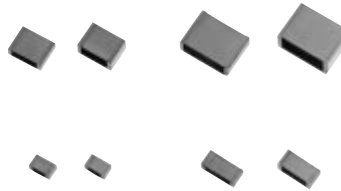


Film Chip Capacitor

Type: **ECHU (High grade)**

Stacked metallized PPS film as dielectric with simple mold-less construction



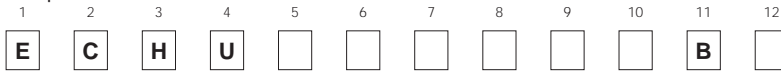
■ Features

- Small in size (minimum size 2.0×1.25mm)
- 85°C, 85%RH, W.V. × 1.0 for 500 hours
- Applicable for both flow and reflow soldering

■ Recommended Applications

- Time-constant
- Filtering
- Oscillation and resonance

■ Explanation of Part Numbers

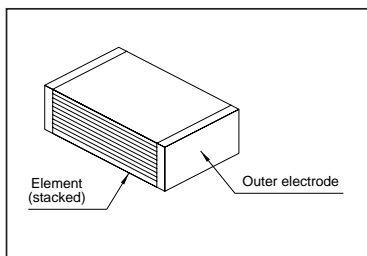


| Product code | Dielectric & construction | Rated voltage | Nominal capacitance | Cap. Tol. | Suffix | Suffix | | | | | | | | | | | | | | |
|--------------|---------------------------|---|---------------------|-----------|--------|--------|--|---|---|-----|---|-----|--|--|--|------------|---|-----|---|------|
| E | C | H | U | | | | | | | | | | | | | | | | | |
| | | <table border="1"> <tr><td>1C</td><td>16VDC</td></tr> <tr><td>1H</td><td>50VDC</td></tr> </table> | 1C | 16VDC | 1H | 50VDC | | <table border="1"> <tr><td>G</td><td>±2%</td></tr> <tr><td>J</td><td>±5%</td></tr> </table> | G | ±2% | J | ±5% | | <table border="1"> <tr><td></td><td>Tape width</td></tr> <tr><td>5</td><td>8mm</td></tr> <tr><td>9</td><td>12mm</td></tr> </table> | | Tape width | 5 | 8mm | 9 | 12mm |
| 1C | 16VDC | | | | | | | | | | | | | | | | | | | |
| 1H | 50VDC | | | | | | | | | | | | | | | | | | | |
| G | ±2% | | | | | | | | | | | | | | | | | | | |
| J | ±5% | | | | | | | | | | | | | | | | | | | |
| | Tape width | | | | | | | | | | | | | | | | | | | |
| 5 | 8mm | | | | | | | | | | | | | | | | | | | |
| 9 | 12mm | | | | | | | | | | | | | | | | | | | |

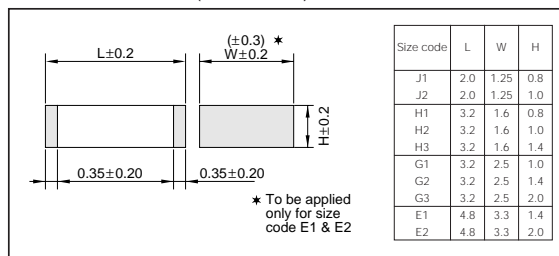
■ Specifications

| | |
|-----------------------|--|
| Operating temp.range | -55 to +125°C |
| Rated voltage | 16VDC, 50VDC |
| Capacitance range | 0.0001 to 0.1 μF (E12) |
| Capacitance tolerance | ±2%(G), ±5%(J) |
| Withstand voltage | Between terminals : Rated volt. (VDC)×175% 1 to 5s |
| Dissipation factor | ≤0.6% (20°C, 1kHz) |
| Insulation resistance | 16VDC : ≥3000MΩ (20°C, 10VDC 60s) 50VDC : ≥3000MΩ (20°C, 50VDC 60s) |
| Soldering conditions | Flow soldering : 260°C max. 5sec max. Reflow soldering : 260°C max. and 30sec max. at more than 230°C (Temp. at cap. surface) |

■ Construction



■ Dimensions in mm (not to scale)



