

Type EDC, 70 °C Long Life Electric Double Layer Supercapacitor



Type EDC, 70 °C electric double layer supercapacitors offer high capacitance values in a thru hole stacked coin type package. Primarily designed for integrated circuit voltage backup, the capacitors can also be used to deliver the initial power from batteries.

Highlights

- Long life
- High discharge current
- 70 °C Operating temperature

Specifications

| | |
|---|---|
| Operating Temperature Range | -25 °C to +70 °C |
| Rated Voltage Range | 5.5 Vdc to 6.3 Vdc |
| Capacitance Range | 0.047 F to 1.5 F |
| Life, Moisture and Temperature Characteristics | After the following procedures have been performed, measure the capacitance and ESR at +20 °C. |
| Life Test: | Apply the max. operating voltage for 1000 h at +70 °C |
| Capacitance Change | ±30% of the initial measured value |
| ESR | ≤ 4 times the initial specified value |
| Shelf Life: | Subject the capacitor to 1000 hours without voltage at +70 °C. |
| Capacitance Change | ±30% of the initial measured value |
| ESR | ≤ 4 times the initial specified value |
| Moisture Resistance: | Subject the capacitor to 240 hours at +40 °C at 90 to 95% RH without voltage. |
| Capacitance Change | ±30% of the initial measured value |
| ESR | ≤ 3 times the initial specified value |
| Temperature Cycling | Stabilize the capacitor at each of the following temperatures for 1 hour in sequence, and then measure the capacitance and ESR at that temperature. |
| | <ol style="list-style-type: none"> 1. +20 °C 2. -25 °C 3. +20 °C 4. +70 °C 5. +20 °C |
| Capacitance Change (at -25 °C) | ±30% of the initial measured value |
| ESR (at -25 °C) | ≤ 5 times the initial measured value |
| Capacitance Change (at +85 °C) | ±30% of the initial measured value |
| ESR (at +85 °C) | ≤ 4 times the initial measured value |
| Capacitance Change (Step 5 at +20 °C) | ±10% of the initial measured value |
| ESR (Step 5 at +20 °C) | meets the initial specified value |
| Regulatory Information | |

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| 5.5 VDC | | | | | |
|-----------------|-------|--------------------|-----------|--------|--------|
| CDE Part Number | Cap F | ESR 1 kHz Ω | Case Code | | |
| | | | V Type | H Type | C Type |
| EDC473Z5R5* | 0.047 | 120 | V1 | H1 | C1 |
| EDC104Z5R5* | 0.1 | 75 | V1 | H1 | C1 |
| EDC224Z5R5* | 0.22 | 75 | V1 | H1 | C1 |
| EDC334Z5R5* | 0.33 | 75 | V1 | H1 | C1 |
| EDC474Z5R5* | 0.47 | 50 | V1 | H1 | C1 |
| EDC105Z5R5* | 1 | 30 | V2 | H2 | C2 |
| EDC155Z5R5* | 1.5 | 30 | V2 | H2 | C2 |

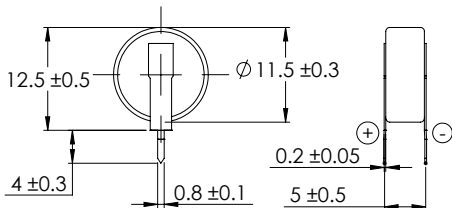
*V, H, or C

| 6.3 VDC | | | |
|-----------------|-------|--------------------|-----------|
| CDE Part Number | Cap F | ESR 1 kHz Ω | Case Code |
| EDC104Z6R3C | 0.1 | 120 | C3 |
| EDC224Z6R3C | 0.22 | 75 | C3 |
| EDC334Z6R3C | 0.33 | 75 | C3 |
| EDC474Z6R3C | 0.47 | 50 | C4 |
| EDC684Z6R3C | 0.68 | 50 | C4 |
| EDC105Z6R3C | 1 | 30 | C4 |

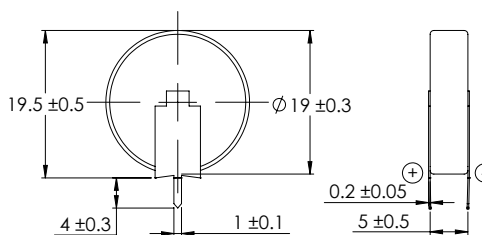
Part Numbering System

| | | | | |
|------------|--|-----------|---------------|--|
| EDC | 224 | Z | 5R5 | C |
| Series | Capacitance | Tolerance | Voltage | Case Style |
| | 224 = 0.22 F 473 = 0.047 F 105 = 1.0 F | -20/+80% | 5R5 = 5.5 Vdc | C = Radial H = Horizontal Style V = Vertical Style |

