

Conductive Polymer Hybrid Capacitors

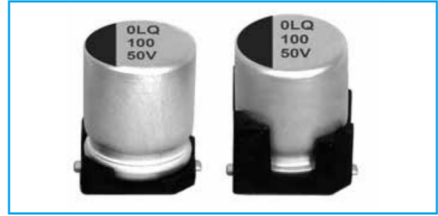
GREEN CAP

SMD

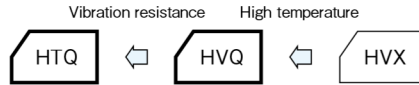
Low ESR

150°C
1000hours

- Low ESR and high ripple current are realized.
- HTQ is resist to vibration. (30G guaranteed)
- Equivalent to conductive polymer type Aluminum Electrolytic Capacitor. (There are little characteristics change by temperature and frequency)
- Guaranteed 150°C, 1000 hours.



Marking color : Blue print

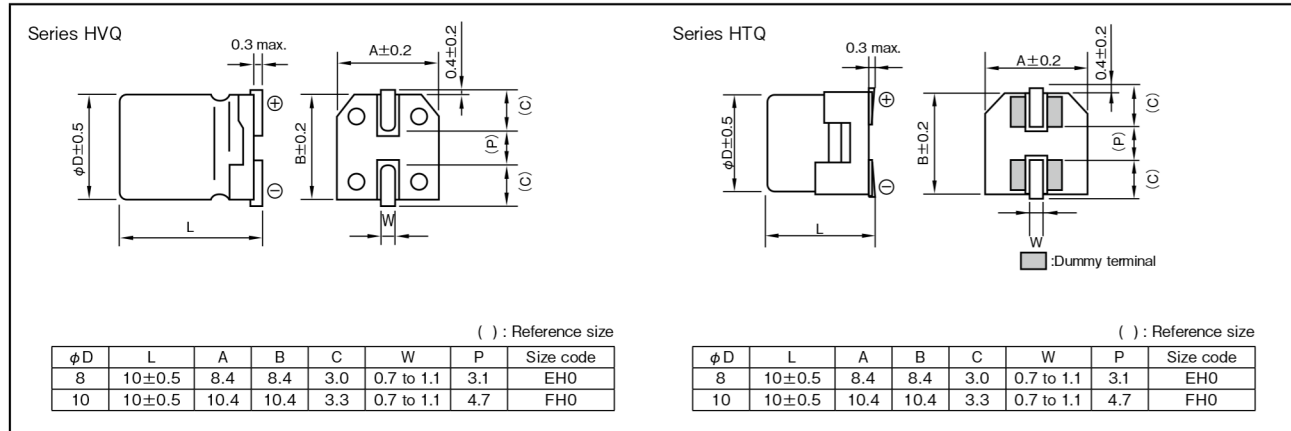


Specifications

| Item | Performance | | | | | | | | | | | | |
|---|--|------------------------|---------------|-----------------|-------------------------------------|----------------------------------|------------------------------|---------------------------|---|------------|---|------|------|
| Category temperature range (°C) | -55 to +150 | | | | | | | | | | | | |
| Tolerance at rated capacitance (%) | ±20 (20°C, 120Hz) | | | | | | | | | | | | |
| Leakage current (μA) (max.) | 0.01CV or 3 whichever is larger (after 2 minutes) C : Rated capacitance (μF) ; V : Rated voltage (V) (20°C) | | | | | | | | | | | | |
| Tangent of loss angle (tanδ) | <table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> </tr> </thead> <tbody> <tr> <td>tanδ (max.)</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> </tr> </tbody> </table> (20°C, 120Hz) | Rated voltage (V) | 16 | 25 | 35 | 50 | 63 | tanδ (max.) | 0.16 | 0.14 | 0.12 | 0.10 | 0.08 |
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| Characteristics at high and low temperature | <table border="1"> <thead> <tr> <th>Impedance ratio (max.)</th> <th>Z-25°C/Z+20°C</th> <th>1.5</th> </tr> </thead> <tbody> <tr> <td></td> <th>Z-55°C/Z+20°C</th> <td>2.0</td> </tr> </tbody> </table> (100Hz) | Impedance ratio (max.) | Z-25°C/Z+20°C | 1.5 | | Z-55°C/Z+20°C | 2.0 | | | | | | |
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| | Z-55°C/Z+20°C | 2.0 | | | | | | | | | | | |
| Endurance (150°C) (Applied ripple current) | <table border="1"> <thead> <tr> <th>Test time</th> <th>1000 hours</th> </tr> </thead> <tbody> <tr> <td>Leakage current</td> <td>The initial specified value or less</td> </tr> <tr> <td>Percentage of capacitance change</td> <td>Within ±30% of initial value</td> </tr> <tr> <td>Tangent of the loss angle</td> <td>200% or less of the initial specified value</td> </tr> <tr> <td>ESR change</td> <td>200% or less of the initial specified value</td> </tr> </tbody> </table> | Test time | 1000 hours | Leakage current | The initial specified value or less | Percentage of capacitance change | Within ±30% of initial value | Tangent of the loss angle | 200% or less of the initial specified value | ESR change | 200% or less of the initial specified value | | |
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| ESR change | 200% or less of the initial specified value | | | | | | | | | | | | |
| Shelf life (150°C) | Test time : 1000hours ; other items are same as the endurance. Voltage application treatment : According to JIS C5101-4 4.1. | | | | | | | | | | | | |

