NextGen Components,Inc.

DATASHEET

SMD Multilayer Ceramic Chip Capacitor (MLCC)

- Stable 0201 NP0 (C0G) MLCC for High-Frequency Signal Applications
- Optimized for RF Matching, Timing, Coupling, and Signal Filtering
- Designed for Compact Mobile, Industrial, and Embedded PCB Designs

Part Number

0201N100J250LE

0201 (0603 Metric) · NP0 (C0G) · 10 pF · ±5% · 25 VDC

Product image is shown for identification purposes only. Actual appearance may vary by production lot.

Additional technical and quality documentation can be reviewed separately when required.

General Description

0201N100J250LE is a compact SMD multilayer ceramic capacitor designed for signal filtering, RF matching, timing, coupling, and general high-stability low-capacitance applications. This device utilizes NP0 (C0G) dielectric technology, providing excellent capacitance stability, low loss, and reliable performance for compact PCB designs.

Key Features

- Stable capacitance characteristics in ultra-small 0201 footprint
- NP0 (C0G) dielectric with ±30 ppm/°C temperature characteristic
- Rated voltage: 25 VDC
- Operating temperature: −55 °C to +125 °C
- Lead-free termination, RoHS compliant
- Compatible with standard SMT assembly

Recommended Applications

- Signal filtering circuits
- RF matching and coupling networks
- Timing and oscillator circuits
- High-frequency signal paths
- Portable electronics and compact embedded systems

Design Considerations

- Although NP0 (C0G) has a very low voltage coefficient, capacitance should be verified under actual operating voltage, frequency, temperature, and circuit conditions.
- Apply suitable voltage margin according to the circuit operating profile, ambient temperature, and reliability target.
- Avoid board-edge, screw-hole, connector, and depaneling areas where mechanical strain may be concentrated.

Application Limitations

This product is intended for low-voltage applications only. Not recommended for:

- Direct AC mains connection
- High surge or pulse applications
- Safety-critical systems without validation

Key Specifications

Item	Specification
Case Size	0201 (0603 Metric)
Dielectric	NP0 (C0G)
Capacitance	10 pF
Tolerance	±5%
Rated Voltage	25 VDC
Operating Temperature Range	−55 °C to +125 °C
Capacitance Characteristic	±30 ppm/°C over the operating temperature range
Thickness (Nominal / Max.)	0.30 ± 0.09 mm (Max. 0.39 mm)
DC Bias	NP0 (C0G) is a Class I dielectric with very low voltage coefficient compared with Class II dielectrics. Capacitance should still be verified under the actual operating voltage, frequency, temperature, and circuit conditions.
Aging	NP0 (C0G) dielectric is not subject to the typical aging behavior associated with Class II ceramic dielectrics. Long-term capacitance stability should be verified according to the applicable application and reliability requirements.
Derating	Voltage derating should be determined by the customer based on application conditions and reliability requirements.

Application Fit Guide

Requirement	Recommended Choice
Highest capacitance stability	NP0 (C0G) dielectric
Low-loss signal path	NP0 (C0G), 10 pF
Compact RF / timing circuits	0201 package
Higher capacitance requirement	Consider X5R or X7R alternatives where applicable

Note: Customers should verify electrical performance under actual operating voltage, temperature, frequency, and PCB conditions before design-in.

Compliance and Environmental Information

Attribute	Description
RoHS	Compliant based on available supplier declaration.
REACH (SVHC)	REACH SVHC status should be confirmed against the applicable candidate list and available supplier declaration at the time of request.
Moisture Sensitivity Level	MSL Level 1, based on available supplier declaration.

