

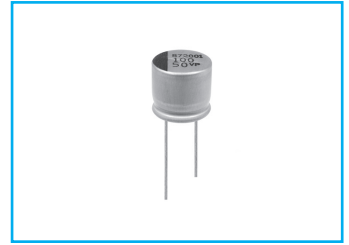
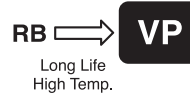
MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS



New

VP 135°C, Long Life, Low Impedance Series

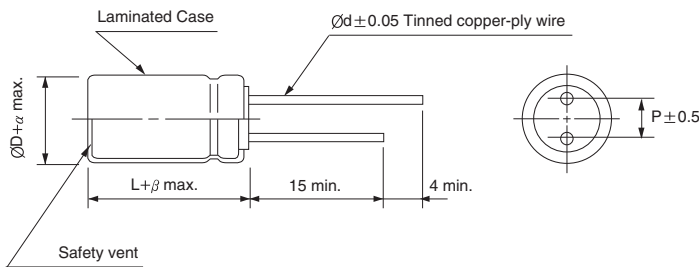
- Applied Laminated case series
- Suited for automobile applications
- Complied to the RoHS directive
- AEC-Q200 compliant. Please contact us for details



Item	Characteristics															
Operating temperature range	-40 ~ +135°C															
Leakage current max.	$I = 0.01CV$ or $3\mu A$ whichever is greater (after 2 minute)															
Capacitance tolerance	$\pm 20\%$ at 120Hz, 20°C															
Dissipation factor max. (at 120Hz, 20°C)	Capacitance > 1000 μF : $\tan\delta$ increases by 0.02 for each 1000 μF from below value.															
	<table border="1"> <tr> <td>Rated Voltage(V)</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> </tr> <tr> <td>$\tan\delta$</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> </tr> </table>	Rated Voltage(V)	10	16	25	35	$\tan\delta$	0.20	0.16	0.14	0.12					
Rated Voltage(V)	10	16	25	35												
$\tan\delta$	0.20	0.16	0.14	0.12												
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> </tr> <tr> <td>Z-25°C/Z+20°C</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z-40°C/Z+20°C</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> </tr> </table>	WV	10	16	25	35	Z-25°C/Z+20°C	3	2	2	2	Z-40°C/Z+20°C	6	4	3	3
	WV	10	16	25	35											
	Z-25°C/Z+20°C	3	2	2	2											
Z-40°C/Z+20°C	6	4	3	3												
Load life (after application of the rated voltage for 3000 hours at 135°C)	<table border="1"> <tr> <td>Leakage current</td> <td>Less than specified value</td> </tr> <tr> <td>Capacitance change</td> <td>Within $\pm 30\%$ of initial value</td> </tr> <tr> <td>$\tan\delta$</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															
Capacitance change	Within $\pm 30\%$ of initial value															
$\tan\delta$	Less than 300% of specified value															
Shelf life (at 135°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

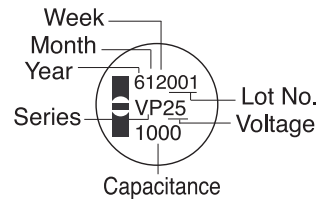
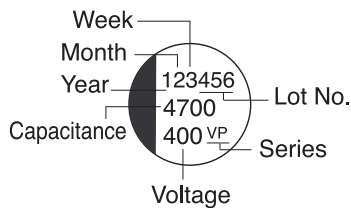
Unit : mm



ØD	10	12.5
P	5.0	5.0
Ød	0.6	0.6
α	0.5	
β	2.0	

(Ø10)

(Ø12.5)



FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

Frequency	120Hz	1kHz	10kHz	50kHz	100kHz \leq
μF ~ 330	0.50	0.85	0.95	0.97	1.00
470 ~ 1500	0.55	0.90	0.98	0.99	1.00
2200 ~	0.60	0.95	1.00	1.00	1.00

MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

VP series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV Item μ F	10			16		
	$\varnothing D \times L$ (mm)	Impedance (Ω)max. 20°C 100kHz	Ripple current (mA rms) 135°C 100kHz	$\varnothing D \times L$ (mm)	Impedance (Ω)max. 20°C 100kHz	Ripple current (mA rms) 135°C 100kHz
220						
330						
470	10 × 12.5	0.15	690	10 × 12.5	0.10	960
1000	10 × 20	0.07	1005	10 × 20	0.06	1150
2200	12.5 × 25	0.05	1280	12.5 × 25	0.06	1430
3300	12.5 × 30	0.05	1900	12.5 × 30	0.05	2300
4700	12.5 × 34.5	0.04	2300	12.5 × 34.5	0.04	2550

WV Item μ F	25			35		
	$\varnothing D \times L$ (mm)	Impedance (Ω)max. 20°C 100kHz	Ripple current (mA rms) 135°C 100kHz	$\varnothing D \times L$ (mm)	Impedance (Ω)max. 20°C 100kHz	Ripple current (mA rms) 135°C 100kHz
220				10 × 12.5	0.15	620
330				10 × 16	0.10	800
470	10 × 20	0.10	1130	10 × 20	0.073	960
1000	12.5 × 25	0.06	1800	12.5 × 30	0.04	1430
2200	12.5 × 30	0.05	2300			