

Now available with FlexiCap™ termination (X7R only)



PSL range of MLC capacitors



COG/NP0 & X7R MLCCs

The PSL range of multilayer ceramic capacitors is suitable for a variety of applications including: commercial (such as power supplies, DC-DC converters, LED lighting), military, industrial, automotive and aerospace.

This range is manufactured to exacting standards using our unique screen printing process. This provides a high quality component suitable for demanding applications.

Specification

Capacitance Values

| COG/NP0 | X7R |
|--------------|---------------|
| 4.7pF - 47nF | 220pF - 1.5µF |

See table for full list of values

Electrical

Operating Temperature

-55°C to +125°C

Temperature Coefficient of Capacitance (Typical)

| COG/NP0 | X7R |
|----------|------|
| 30ppm/°C | ±15% |

Insulation Resistance

Time constant (Ri xCr) (whichever is the least)

100GΩ or 1000s

Ageing Rate

| COG/NP0 | X7R |
|---------|--|
| Zero | X7R typically less than 2% per time decade |

Mechanical

Termination Material

See ordering information overleaf

Solderability

IEC 60068-2-58. Passed 3 times reflow profile defined in J-STD-020

Lead Free Soldering

This range is fully compliant with the RoHS and WEEE directives and parts are compatible with lead free solders.

Climatic Category

55/125/56

Reeled Quantities

See taped quantities table overleaf

PSL Features

- 0805 to 2220 chip sizes
- COG/NP0 and X7R dielectric options
- Capacitance range COG/NP0 from 4.7pF up to 47nF
- Capacitance range X7R from 220pF up to 1.5µF
- Voltage ratings from 50V to 5kV
- AEC-Q200 qualified parts for Hi-Rel and Automotive applications
- RoHS compliant
- Available ex-stock from global distribution partners
- Sample kits available



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www.knowlescapacitors.com

Product ranges - Capacitance values

| Rated Voltage | Chip Size | | | | | | | | | | | |
|--------------------|-----------|-------|---------|--------------|---------|-------|---------|-------|---------|-------|---------|----------------|
| | 0805 | | 1206 | | 1210 | | 1808 | | 1812 | | 2220 | |
| | COG/NP0 | X7R | COG/NP0 | X7R | COG/NP0 | X7R | COG/NP0 | X7R | COG/NP0 | X7R | COG/NP0 | X7R |
| Min Cap | 4.7pF | 220pF | 10pF | 470pF | 22pF | 1nF | 22pF | 1nF | 47pF | 1nF | 68pF | 1nF |
| 50V / 63V | - | 100nF | - | 470nF | - | 1µF | - | 470nF | - | - | - | - |
| 100V | 1.8nF | 47nF | 4.7nF | 150nF | 8.2nF | 330nF | 8.2nF | 270nF | 18nF | 680nF | 47nF | 1.5µF |
| 200V / 250V | 1nF | 27nF | 3.3nF | 100nF | 6.8nF | 180nF | 6.8nF | 180nF | 15nF | 470nF | 33nF | 1µF |
| 500V | 680pF | 10nF | 2.2nF | 56nF | 4.7nF | 100nF | 4.7nF | 100nF | 12nF | 220nF | 22nF | 560nF |
| 630V | 330pF | 5.6nF | 1.8nF | 47nF | 3.3nF | 68nF | 3.3nF | 68nF | 10nF | 150nF | 12nF | 330nF |
| 1kV | 150pF | 3.3nF | 1.5nF | 10nF | 2.2nF | 22nF | 2.2nF | 22nF | 5.6nF | 68nF | 10nF | 100nF 120nF |
| 1.5kV | 68pF | - | 390pF | - | 680pF | - | 680pF | - | 2.2nF | - | 4.7nF | - |
| 2kV | 47pF | - | 220pF | 1nF 2.2nF | 470pF | 4.7nF | 470pF | 3.3nF | 1nF | 10nF | 2.2nF | - |
| 2.5kV | - | - | 100pF | - | 180pF | - | 270pF | - | 680pF | - | 1.5nF | - |
| 3kV | - | - | 68pF | - | 150pF | - | 220pF | - | 470pF | - | 1nF | - |
| 4kV | - | - | - | - | - | - | 100pF | - | 220pF | - | 680pF | - |
| 5kV | - | - | - | - | - | - | 68pF | - | 180pF | - | 330pF | - |

NOTE: Other capacitance values may become available, please contact our Sales Office if you need values other than those shown in the above table. For dimensions and soldering information, please go to our website (www.syfer.com) or see our MLC Catalogue.

■ = AEC-Q200

Taped quantities

| Chip Size | 0805 | 1206 | 1210 | 1808 | 1812 | 2220 |
|-----------------|--------|--------|-------|-------|--------------|--------------|
| 7" Reel | 3,000 | 2,500 | 2,000 | 1,500 | 500/1,000* | 500/1,000* |
| 13" Reel | 12,000 | 10,000 | 8,000 | 6,000 | 2,000/4,000* | 2,000/4,000* |

*Reel quantity depends on chip thickness. Please contact Sales Office.

Ordering information - PSL capacitors

| 1206 | J | 1K0 | 0103 | K | J | T |
|--|---|---|---|---|---|--|
| Chip size | Termination | Voltage | Capacitance in picofarads (pF) | Capacitance tolerance | Dielectric | Packaging |
| 0805 1206 1210 1808 1812 2220 | J = Nickel barrier with 100% matte tin plating. RoHS compliant. Lead free. Y =FlexiCap™ termination base with nickel barrier (100% matte tin plating). RoHS compliant. Lead free. (X7R only). Note: AEC-Q200 qualified parts only available with FlexiCap™ termination. | 050 = 50V 063 = 63V 100 = 100V 200 = 200V 250 = 250V 500 = 500V 630 = 630V 1K0 = 1kV 1K5 = 1.5kV 2K0 = 2kV 2K5 = 2.5kV 3K0 = 3kV 4K0 = 4kV 5K0 = 5kV | First digit is 0. Second and third digits are significant figures of capacitance code. The fourth digit is number of 0's following Example: 0103 = 10000pF | COG/NP0 F = ±1% G = ±2% J = ±5% K = ±10% X7R K = ±10% M = ±20% | G = COG/NP0 J = X7R S = X7R AEC-Q200 | T = 178mm (7") reel R = 330mm (13") reel B = Bulk pack - tubs |



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