Export Information

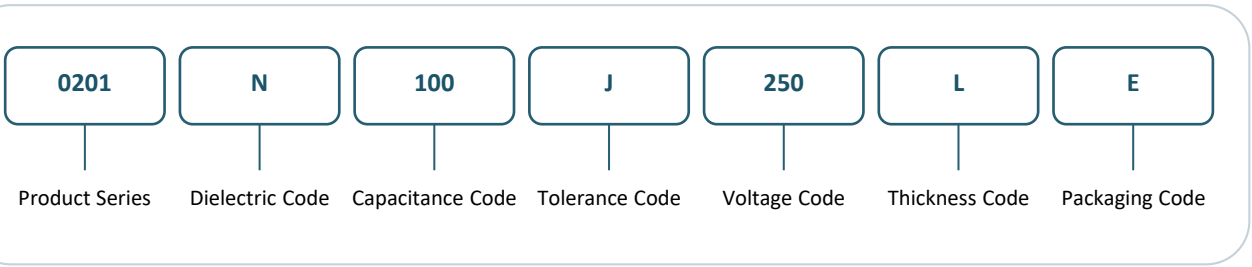
Attribute	Description
ECCN	EAR99
HTSUS	8532.24.0020

Notes:

1. Compliance and export data are summarized for documentation support and may require confirmation for specific regions or applications.
2. Material declarations and compliance documents can be supported separately when required.

Ordering Code Breakdown

Ordering Example: **0201N100J250LE**



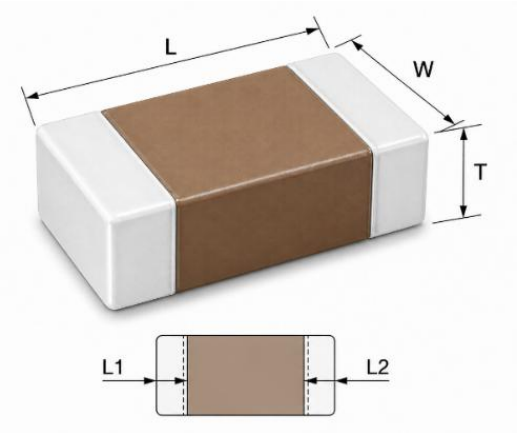
For quotation, ordering, and product identification purposes, please use the complete NextGen part number shown in this section.

Code	Item	Description
0201	Product Series	SMD Multilayer Ceramic Chip Capacitor (MLCC), 0201 Series
N	Dielectric Code	N = NP0 (C0G)
100	Capacitance Code	100 = 10 × 10^0 pF = 10 pF Capacitance code uses two significant digits followed by a multiplier
J	Capacitance Tolerance Code	J = ±5%
250	Rated Voltage Code	250 = 25 VDC Two significant digits followed by a multiplier in the voltage code.
L	Thickness Code	L = 0.30 ± 0.09 mm
E	Packaging Code	E = 15,000 pcs/reel

Note: Case size codes are provided for ordering-code reference and should be used together with the mechanical dimensions specified in this datasheet.

Product Dimensions

The following dimensions apply to the 0201 package for this part number. Dimensions include the applicable tolerances shown in the table and may vary within normal manufacturing limits.



Item	Symbol	Dimension (inch)	Dimension (mm)
Case Size Code	0201	-	-
Metric Code	0603	-	-
Length	L	0.024 ±0.0035	0.60 ±0.09
Width	W	0.012 ±0.0035	0.30 ±0.09
Thickness	T	0.012 ±0.0035	0.30 ±0.09
Termination Length	L1/L2	0.006 +0.0039 / −0.0020	0.15 +0.10 / −0.05

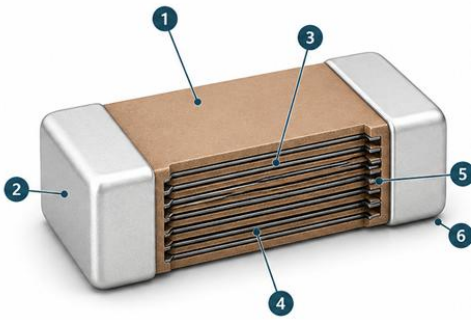
Notes:

1. Mechanical outline is intended to support package identification and PCB layout review.
2. Dimensions are subject to manufacturing tolerances and may vary slightly between production lots.
3. Maximum thickness is 0.39 mm based on the specified nominal tolerance range.
4. PCB land pattern should be designed according to the customer's assembly process and applicable SMT design guidelines.

Structure Overview

The illustration below shows a representative multilayer ceramic chip capacitor structure. Internal electrodes and ceramic dielectric layers are alternately stacked and integrated into a monolithic ceramic body.

