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Click IT SKU CLICK-IT-363517 · REV 1 · 2026-10-24

Ceramic Capacitor Assortment Kit

10 VALUES | 300 PCS | 10pF - 100nF | 50V | NON-POLARISED | THROUGH-HOLE

300 multilayer ceramic capacitors, 10 values from 10pF to 100nF, 30 of each, sorted by value in a clear box with a code chart in the lid.



2 rows of 5 compartments, code chart in the lid.

PARAMETER	VALUE	CONDITIONS / NOTES
Capacitor type	**Multilayer ceramic (MLCC), epoxy dipped**	Yellow-orange coated body
Mounting	**Through-hole, 2 straight leads**	Non-polarised: fit either way round. Fits breadboards and 0.1in protoboard
Contents	**10 values, 10pF to 100nF**	30 per value, 300 total. Full list and codes below
Rated voltage	**50V DC**	Kit rating, applies to every value. Not printed on the parts
Body marking	**3-digit value code**	For example 104 = 100nF. No voltage, dielectric or tolerance code
Dielectric, tolerance	**Not marked**	For timing or filter circuits that must hold their value over temperature, use parts sold as C0G/NP0
Storage box	**Clear, 10 compartments**	2 rows of 5, latching lid. Lid 125 x 62 mm, measured by Click IT

Evidence: kit specification (values, quantity, 50V rating); Click IT stock inspection (body markings, construction, box layout, lid size).

KIT CONTENTS AND VALUE CODES

CODE	pF	nF	µF	QTY
100	10pF	0.01nF	0.00001µF	30
200	20pF	0.02nF	0.00002µF	30
300	30pF	0.03nF	0.00003µF	30
470	47pF	0.047nF	0.000047µF	30
560	56pF	0.056nF	0.000056µF	30
680	68pF	0.068nF	0.000068µF	30
101	100pF	0.1nF	0.0001µF	30
102	1,000pF	1nF	0.001µF	30
103	10,000pF	10nF	0.01µF	30
104	100,000pF	100nF	0.1µF	30

1,000pF = 1nF · 1,000nF = 1µF. Diagrams may write 100nF as 0.1µF.

READING THE 3-DIGIT CODE

The first two digits are the value. The third digit is how many zeros follow. The answer is in picofarads (pF).

10 digits | **4** zeros = **100,000pF** = 100nF = 0.1µF



Stock marked 104 = 100nF

470	47 and no zeros	**47pF**
101	10 and one zero	**100pF**
102	10 and two zeros	**1,000pF = 1nF**
103	10 and three zeros	**10,000pF = 10nF**

Easy mistake: code 100 is 10pF (10 and no zeros), not 100pF. The 100pF part is marked 101. Check the code, not just the number on the chart.

TYPICAL USES BY VALUE

VALUES	COMMON JOB
100nF	Supply decoupling: one per chip, supply pin to ground, as close as possible
10nF, 1nF	RC filters, noise on sensor and signal lines, button debounce
47pF - 100pF	High-frequency filtering, such as across an op-amp feedback resistor
10pF - 30pF	Crystal load capacitors: a matched pair, each crystal pin to ground

DESIGN EXAMPLES

Crystal load capacitors (equal pair)

$C = 2 \times (C_L - C_{stray})$

C_L is the load capacitance on the crystal's own datasheet. Board and pin stray capacitance is typically 3pF to 9pF; 5pF is a fair starting guess.

Crystal C_L = 20pF	2 x (20 - 5) = 30pF	**use 30pF (300)**
Crystal C_L = 15pF	2 x (15 - 5) = 20pF	**use 20pF (200)**

RC time constant and low-pass corner

$t = R \times C$ · $f = 1 / (2\pi \times R \times C)$

Use t for button debounce and f for a simple RC filter.

R	C	t	f
10kΩ	100nF (104)	**1 ms**	**about 159 Hz**
10kΩ	10nF (103)	**0.1 ms**	**about 1.6 kHz**
1kΩ	10nF (103)	**10 µs**	**about 15.9 kHz**
10kΩ	1nF (102)	**10 µs**	**about 15.9 kHz**

Calculated examples using nominal values. Check real circuits with the part's actual value, which can differ from nominal.

VOLTAGE AND HANDLING

- **Stay under 50V,** counting spikes and ripple, not just the nominal supply. 3.3V, 5V, 12V and 24V circuits all sit inside the rating.
- **Expect less capacitance at high voltage.** Higher-value ceramics usually use a high-permittivity dielectric whose capacitance falls as DC voltage and temperature rise.
- **Bend leads, not the body.** Hold the lead between the body and the bend with pliers so the coating and ceramic are not stressed. Do not use a part with a cracked or chipped coating.
- **Solder quickly.** Heat the lead and pad, not the body, and keep the iron on each joint for a few seconds at most.

REVISION HISTORY

REV	DATE	CHANGE
REV 1	2026-10-24	First issue.