability

IEC 68-2-20

Reeled Quantities

178mm (7") reel = 1,500
330mm (13") reel = 6,000

Specification

EN 132400:1994 + A2:1998
+ A3:1998
+ A4:1999

IEC 60384-14 2nd edition 1993 + A1:1995

Meets the electrical requirements of these specifications for class Y2/X1 devices.

IEEE 802.3

Meets the 1500Vrms isolation requirements of section 12.10.1 of this specification.

Marked parts can be released as certified by TÜV. Unmarked parts can be supplied tested in accordance with, but not certified by TÜV.



TÜV Certificate No. R60007460

Ordering Information

1808	J	A25	0471	K	X	T	SY2
Chip Size	Termination J = Nickel Barrier Y = FlexiCap™	Voltage A25 = 250VAC	Capacitance Expressed in picofarads (pF)*	Tolerance <10pF C = $\pm$ 0.25pF D = $\pm$ 0.5pF $\geq$ 10pF F = $\pm$ 1% G = $\pm$ 2% J = $\pm$ 5% K = $\pm$ 10% M = $\pm$ 20%	Dielectric C = COG/NP0 X = X7R	Packaging T = 178mm (7") reel 1,500 pieces R = 330mm (13") reel 6,000 pieces B = Bulk	SY2 = Surge Protection capacitors unprinted PY2 = Surge Protection capacitors printed

*First digit is 0. Second and third digits are significant figures of capacitance code. The fourth digit is number of zeros following.
Example: 0102=1000pF. For values below 10pF insert a P for the decimal point. eg: 4P20 = 4.7pF

	SAFETY CLASSIFICATION	SYFER PRODUCT			APPROVAL SPECIFICATION	APPROVAL BODY	CERTIFICATE NUMBER	FLEXICAP™ OPTION (TÜV only)
		CHIP SIZE	DIELECTRIC	CAP RANGE				
SURGE PROTECTION ↑	Y2/X1** SV2	1808	COG/NP0	4.7pF to 220pF	IEC60384-14:1993 EN132400:1994	TÜV	R60007460	✓
	Y2/X1** SV2	1808	X7R	150pF to 1nF	IEC60384-14:1993 EN132400:1994	TÜV	R60007460	✓
	Y3/X2* SP	1808	COG/NP0	4.7pF to 1.0nF	IEC60384-14:1993 EN132400:1994 UL60950***	SEMKO TÜV UL	0101155/01-02 R2110618 E235189	✓
	Y3/X2* SP	1808	X7R	150pF to 2.2nF 150pF to 1nF	IEC60384-14:1993 EN132400:1994 UL60950***	TÜV UL	R60003323 E235189	✓
	Y2/X1** SV2	1812	COG/NP0	4.7pF to 470pF	IEC60384-14:1993 EN132400:1994	TÜV	R60010910	✓
	Y2/X1** SV2	1812	X7R	150pF to 1.0nF	IEC60384-14:1993 EN132400:1994	TÜV	R60010910	✓
	Y2/X1** SP	2211	COG/NP0	4.7pF to 680pF	IEC60384-14:1993 EN132400:1994 UL60950***	SEMKO TÜV UL	0132054/01-02 R60001955 E235189	✓
	Y2/X1** SP	2211	X7R	100pF to 1.0nF	IEC60384-14:1993 EN132400:1994 UL60950***	TÜV UL	R60003753 E235189	✓
	Y2/X1** SP	2215	COG/NP0	820pF to 1.0nF	IEC60384-14:1993 EN132400:1994 UL60950***	SEMKO TÜV UL	0132054/01-02 R60001955 E235189	✓
	Y2/X1 B16	2220	X7R	150pF to 4.7nF	IEC60384-14:1993 EN132400:1994 UL1414: 6th Edition	TÜV UL	R60006629 E228790	✓
	X2 B17	2220	X7R	150pF to 10.0nF	IEC60384-14:1993 EN132400:1994	TÜV	R60006629	✓

* Only approved for use in equipment certified to IEC60950:1992 edition

** Approved for use in equipment certified to IEC60950:2000 edition

*** Formerly UL1950



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