End terminations are formed on both sides of the chip to provide external electrical connection for SMT assembly.



No.	Item	Description
1	Ceramic Body	Monolithic ceramic body that encloses the active multilayer structure and provides mechanical support.
2	External End Termination	External metallized end termination that provides the electrical connection area and soldering interface at the chip end.
3	Internal Electrode	Alternating internal conductive electrodes connected to opposite terminations to form the capacitance structure.
4	Ceramic Dielectric Layer	Insulating ceramic layer between adjacent internal electrodes that defines dielectric performance.
5	Electrode-Termination Interface	Transition region where the exposed internal electrodes are gathered and connected into the end termination structure.
6	Solderable Outer Finish	Outermost terminal finish that provides solderability and the mounting surface for standard SMT assembly.

Notes:

1. The structure shown illustrates a typical MLCC construction and may differ from the actual internal design of this part.
2. Actual layer count, electrode pattern, and termination build-up are design-dependent.
3. The multilayer structure supports compact chip construction for stable low-capacitance applications.

Main Reliability Items

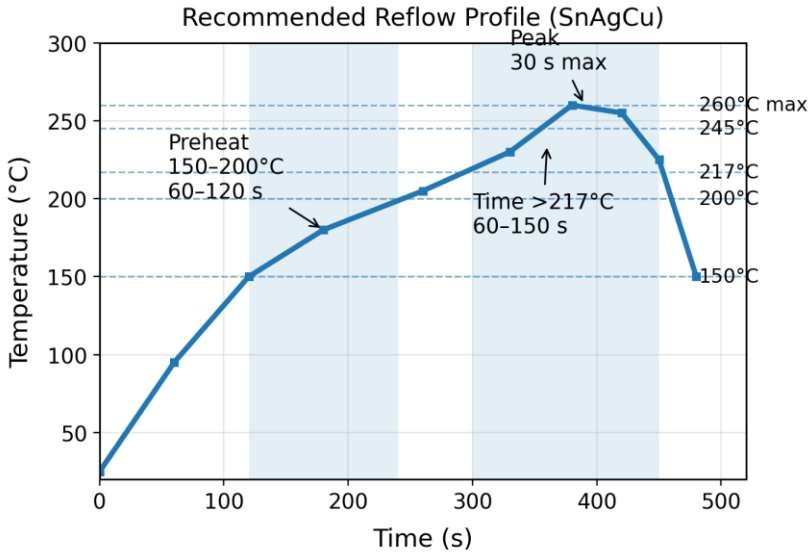
The following summary presents the principal reliability items applicable to this product family. Representative qualification or quality documents may be available upon request, subject to availability and customer requirements. Detailed test limits, measurement conditions, and acceptance criteria should be confirmed against the applicable manufacturer quality specification or qualification report.

Item	Test Condition	Requirement
Visual / Mechanical	Visual inspection	No visible mechanical damage or abnormality
Capacitance	1.0 ± 0.2 Vrms, 1 MHz ±10%, 25 °C	Shall remain within the specified tolerance
Q Factor / Dissipation Factor	Refer to applicable NP0 (C0G) measurement conditions	Shall meet applicable NP0 (C0G) limits per manufacturer specification
Dielectric Strength	250% of rated voltage for 1 to 5 s	No evidence of damage or flashover
Insulation Resistance	Rated voltage applied for specified time	Shall meet specified IR requirement
Temperature Characteristic	Measured across operating temperature range	NP0 (C0G): within ±30 ppm/°C
Adhesive Strength	2 N for 0201, 10 ± 1 s	No removal or abnormal damage
Vibration Resistance	10 to 55 Hz, total 6 h	No visible damage; electrical characteristics remain within limits
Bending Test	1 mm deflection, 5 ± 1 s	No visible damage; capacitance change within applicable NP0 limits
Resistance to Soldering Heat	260 ± 5 °C, 10 ± 1 s	No visible damage; capacitance change and electrical characteristics remain within applicable limits
Humidity / Endurance	Specified humidity and high-temperature load tests	Capacitance, Q / DF, and IR shall remain within applicable limits

Board Flex and Assembly Considerations

- MLCCs are susceptible to board-flex-induced mechanical stress, which may result in cracking if not properly controlled.
- Avoid high-stress PCB locations.
- Layout and assembly process should be validated by the customer.