Outline Drawing

Unit : mm



Refer to individual page. (Soldering conditions, Land pattern size, The taping specifications)

Coefficient of Frequency for Rated Ripple Current

| Frequency (Hz) | 120 | 1k | 10k | 100k or more |
|-------------------------------|------|------|------|--------------|
| Rated voltage (V) 16 to 63 | 0.10 | 0.30 | 0.60 | 1 |

Product code system (*For general product)

HVQ (example : 16V270μF)

| | | | | | | | |
|---------------|-------------|------------------|---------------|--------------|-----------|-------------------------|-----------------|
| RS* | HVQ | 271 | M | 1E | EH0 | | |
| Category code | Series code | capacitance code | Cap tol. code | Voltage code | Size code | Taping and packing code | Additional code |

HTQ (example : 16V270μF)

| | | | | | | | |
|---------------|-------------|------------------|---------------|--------------|-----------|-------------------------|-----------------|
| RS* | HTQ | 271 | M | 1E | EH0 | | |
| Category code | Series code | capacitance code | Cap tol. code | Voltage code | Size code | Taping and packing code | Additional code |

For details, refer to the various "Product Code System" pages.

Standard Ratings

| Rated voltage (V) Item Rated capacitance (μF) | 16 (1L) | | | 25 (1T) | | | 35 (1G) | | | 50 (1U) | | |
|---|-------------------|------------------|--|-------------------|------------------|--|-------------------|------------------|--|-------------------|------------------|--|
| | Case φD×L (mm) | ESR (mΩ max.) | Rated ripple current (mA _{rms}) | Case φD×L (mm) | ESR (mΩ max.) | Rated ripple current (mA _{rms}) | Case φD×L (mm) | ESR (mΩ max.) | Rated ripple current (mA _{rms}) | Case φD×L (mm) | ESR (mΩ max.) | Rated ripple current (mA _{rms}) |
| 68 | — | — | — | — | — | — | — | — | — | 8×10 | 30 | 660 |
| 100 | — | — | — | — | — | — | — | — | — | 10×10 | 28 | 800 |
| 150 | — | — | — | — | — | — | 8×10 | 22 | 710 | — | — | — |
| 220 | — | — | — | 8×10 | 22 | 740 | — | — | — | — | — | — |
| 270 | 8×10 | 20 | 740 | — | — | — | 10×10 | 20 | 830 | — | — | — |
| 330 | — | — | — | 10×10 | 20 | 850 | — | — | — | — | — | — |
| 470 | 10×10 | 18 | 850 | — | — | — | — | — | — | — | — | — |

| Rated voltage (V) Item Rated capacitance (μF) | 63 (4E) | | |
|---|-------------------|------------------|--|
| | Case φD×L (mm) | ESR (mΩ max.) | Rated ripple current (mA _{rms}) |
| 33 | 8×10 | 30 | 610 |
| 56 | 10×10 | 28 | 710 |

(Note) Rated ripple current : 150°C , 100kHz ; ESR : 20°C , 100kHz