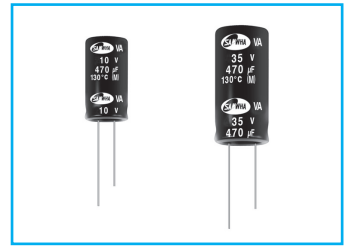


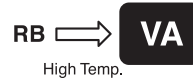
MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS



VA 130°C, Long Life, Low Impedance Series



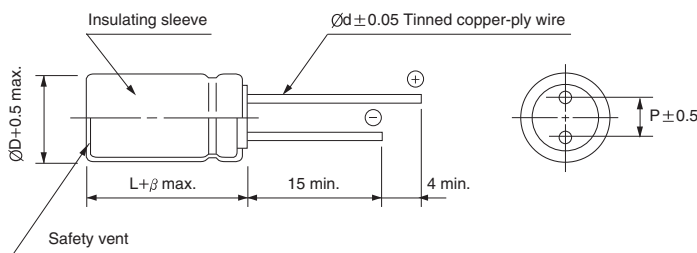
- Load life of 4000 hours at 130°C
- Low impedance at high frequency
- For Electronic Control Unit and other high temperature applications
- Complied to the RoHS directive



Item	Characteristics															
Operating temperature range	-40 ~ +130°C															
Leakage current max.	$I = 0.01CV$ or $3\mu A$ whichever is greater (after 2 minutes)															
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					
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$\tan\delta$	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 4000 hours at 130°C)	Leakage current	Less than specified value														
	Capacitance change	Within $\pm 30\%$ of initial value														
	$\tan\delta$	Less than 300% of specified value														
	$\varnothing D$	$\varnothing D \leq 10$	$\varnothing D \geq 12.5$													
Shelf life (at 130°C)	Life time	2000 hours	4000 hours													
	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



$\varnothing D$	8	10	12.5	16	18
P	3.5	5.0	5.0	7.5	7.5
$\varnothing d$	0.6	0.6	0.6	0.8	0.8
β	1.5	2.0			

FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

μF \ Frequency	120Hz	1kHz	10kHz	50kHz	100kHz \leq
~ 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

VA series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV Item μF	10			16		
	$\text{ØD} \times \text{L}$ (mm)	Impedance (Ω)max. 20°C 100kHz	Ripple current (mA rms) 130°C 100kHz	$\text{ØD} \times \text{L}$ (mm)	Impedance (Ω)max. 20°C 100kHz	Ripple current (mA rms) 130°C 100kHz
220						
330	8 × 11.5	0.22	360	8 × 11.5	0.22	360
470	10 × 12.5	0.15	620	10 × 12.5	0.15	620
1000	10 × 20	0.073	960	10 × 20	0.073	960
2200	12.5 × 25	0.040	1430	12.5 × 25	0.040	1430
3300	16 × 25	0.038	1900	16 × 31.5	0.034	2300
4700	16 × 31.5	0.034	2300	16 × 35.5	0.031	2550

WV Item μF	25			35		
	$\text{ØD} \times \text{L}$ (mm)	Impedance (Ω)max. 20°C 100kHz	Ripple current (mA rms) 130°C 100kHz	$\text{ØD} \times \text{L}$ (mm)	Impedance (Ω)max. 20°C 100kHz	Ripple current (mA rms) 130°C 100kHz
220	8 × 11.5	0.22	360	10 × 12.5	0.15	500
330	10 × 12.5	0.15	620	10 × 16	0.10	700
470	10 × 20	0.10	800	10 × 20	0.073	800
1000	12.5 × 25	0.055	1100	12.5 × 25	0.040	1100
2200	16 × 31.5	0.034	2300	16 × 35.5	0.031	2550
3300	16 × 35.5	0.031	2550	18 × 35.5	0.028	2800