Recommended Reflow Guidance



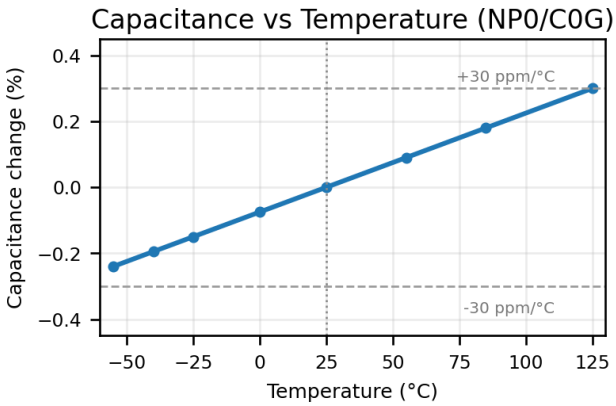
Parameter	Recommended Guidance
Preheat Temperature	150–200 °C, 60–120 s
Peak Temperature	260 °C max.
Ramp-up / Ramp-down Rate	3 °C/s max.
Time Above 217 °C	60–150 s
Time Above 245 °C	30 s max.

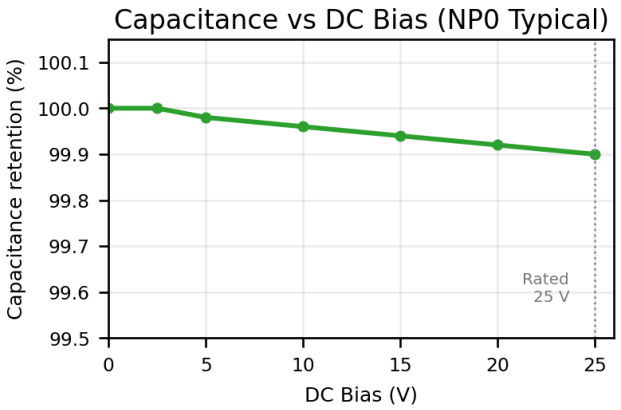
Notes:

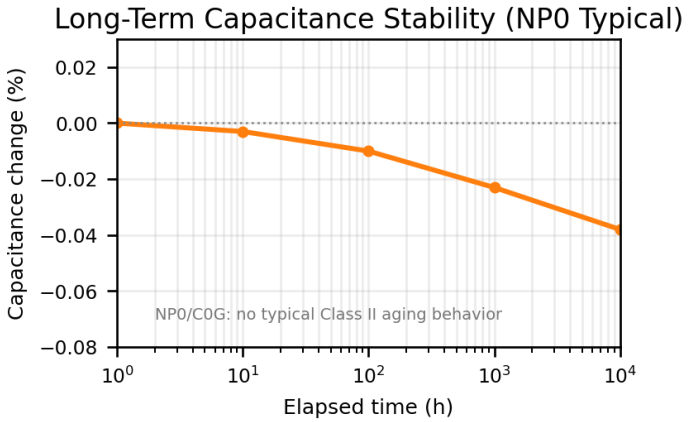
1. The reflow profile shown on this page is provided for engineering reference only and is based on representative SnAgCu SMT reflow soldering guidance.
2. Final reflow settings should be confirmed through the customer's SMT process qualification.

Representative Electrical Behavior

Curves are illustrative representative trends prepared for customer reference and are not copied from any third-party datasheet. Test conditions may vary by curve and measurement method. Use actual part validation and design margin analysis for final application limits.



