

# Type EDC, Long Life Electric Double Layer Supercapacitor



Type EDC 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

<b>Operating Temperature Range</b>	-25 °C to +70 °C
<b>Rated Voltage Range</b>	5.5 Vdc to 6.3 Vdc
<b>Capacitance Range</b>	0.047 F to 1.5 F
<b>Life, Moisture and Temperature Characteristics</b>	After the following procedures have been performed, measure the capacitance and ESR at +20 °C.
<b>Life Test:</b>	Apply the max. operating voltage for 1000 h at +70 °C
<b>Capacitance Change</b>	±30% of the initial measured value
<b>ESR</b>	≤ 4 times the initial specified value
<b>Shelf Life:</b>	Subject the capacitor to 1000 hours without voltage at +70 °C.
<b>Capacitance Change</b>	±30% of the initial measured value
<b>ESR</b>	≤ 4 times the initial specified value
<b>Moisture Resistance:</b>	Subject the capacitor to 240 hours at +40 °C at 90 to 95% RH without voltage.
<b>Capacitance Change</b>	±30% of the initial measured value
<b>ESR</b>	≤ 3 times the initial specified value
<b>Temperature Cycling</b>	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"> <li>1. +20 °C</li> <li>2. -25 °C</li> <li>3. +20 °C</li> <li>4. +70 °C</li> <li>5. +20 °C</li> </ol>
<b>Capacitance Change (at -25 °C)</b>	±30% of the initial measured value
<b>ESR (at -25 °C)</b>	≤ 5 times the initial measured value
<b>Capacitance Change (at +85 °C)</b>	±30% of the initial measured value
<b>ESR (at +85 °C)</b>	≤ 4 times the initial measured value
<b>Capacitance Change (Step 5 at +20 °C)</b>	±10% of the initial measured value
<b>ESR (Step 5 at +20 °C)</b>	meets the initial specified value
<b>RoHS Compliant without Exemptions</b>	

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## Ratings

5.5 VDC					
CDE Part Number	Cap F	ESR 1 kHz $\Omega$	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

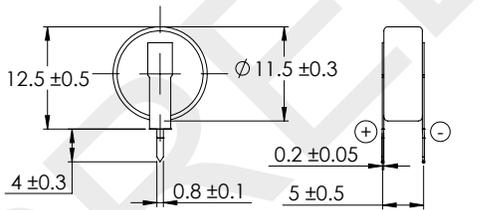
\*V, H, or C

6.3 VDC			
CDE Part Number	Cap F	ESR 1 kHz $\Omega$	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
EDC105Z6R3C	1	30	C4

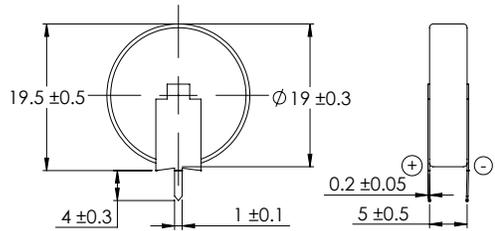
## Part Numbering System

<b>EDC</b>	<b>224</b>	<b>Z</b>	<b>5R5</b>	<b>C</b>
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

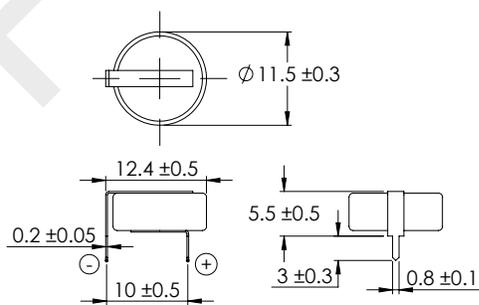
## EDC Outline Drawing



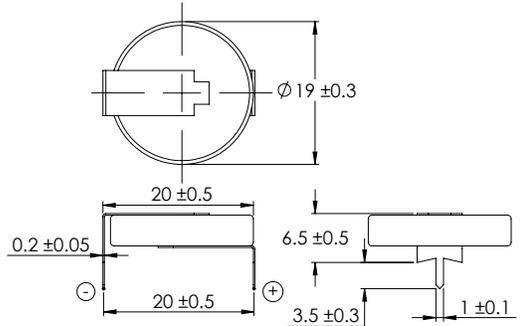
V1



V2



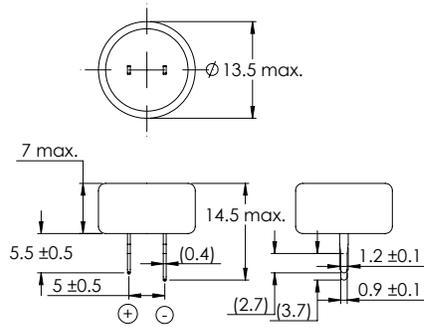
H1



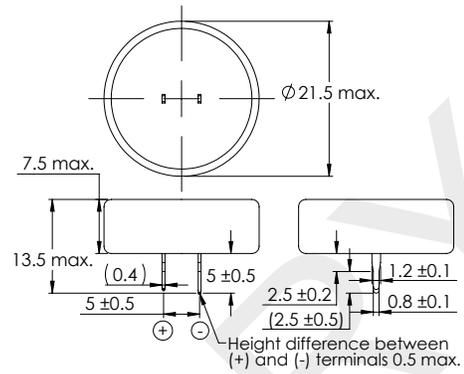
H2

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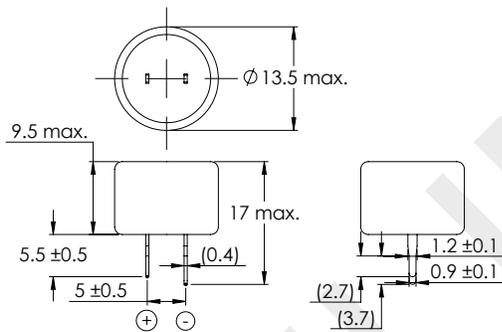
## EDC Outline Drawing



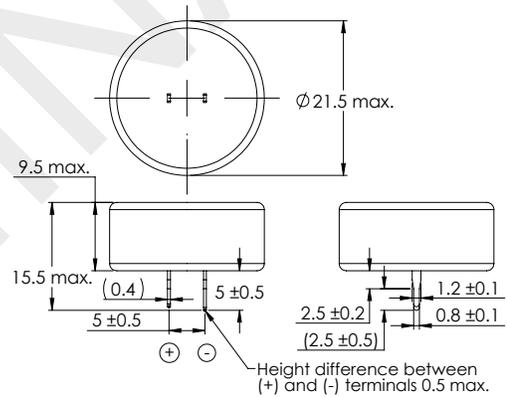
C1



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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