

### Conductive Polymer Hybrid Capacitors

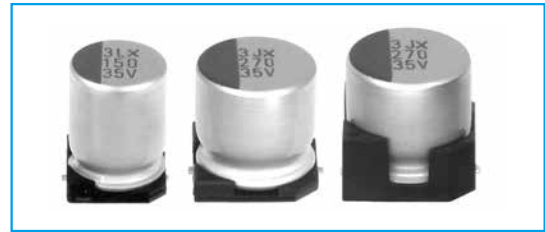
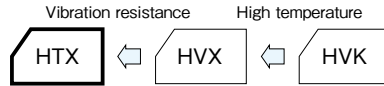
GREEN CAP

SMD

Low ESR

135°C  
4000hours

- Low ESR and high ripple current are realized.
- HTX is resist to vibration. (30G guaranteed)
- Equivalent to conductive polymer type Aluminum Electrolytic Capacitor. (There are little characteristics change by temperature and frequency)
- Guaranteed 135°C, 4000 hours.



Marking color : Blue print

### Specifications

Item	Performance										
Category temperature range (°C)	-55~+135										
Tolerance at rated capacitance (%)	±20 (20°C, 120Hz)										
Leakage current (µA)	Less than 0.01CV or 3(µA) 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> </tr> </thead> <tbody> <tr> <td>tanδ (max.)</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> </tr> </tbody> </table> (20°C, 120Hz)	Rated voltage (V)	16	25	35	tanδ (max.)	0.16	0.14	0.12		
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Endurance (135°C) (Applied ripple current)	<table border="1"> <tbody> <tr> <td>Test time</td> <td>4000 hours</td> </tr> <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	4000 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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Shelf life (135°C)	Test time : 1000hours ; other items are same as the endurance. Voltage application treatment										

### Outline Drawing

Unit : mm

#### Series HVX

( ) : Reference size

φD	L	A	B	C	W	P	Casing symbol
8	10±0.5	8.4	8.4	3.0	0.7 to 1.1	3.1	G10
10	10±0.5	10.4	10.4	3.3	0.7 to 1.1	4.7	H10

#### Series HTX

□ : Dummy terminal  
( ) : Reference size

φD	L	A	B	C	W	P	Casing symbol
8	10±0.5	8.4	8.4	3.0	0.7 to 1.1	3.1	G10
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- Soldering conditions are described on page 15.
- Land pattern size are described on page 13.
- The taping specifications are described on page 16.

### Coefficient of Frequency for Rated Ripple Current

Frequency (Hz)	120	1k	10k	100k or more
Rated voltage (V) 16 to 35	0.10	0.30	0.60	1

### Part numbering system

HVX (example : 16V270µF)

HVX	—	16	V	271	M	G10	—	□
Series code		Rated voltage symbol		Rated capacitance symbol	Capacitance tolerance symbol	Casing symbol		Taping symbol

HTX (example : 16V270µF)

HTX	—	16	V	271	M	G10	—	□
Series code		Rated voltage symbol		Rated capacitance symbol	Capacitance tolerance symbol	Casing symbol		Taping symbol

**Standard Ratings**

Rated voltage (V) Rated capacitance (µF)	Item	16			25			35		
		Case	ESR	Rated ripple current	Case	ESR	Rated ripple current	Case	ESR	Rated ripple current
		φD×L (mm)	(mΩ max.)	(mA <sub>rms</sub> )	φD×L (mm)	(mΩ max.)	(mA <sub>rms</sub> )	φD×L (mm)	(mΩ max.)	(mA <sub>rms</sub> )
150	—	—	—	—	—	—	8×10	22	1600	
220	—	—	—	8×10	22	1600	—	—	—	
270	8×10	20	1700	—	—	—	10×10	20	2000	
330	—	—	—	10×10	20	2000	—	—	—	
470	10×10	18	2100	—	—	—	—	—	—	

(Note) Rated ripple current : 135°C , 100kHz ; ESR : 20°C , 100kHz