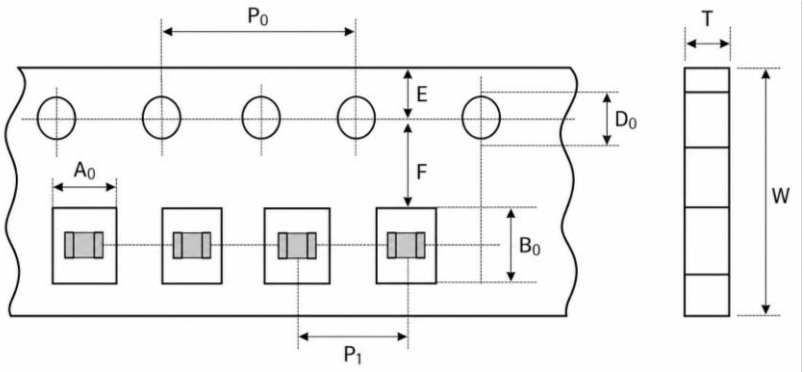




Notes:

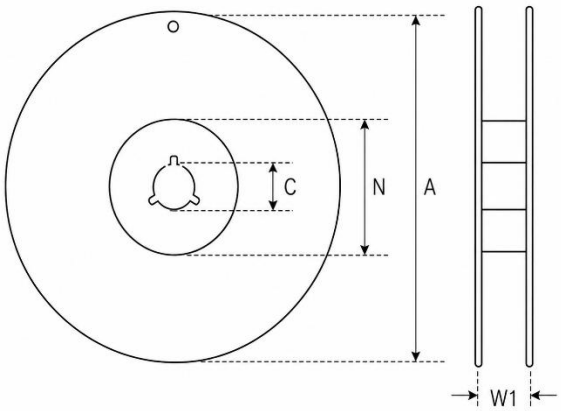
1. Curves are typical reference trends only and do not define final application limits.
2. NP0 (C0G) typically provides stable capacitance characteristics over temperature and DC bias. Customers should verify performance under actual operating conditions.

Tape Dimensions (0201, Paper Tape, Unit: mm)



Case Size	Thickness Code	A0	B0	T	W	P0	P1	D0	E	F
0201	L	0.40 ±0.10	0.70 ±0.10	≤0.55	8.00 ±0.30	4.00 ±0.10	2.00 ±0.05	1.50 +0.10 / −0	1.75 ±0.10	3.50 ±0.05

Reel Dimensions (Unit: mm)



Case Size	Thickness Code	C	W1	A	N
0201	L	13.0 +0.5 / −0.2	8.4 +1.5 / −0	Approx. 178.0	60.0 +1.0 / −0

Standard Packaging

The standard packaging configuration for this part is paper tape on a 7-inch reel.

Case Size	Thickness Code	Packaging Code	Quantity per Reel
0201	L	E	15,000 pcs/reel

Note: Packaging dimensions are in accordance with standard EIA tape and reel specifications.

Document Statement

This datasheet is prepared by NextGen Components, Inc. for customer reference based on available product information, supplier-provided materials, and NextGen's original layout and explanatory content. It does not constitute the original manufacturer's official datasheet. Product suitability should be assessed against the customer's electrical, thermal, mechanical, environmental, and reliability conditions.

Regulatory Compliance

This product is compliant with applicable RoHS requirements based on available supplier declaration. REACH SVHC information may be available upon request based on the latest applicable candidate list and available supplier documentation. Compliance and regulatory information is provided for reference only and may require verification depending on customer application, region, or regulatory requirements.

Product Information

The information contained in this document is believed to be accurate at the time of publication. Specifications, dimensions, and performance data are subject to change without notice. Customers are advised to confirm the latest product information prior to design-in or order placement.

Suitability for Use

Customers are responsible for determining the suitability of this product for their specific applications, including electrical, thermal, mechanical, environmental, and reliability conditions. Appropriate design margins should be applied for voltage, temperature, capacitance variation, mechanical stress, soldering conditions, and expected service environment.

Restricted Applications

Unless otherwise agreed in writing, this product is not intended for use in life-support systems, medical equipment, aerospace systems, nuclear control equipment, or other applications where product failure may result in personal injury or loss of life.

Supplier Certification

The original manufacturer is understood to operate under quality and environmental management systems such as ISO 9001 and ISO 14001. Quality and environmental certificates are subject to supplier confirmation and document availability.

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Revision History

Revision	Effective Date	Description
Rev. A1	Feb 1, 2026	Initial release
Rev. A2	Apr 30, 2026	Updated wording, corrected page titles, revised packaging and reliability pages, and improved customer-facing layout

Contact Information

For RFQ, technical questions, cross-reference assistance, alternative suggestions, or sample requests, please contact our sales team.