Rating, Dimensions & Quantity/Reel

| Cap. (μF) | Rating volt. 16VDC | | | | | | Rating volt. 50VDC | | | | | | |
|-----------|------------------------------------|-----------------|-----|-----|------|------|--------------------|-----------------|------|-----|------|------|------|
| | Part No. | Dimensions (mm) | | | Code | Qty | Part No. | Dimensions (mm) | | | Code | Qty | |
| | | L | W | H | | | | L | W | H | | | |
| 0.0001 | Please use 50VDC rating of ECHU(B) | | | | | | ECHU1H101□B5 | 2.0 | 1.25 | 0.8 | J1 | 3000 | |
| 0.00012 | | | | | | | ECHU1H121□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.00015 | | | | | | | ECHU1H151□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.00018 | | | | | | | ECHU1H181□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.00022 | | | | | | | ECHU1H221□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.00027 | | | | | | | ECHU1H271□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.00033 | | | | | | | ECHU1H331□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.00039 | | | | | | | ECHU1H391□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.00047 | | | | | | | ECHU1H471□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.00056 | | | | | | | ECHU1H561□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.00068 | | | | | | | ECHU1H681□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.00082 | | | | | | | ECHU1H821□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.001 | | | | | | | ECHU1H102□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.0012 | | | | | | | ECHU1H122□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.0015 | | | | | | | ECHU1H152□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.0018 | | | | | | | ECHU1H182□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.0022 | | | | | | | ECHU1H222□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.0027 | | | | | | | ECHU1H272□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.0033 | | | | | | | ECHU1C332□B5 | 2.0 | 1.25 | 0.8 | J1 | | 3000 |
| 0.0039 | | | | | | | ECHU1C392□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.0047 | | | | | | | ECHU1C472□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.0056 | | | | | | | ECHU1C562□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.0068 | | | | | | | ECHU1C682□B5 | 2.0 | 1.25 | 0.8 | J1 | | |
| 0.0082 | | | | | | | ECHU1C822□B5 | 2.0 | 1.25 | 1.0 | J2 | | |
| 0.01 | | | | | | | ECHU1C103□B5 | 2.0 | 1.25 | 1.0 | J2 | | |
| 0.012 | | | | | | | ECHU1C123□B5 | 3.2 | 1.6 | 0.8 | H1 | | |
| 0.015 | | | | | | | ECHU1C153□B5 | 3.2 | 1.6 | 0.8 | H1 | | |
| 0.018 | ECHU1C183□B5 | 3.2 | 1.6 | 0.8 | H1 | | | | | | | | |
| 0.022 | ECHU1C223□B5 | 3.2 | 1.6 | 0.8 | H1 | 2000 | | | | | | | |
| 0.027 | ECHU1C273□B5 | 3.2 | 1.6 | 1.0 | H2 | | | | | | | | |
| 0.033 | ECHU1C333□B5 | 3.2 | 1.6 | 1.0 | H2 | | | | | | | | |
| 0.039 | ECHU1C393□B5 | 3.2 | 1.6 | 1.4 | H3 | | | | | | | | |
| 0.047 | ECHU1C473□B5 | 3.2 | 1.6 | 1.4 | H3 | 2000 | | | | | | | |
| 0.056 | ECHU1C563□B5 | 3.2 | 2.5 | 1.4 | G2 | | | | | | | | |
| 0.068 | ECHU1C683□B5 | 3.2 | 2.5 | 1.4 | G2 | | | | | | | | |
| 0.082 | ECHU1C823□B5 | 3.2 | 2.5 | 2.0 | G3 | | | | | | | | |
| 0.1 | ECHU1C104□B5 | 3.2 | 2.5 | 2.0 | G3 | 3000 | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

Capacitance tolerance code G, J

Example for Land Dimensions (mm)

The diagram shows a rectangular land with two electrodes. Dimension A is the distance between the inner edges of the electrodes. Dimension B is the total width of the land. Dimension C is the height of the land. The electrodes are labeled 'Electrode' and the area between them is labeled 'Land'.

| Code | Land dimensions | | | | | |
|------|-----------------|-----|-----|------------------|-----|-----|
| | Flow soldering | | | Reflow soldering | | |
| | A | B | C | A | B | C |
| J1 | 1.0 | 2.7 | 1.1 | 1.0 | 2.7 | 1.1 |
| J2 | 1.0 | 2.7 | 1.1 | 1.0 | 2.7 | 1.1 |
| H1 | 2.2 | 3.8 | 1.4 | 2.2 | 3.8 | 1.4 |
| H2 | 2.2 | 3.8 | 1.4 | 2.2 | 3.8 | 1.4 |
| H3 | 2.2 | 3.8 | 1.4 | 2.2 | 3.8 | 1.4 |
| G1 | 2.2 | 3.8 | 2.3 | 2.2 | 3.8 | 2.3 |
| G2 | 2.2 | 3.8 | 2.3 | 2.2 | 3.8 | 2.3 |
| G3 | 2.2 | 3.8 | 2.3 | 2.2 | 3.8 | 2.3 |
| E1 | 2.6 | 6.6 | 3.0 | 2.6 | 6.6 | 3.0 |
| E2 | 2.6 | 6.6 | 3.0 | 2.6 | 6.6 | 3.0 |