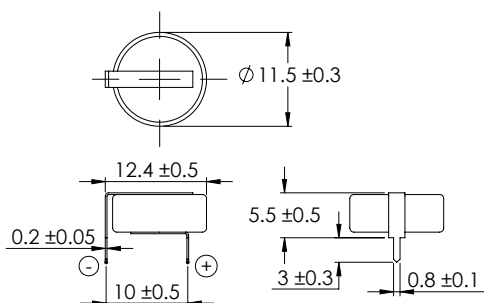
EDC Outline Drawing



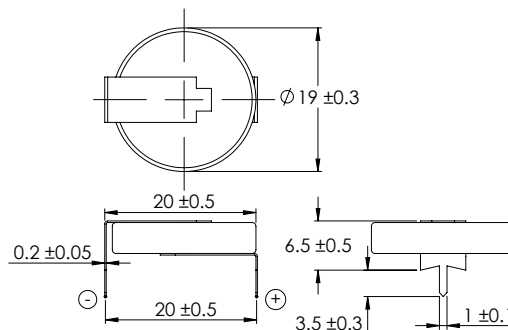
V1



V2



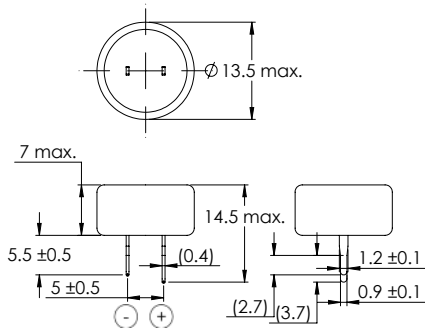
H1



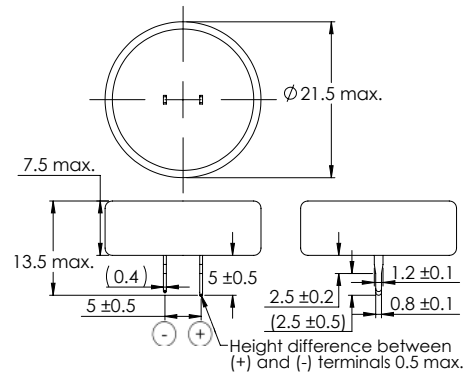
H2

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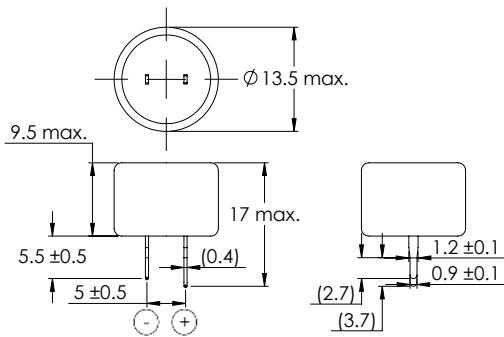
EDC Outline Drawing



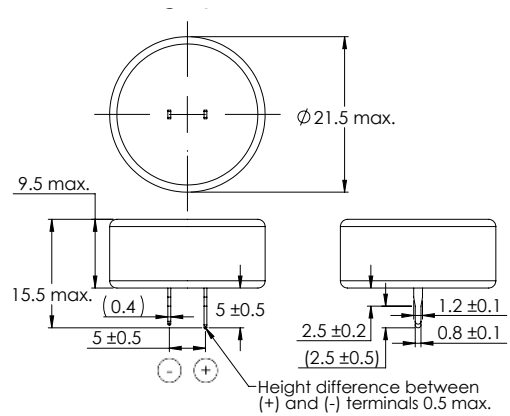
C1



C2



C3



C4

Recommended Soldering Procedures

| | |
|----------------|--|
| Hand Soldering | Use a 30W iron with a max. temperature of 350 °C for 3 seconds. |
| Wave Soldering | Pre-heat circuit board to a surface temp of 110 °C for a max. of 60 seconds, with a max. component temperature of 100 °C. Min. printed circuit board thickness of 0.8 mm. Recommended solder bath temperature of 240 °C with a max. dipping time of 5 seconds. |

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