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RoHS, REACH, and quality-related documentation may be available upon request.

Featured Part Number:

0201N100J250LE

Please see the following pages for 0201 series NP0 (C0G), X5R, and X7R dielectric selected part numbers.

Selected 0201 NP0 (C0G) Part Numbers

Part Number	Dielectric	Capacitance	Tolerance	Rated Voltage (VDC)	Thickness (Max.)	Operating Temp. Range	Capacitance Characteristic
0201N270J160LE	NP0 (C0G)	27 pF	±5%	16	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N1R0B250LE	NP0 (C0G)	1 pF	±0.1 pF	25	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N1R2B250LE	NP0 (C0G)	1.2 pF	±0.1 pF	25	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N1R8C250LE	NP0 (C0G)	1.8 pF	±0.25 pF	25	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N2R7C250LE	NP0 (C0G)	2.7 pF	±0.25 pF	25	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N6R8C250LE	NP0 (C0G)	6.8 pF	±0.25 pF	25	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N100J250LE	**NP0 (C0G)**	**10 pF**	**±5%**	**25**	**0.39 mm**	**−55 to +125 °C**	**±30 ppm/°C**
0201N150J250LE	NP0 (C0G)	15 pF	±5%	25	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N180J250LE	NP0 (C0G)	18 pF	±5%	25	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N220F250LE	NP0 (C0G)	22 pF	±1%	25	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N270J250LE	NP0 (C0G)	27 pF	±5%	25	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N101J250LE	NP0 (C0G)	100 pF	±5%	25	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N0R2A500LE	NP0 (C0G)	0.2 pF	±0.05 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N0R5C500LE	NP0 (C0G)	0.5 pF	±0.25 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N0R8A500LE	NP0 (C0G)	0.8 pF	±0.05 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N1R0B500LE	NP0 (C0G)	1 pF	±0.1 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N1R0C500LE	NP0 (C0G)	1 pF	±0.25 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N1R2B500LE	NP0 (C0G)	1.2 pF	±0.1 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N1R2C500LE	NP0 (C0G)	1.2 pF	±0.25 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N1R5B500LE	NP0 (C0G)	1.5 pF	±0.1 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N1R8B500LE	NP0 (C0G)	1.8 pF	±0.1 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N2R2B500LE	NP0 (C0G)	2.2 pF	±0.1 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C

Selected 0201 NP0 (C0G) Part Numbers — Continued

Part Number	Dielectric	Capacitance	Tolerance	Rated Voltage (VDC)	Thickness (Max.)	Operating Temp. Range	Capacitance Characteristic
0201N2R2C500LE	NP0 (C0G)	2.2 pF	±0.25 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N2R7B500LE	NP0 (C0G)	2.7 pF	±0.1 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N3R0B500LE	NP0 (C0G)	3 pF	±0.1 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N3R0C500LE	NP0 (C0G)	3 pF	±0.25 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N3R3B500LE	NP0 (C0G)	3.3 pF	±0.1 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N3R9B500LE	NP0 (C0G)	3.9 pF	±0.1 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N3R9C500LE	NP0 (C0G)	3.9 pF	±0.25 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N5R6B500LE	NP0 (C0G)	5.6 pF	±0.1 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N5R6C500LE	NP0 (C0G)	5.6 pF	±0.25 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N6R0B500LE	NP0 (C0G)	6 pF	±0.1 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N8R2B500LE	NP0 (C0G)	8.2 pF	±0.1 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N8R2C500LE	NP0 (C0G)	8.2 pF	±0.25 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N8R2D500LE	NP0 (C0G)	8.2 pF	±0.5 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N9R0C500LE	NP0 (C0G)	9 pF	±0.25 pF	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N100G500LE	NP0 (C0G)	10 pF	±2%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N100J500LE	NP0 (C0G)	10 pF	±5%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N120G500LE	NP0 (C0G)	12 pF	±2%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N120J500LE	NP0 (C0G)	12 pF	±5%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N150F500LE	NP0 (C0G)	15 pF	±1%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N150G500LE	NP0 (C0G)	15 pF	±2%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N150J500LE	NP0 (C0G)	15 pF	±5%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N180G500LE	NP0 (C0G)	18 pF	±2%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C

