Ultra-Miniature 01005 Size Accu-P®
Thin-Film RF Microwave Capacitor

ACCU-P® TECHNOLOGY

The use of silicon oxide, a very low-loss dielectric material, in conjunction with highly conductive electrode metals, results in low ESR and high Q. These high-frequency characteristics change at a slower rate with increasing frequency than for ceramic microwave capacitors.

ACCU-P® meets the fast-growing demand for low-loss (high-Q) capacitors for use in surface mount technology, especially for the wireless communications market at frequencies up to and above 5.8GHz.

ACCU-P® is currently unique in its ability to offer very low capacitance values (0.05 pF) and ultra tight capacitance tolerances (±0.01 pF).

APPLICATIONS
- RF Modules
- Mobile communications
- Satellite TV
- Global positioning systems
- Filters
- VCO’s
- Matching networks

FEATURES
- Ultra Miniature standard 01005 chip size.
- Ultra tight capacitance tolerances (±0.01pF).
- Low ESR and high Q at VHF, UHF and microwave frequencies.
- TC ±30, ±60ppm/°C.
- Nickel/Solder-coated terminations provide excellent solderability and leach resistance.
- High insulation resistance: IR ≥ 10¹⁰ Ohm.
- Orientation provides high SRF uniformity.
- Repeatable C_eff, ESR and Q vs. Frequency parameters, both lot to lot and within lots, for increased production yields.

HOW TO ORDER

<table>
<thead>
<tr>
<th>C005 Series</th>
<th>Y Voltage</th>
<th>X Temperature Coefficient</th>
<th>XXX Capacitance (pF)</th>
<th>X Tolerance</th>
<th>B Accu-P</th>
<th>S Lead Free Termination</th>
<th>TR Packaging Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5000 pc reel</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TR/10K = 10,000 pc reel</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TR/20K = 20,000 pc reel</td>
</tr>
</tbody>
</table>

P/N Example: C 0 0 5 Y K 1 R 0 A B S T R

QUALITY AND RELIABILITY

Finished parts are tested for standard electrical parameters and visual/mechanical characteristics.

Each production lot is 100% evaluated for:
- Capacitance
- Q Factor
- DWV at 12.5xVRATED

Each production lot is evaluated on a sample basis for:
- Dimensions
- Insulation Resistance
- Breakdown Voltage
- ESR
- Solderability

In addition, production is periodically evaluated for:
- Mechanical stability
- Endurance (Life)
- Temperature Coefficient
- Accelerated Damp Heat Load (THB)
- Temperature Cycling
# ACCU-P® 01005 CAPACITANCE RANGE

<table>
<thead>
<tr>
<th>Capacitance [pF]</th>
<th>Part Number</th>
<th>Tolerances</th>
<th>Voltage (V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
<td>C005YJR05_BSTR</td>
<td>Z = ±0.01pF</td>
<td>J 16</td>
</tr>
<tr>
<td>0.10</td>
<td>C005YJR10_BSTR</td>
<td>P = ±0.02pF</td>
<td>J 16</td>
</tr>
<tr>
<td>0.15</td>
<td>C005YJR15_BSTR</td>
<td>Q = ±0.03pF</td>
<td>J 16</td>
</tr>
<tr>
<td>0.20</td>
<td>C005YJR20_BSTR</td>
<td>A = ±0.05pF</td>
<td>J 16</td>
</tr>
<tr>
<td>0.25</td>
<td>C005YJR25_BSTR</td>
<td>Z = ±0.01pF</td>
<td>J 16</td>
</tr>
<tr>
<td>0.30</td>
<td>C005YJR30_BSTR</td>
<td>P = ±0.02pF</td>
<td>J 16</td>
</tr>
<tr>
<td>0.35</td>
<td>C005YJR35_BSTR</td>
<td>Q = ±0.03pF</td>
<td>J 16</td>
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<tr>
<td>0.40</td>
<td>C005YJR40_BSTR</td>
<td>A = ±0.05pF</td>
<td>J 16</td>
</tr>
<tr>
<td>0.45</td>
<td>C005YJR45_BSTR</td>
<td>Z = ±0.01pF</td>
<td>J 16</td>
</tr>
<tr>
<td>0.50</td>
<td>C005YJR50_BSTR</td>
<td>P = ±0.02pF</td>
<td>J 16</td>
</tr>
<tr>
<td>0.55</td>
<td>C005YJR55_BSTR</td>
<td>Q = ±0.03pF</td>
<td>J 16</td>
</tr>
<tr>
<td>0.60</td>
<td>C005YJR60_BSTR</td>
<td>A = ±0.05pF</td>
<td>J 16</td>
</tr>
<tr>
<td>0.65</td>
<td>C005YJR65_BSTR</td>
<td>Z = ±0.01pF</td>
<td>J 16</td>
</tr>
<tr>
<td>0.70</td>
<td>C005YJR70_BSTR</td>
<td>P = ±0.02pF</td>
<td>J 16</td>
</tr>
<tr>
<td>0.75</td>
<td>C005YJR75_BSTR</td>
<td>Q = ±0.03pF</td>
<td>J 16</td>
</tr>
<tr>
<td>0.80</td>
<td>C005YJR80_BSTR</td>
<td>A = ±0.05pF</td>
<td>J 16</td>
</tr>
<tr>
<td>0.85</td>
<td>C005YJR85_BSTR</td>
<td>Z = ±0.01pF</td>
<td>J 16</td>
</tr>
</tbody>
</table>

Intermediate capacitance values are available

## DIMENSIONS - mm (inches)

- **L**: 0.405 ± 0.020 (0.016 ± 0.001)
- **W**: 0.215 ± 0.020 (0.0085 ± 0.001)
- **T**: 0.145 ± 0.020 (0.006 ± 0.001)
- **B**: Top (B1): 0.0 +0.10/-0.0 (0.0 +0.004/-0.0)
  Bottom (B2): 0.10 ± 0.03 (0.004 ± 0.001)

## RECOMMENDED PAD LAYOUT - mm (inches)

- 0.22 (0.009)
- 0.17 (0.007)
- 0.20 (0.008)

## PACKAGING SPECIFICATION - mm (inches)

**Standard Packaging**: 5,000 / 10,000 / 20,000pcs in 4" / 7" reels

**Materials**: Reel – Polystyrene
- Tape – Paper: 8.00 (0.315)
- Component pitch: 2.00 (0.079)

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**Intermediate capacitance values are available**