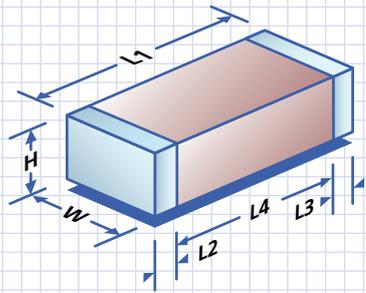


Dimensions



Chip Size 1808

Length (L1)	4.5mm ± 0.35mm (0.18" ± 0.014")
Width (W)	2.0mm ± 0.30mm (0.08" ± 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.

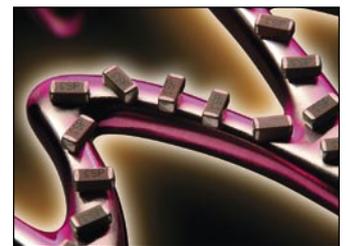
1808 Y2/ X1 Surge Protection Capacitors

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 ± 30 ppm/°C, Ultra Stable Class 1 Ceramic (EIA Class 1) X7R = ±15%, Stable Class II Ceramic (EIA Class II)
Insulation resistance at +25°C	>100GΩ
Insulation resistance at +125°C	>10GΩ
Dielectric Strength (DWV)	2000VAC/3000VDC
Impulse Capability	5KV, 1.2/50µSec waveform 2Ω 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 2 nd 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 = ±0.25pF D = ±0.5pF ≥ 10pF F = ±1% G = ±2% J = ±5% K = ±10% M = ±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** SY2	1808	COG/NPO	4.7pF to 220pF	IEC60384-14:1993 EN132400:1994	TÜV	R60007460	✓
	Y2/X1** SY2	1808	X7R	150pF to 1nF	IEC60384-14:1993 EN132400:1994	TÜV	R60007460	✓
	Y3/X2* SP	1808	COG/NPO	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** SY2	1812	COG/NPO	4.7pF to 470pF	IEC60384-14:1993 EN132400:1994	TÜV	R60010910	✓
	Y2/X1** SY2	1812	X7R	150pF to 1.0nF	IEC60384-14:1993 EN132400:1994	TÜV	R60010910	✓
	Y2/X1** SP	2211	COG/NPO	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/NPO	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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