Selected 0201 NP0 (C0G) Part Numbers — Continued

Part Number	Dielectric	Capacitance	Tolerance	Rated Voltage (VDC)	Thickness (Max.)	Operating Temp. Range	Capacitance Characteristic
0201N180J500LE	NP0 (C0G)	18 pF	±5%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N220J500LE	NP0 (C0G)	22 pF	±5%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N270G500LE	NP0 (C0G)	27 pF	±2%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N270J500LE	NP0 (C0G)	27 pF	±5%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N330J500LE	NP0 (C0G)	33 pF	±5%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N390J500LE	NP0 (C0G)	39 pF	±5%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N470J500LE	NP0 (C0G)	47 pF	±5%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N560J500LE	NP0 (C0G)	56 pF	±5%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N680F500LE	NP0 (C0G)	68 pF	±1%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N680J500LE	NP0 (C0G)	68 pF	±5%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N820J500LE	NP0 (C0G)	82 pF	±5%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N101G500LE	NP0 (C0G)	100 pF	±2%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C
0201N101J500LE	NP0 (C0G)	100 pF	±5%	50	0.39 mm	−55 to +125 °C	±30 ppm/°C

Notes:

1. NP0 (C0G) part numbers are provided as 0201 family-level selection references.
2. Before substitution or design-in, customers should confirm the applicable part-specific specifications, including capacitance, tolerance, rated voltage, temperature coefficient, thickness, packaging, and application requirements.
3. Availability, packaging quantity, and commercial terms should be confirmed separately at the time of quotation or order placement.

Selected 0201 X5R Part Numbers

Part Number	Dielectric	Capacitance	Tolerance	Rated Voltage (VDC)	Thickness (Max.)	Operating Temp. Range	Capacitance Characteristic
0201W103K6R3LE	X5R	10 nF	±10%	6.3	0.39 mm	−55 to +85 °C	±15%
0201W333K6R3LE	X5R	33 nF	±10%	6.3	0.39 mm	−55 to +85 °C	±15%
0201W104K6R3LE	X5R	0.1 µF	±10%	6.3	0.39 mm	−55 to +85 °C	±15%
0201W224K6R3LE	X5R	220 nF	±10%	6.3	0.39 mm	−55 to +85 °C	±15%
0201W224M6R3LE	X5R	220 nF	±20%	6.3	0.39 mm	−55 to +85 °C	±15%
0201W334M6R3LE	X5R	330 nF	±20%	6.3	0.39 mm	−55 to +85 °C	±15%
0201W474K6R3LE	X5R	470 nF	±10%	6.3	0.39 mm	−55 to +85 °C	±15%
0201W474M6R3LE	X5R	470 nF	±20%	6.3	0.39 mm	−55 to +85 °C	±15%
0201W105K6R3LE	X5R	1 µF	±10%	6.3	0.39 mm	−55 to +85 °C	±15%
0201W105M6R3LE	X5R	1 µF	±20%	6.3	0.39 mm	−55 to +85 °C	±15%
0201W225M6R3LE	X5R	2.2 µF	±20%	6.3	0.39 mm	−55 to +85 °C	±15%
0201W103K100LE	X5R	10 nF	±10%	10	0.39 mm	−55 to +85 °C	±15%
0201W223K100LE	X5R	22 nF	±10%	10	0.39 mm	−55 to +85 °C	±15%
0201W333K100LE	X5R	33 nF	±10%	10	0.39 mm	−55 to +85 °C	±15%
0201W473K100LE	X5R	47 nF	±10%	10	0.39 mm	−55 to +85 °C	±15%
0201W104K100LE	X5R	0.1 µF	±10%	10	0.39 mm	−55 to +85 °C	±15%
0201W224K100LE	X5R	220 nF	±10%	10	0.39 mm	−55 to +85 °C	±15%
0201W105K100LE	X5R	1 µF	±10%	10	0.39 mm	−55 to +85 °C	±15%
0201W105M100LE	X5R	1 µF	±20%	10	0.39 mm	−55 to +85 °C	±15%
0201W225M100LE	X5R	2.2 µF	±20%	10	0.39 mm	−55 to +85 °C	±15%
0201W103K160LE	X5R	10 nF	±10%	16	0.39 mm	−55 to +85 °C	±15%
0201W104K160LE	X5R	0.1 µF	±10%	16	0.39 mm	−55 to +85 °C	±15%

