

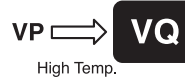
# MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS



Upgrade

## VQ 150°C, High Temperature Range Series

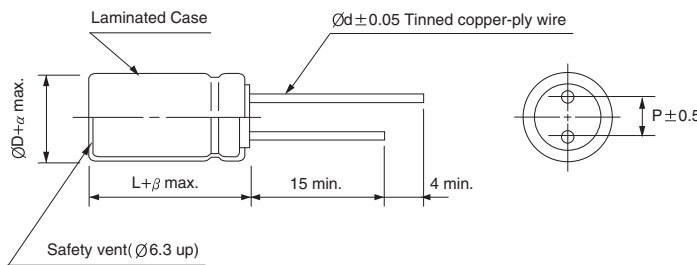
- Applied Laminated case series
- Suited for automobile applications
- Complied to the RoHS directive
- AEC-Q200 compliant. Please contact us for details



Item	Characteristics																											
Operating temperature range	-40 ~ +150°C																											
Leakage current max.	$I = 0.03CV$ or $4\mu A$ whichever is greater (after 1 minute)																											
Capacitance tolerance	$\pm 20\%$ at 120Hz, 20°C																											
Dissipation factor max. (at 120Hz, 20°C)	Capacitance > 1000 $\mu F$ : $\tan\delta$ increases by 0.02 for each 1000 $\mu F$ from below value.																											
	<table border="1"> <tr> <td>Rated Voitage(V)</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>80</td> <td>100</td> </tr> <tr> <td><math>\tan\delta</math></td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.10</td> <td>0.08</td> <td>0.08</td> </tr> </table>	Rated Voitage(V)	10	16	25	35	50	63	80	100	$\tan\delta$	0.20	0.16	0.14	0.12	0.10	0.10	0.08	0.08									
Rated Voitage(V)	10	16	25	35	50	63	80	100																				
$\tan\delta$	0.20	0.16	0.14	0.12	0.10	0.10	0.08	0.08																				
Low temperature characteristics (Impedance ratio at 120Hz)	<table border="1"> <tr> <td>WV</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>80</td> <td>100</td> </tr> <tr> <td>Z-25°C/Z+20°C</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z-40°C/Z+20°C</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> </tr> </table>	WV	10	16	25	35	50	63	80	100	Z-25°C/Z+20°C	3	2	2	2	2	2	2	2	Z-40°C/Z+20°C	4	4	4	4	4	4	4	4
	WV	10	16	25	35	50	63	80	100																			
	Z-25°C/Z+20°C	3	2	2	2	2	2	2	2																			
Z-40°C/Z+20°C	4	4	4	4	4	4	4	4																				
Load life (after application of the rated voltage for 1000 hours at 150°C)	<table border="1"> <tr> <td>Leakage current</td> <td>Less than specified value</td> </tr> <tr> <td>Capacitance change</td> <td>Within <math>\pm 30\%</math> of initial value</td> </tr> <tr> <td><math>\tan\delta</math></td> <td>Less than 300% of specified value</td> </tr> </table>	Leakage current	Less than specified value	Capacitance change	Within $\pm 30\%$ of initial value	$\tan\delta$	Less than 300% of specified value																					
Leakage current	Less than specified value																											
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Shelf life (at 150°C)	After 1000 hours no load test, leakage current, capacitance and $\tan\delta$ are same as load life value. The measurement shall be performed at 20°C by the KS C IEC 60384 - 4																											

### DRAWING

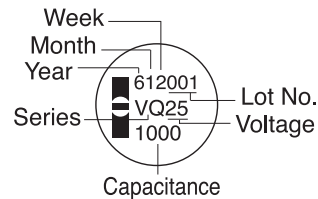
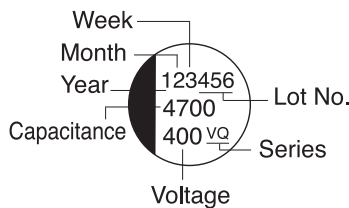
Unit : mm



ØD	10	12.5	16	18
P	5.0	5.0	7.5	7.5
Ød	0.6	0.6	0.8	0.8
α	0.5			
β	2.0			

(Ø10)

(Ø12.5)



MINIATURE TYPES

### FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

CV	Frequency	120Hz	1kHz	50kHz	100kHz $\leq$
$1000 \leq CV$		0.67	0.91	0.95	1.00
$1000 > CV$		0.50	0.83	0.91	1.00

# MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

**VQ** series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV Item μF	10		16		25		35	
	∅D×L(mm)	Ripple current (mA rms) 150°C, 100kHz	∅D×L(mm)	Ripple current (mA rms) 150°C, 100kHz	∅D×L(mm)	Ripple current (mA rms) 150°C, 100kHz	∅D×L(mm)	Ripple current (mA rms) 150°C, 100kHz
82							10 × 12.5	620
100							10 × 16	660
220					10 × 16	660	12.5 × 20	700
330			10 × 16	660	12.5 × 20	760	12.5 × 25	840
470	10 × 12.5	660	10 × 20	760	12.5 × 25	840	12.5 × 30	1000
							16 × 25	1000
1000	10 × 20	760	12.5 × 25	840	12.5 × 34.5	1100	18 × 31.5	1700
					16 × 25	1100		
2200	12.5 × 25	840	12.5 × 34.5	1100	18 × 31.5	1700		
			16 × 25	1100				
3300	12.5 × 34.5	1100	18 × 31.5	1700				
	16 × 25	1100						
4700	18 × 25	1700						
5600	18 × 31.5	1900						

WV Item μF	50		63		80		100	
	∅D×L(mm)	Ripple current (mA rms) 150°C, 100kHz	∅D×L(mm)	Ripple current (mA rms) 150°C, 100kHz	∅D×L(mm)	Ripple current (mA rms) 150°C, 100kHz	∅D×L(mm)	Ripple current (mA rms) 150°C, 100kHz
33							10 × 12.5	260
47					10 12.5	260	10 × 16	330
56			10 × 12.5	450	10 × 16	330	10 × 16	390
68			10 × 16	650	10 × 16	390	10 × 20	465
100	10 × 16	700	10 × 20	820	10 × 20	465	12.5 × 20	670
220	12.5 × 20	890	12.5 × 25	1000	12.5 × 25	670	12.5 × 30	1100
330	12.5 × 25	1000	12.5 × 30	1300	12.5 × 34.5	1100	18 × 31.5	1500
470	12.5 × 30	1200	16 × 25	1500	18 × 25	1600	18 × 31.5	1750
560	12.5 × 34.5	1300	18 × 25	1650	18 × 31.5	1700		
	16 × 25	1300						
680			18 × 31.5	1850	18 × 31.5	1900		