Selected 0201 X5R Part Numbers — Continued

Part Number	Dielectric	Capacitance	Tolerance	Rated Voltage (VDC)	Thickness (Max.)	Operating Temp. Range	Capacitance Characteristic
0201W105M160LE	X5R	1 µF	±20%	16	0.39 mm	−55 to +85 °C	±15%
0201W472K250LE	X5R	4.7 nF	±10%	25	0.39 mm	−55 to +85 °C	±15%
0201W103K250LE	X5R	10 nF	±10%	25	0.39 mm	−55 to +85 °C	±15%
0201W471K500LE	X5R	470 pF	±10%	50	0.39 mm	−55 to +85 °C	±15%

Notes:

1. X5R part numbers are provided as 0201 family-level selection references.
2. Because X5R capacitance changes with applied DC bias, selected values should be reviewed against the required effective capacitance in the application.
3. Capacitance may also vary with temperature, frequency, AC signal level, and aging. Customers should apply appropriate design margins and verify performance under actual operating conditions.

Selected 0201 X7R Part Numbers

Part Number	Dielectric	Capacitance	Tolerance	Rated Voltage (VDC)	Thickness (Max.)	Operating Temp. Range	Capacitance Characteristic
0201B103K6R3LE	X7R	10 nF	±10%	6.3	0.39 mm	−55 to +125 °C	±15%
0201B103K100LE	X7R	10 nF	±10%	10	0.39 mm	−55 to +125 °C	±15%
0201B104K100LE	X7R	0.1 µF	±10%	10	0.39 mm	−55 to +125 °C	±15%
0201B102J160LE	X7R	1 nF	±5%	16	0.39 mm	−55 to +125 °C	±15%
0201B222K160LE	X7R	2.2 nF	±10%	16	0.39 mm	−55 to +125 °C	±15%
0201B332K160LE	X7R	3.3 nF	±10%	16	0.39 mm	−55 to +125 °C	±15%
0201B103K160LE	X7R	10 nF	±10%	16	0.39 mm	−55 to +125 °C	±15%
0201B151K250LE	X7R	150 pF	±10%	25	0.39 mm	−55 to +125 °C	±15%
0201B221K250LE	X7R	220 pF	±10%	25	0.39 mm	−55 to +125 °C	±15%
0201B331K250LE	X7R	330 pF	±10%	25	0.39 mm	−55 to +125 °C	±15%
0201B471K250LE	X7R	470 pF	±10%	25	0.39 mm	−55 to +125 °C	±15%
0201B102K250LE	X7R	1 nF	±10%	25	0.39 mm	−55 to +125 °C	±15%
0201B152K250LE	X7R	1.5 nF	±10%	25	0.39 mm	−55 to +125 °C	±15%
0201B222K250LE	X7R	2.2 nF	±10%	25	0.39 mm	−55 to +125 °C	±15%
0201B332K250LE	X7R	3.3 nF	±10%	25	0.39 mm	−55 to +125 °C	±15%
0201B101K500LE	X7R	100 pF	±10%	50	0.39 mm	−55 to +125 °C	±15%
0201B221K500LE	X7R	220 pF	±10%	50	0.39 mm	−55 to +125 °C	±15%
0201B331K500LE	X7R	330 pF	±10%	50	0.39 mm	−55 to +125 °C	±15%
0201B471K500LE	X7R	470 pF	±10%	50	0.39 mm	−55 to +125 °C	±15%
0201B102K500LE	X7R	1 nF	±10%	50	0.39 mm	−55 to +125 °C	±15%

Notes:

1. X7R part numbers are provided as 0201 family-level selection references.
2. Confirm capacitance, tolerance, voltage, temperature range, thickness, DC bias, and application requirements before substitution or design-in.
3. Availability, packaging quantity, and commercial terms should be confirmed at quotation or order placement.