



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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CONDUCTIVE POLYMER ALUMINUM SOLID ELECTROLYTIC CAPACITORS

**VA/VB/VC/VE** series



**FPCAP NEW**

Resin-molded Chip (7.3 × 4.3 × 2.8)

- By using Functional Polymer cathode, Frequency & Temp. characteristics are greatly improved.
- Low ESR at a high frequency range. ● High ripple current capability.

<Applications>

Switching Power Supply and DC/DC Converter.  
Back up Power Supplies of CPU (VRM etc.)  
Miniature high Power Supply.

<Environmental Correspondence>

Compliant to the RoHS directive (2011/65/EU).  
The Lead-free of terminal plating.



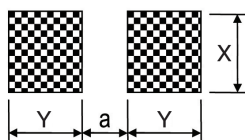
■ Specifications

Item	Performance Characteristics	
Category Temperature Range	-55 to +105°C	
Rated Voltage Range	2.0 to 25V	
Rated Capacitance Range	15 to 330μF	
Capacitance Tolerance	±20% at 120Hz, 20°C	
Tangent of loss angle (tan δ)	Less than or equal to the specified value at 120Hz, 20°C	
ESR (※1)	Less than or equal to the specified value at 100kHz, 20°C	
Leakage Current (※2)	Less than or equal to the specified value. After 2 minutes' application of rated voltage at 20°C	
Endurance	Test condition	105°C, rated voltage 1000Hrs.
	Capacitance change	Within ±20% of initial value before test
	tan δ	150% or less than the initial specified value
	Leakage current (※2)	Less than or equal to the initial specified value
Damp Heat (Steady State)	Test condition	60°C, 90 to 95%RH, No Bias, 500Hrs.
	Capacitance change	Within +50% to -20% of initial value before test
	tan δ	200% or less than the initial specified value
	Leakage current (※2)	300% or less than the initial specified value
Failure Rate	0.5% / 1000Hrs. Max. (60%CL)	

※1 ESR should be measured at both of the terminal ends closest to the capacitor body.

※2 Conditioning : If any doubt arises, measure the leakage current after the voltage treatment of applying DC rated voltage continuously to the capacitor for 120 minutes at 105°C.

■ Recommended land Size

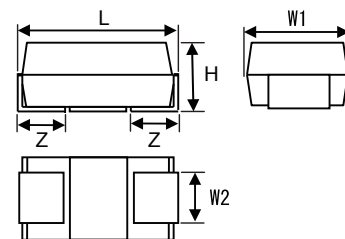


(mm)			
L × W × H	X	Y	a
7.3 × 4.3 × 2.8	2.9	2.05	4.1

■ Size Code (ESR)

[Upper value : Size Code, Lower value : ESR (mΩ)]

Cap [μF]	R.V.(V)		2.0		2.5		4.0		6.3		16		25	
	S.V.(V)		2.3		2.8		4.6		7.2		18.4		28.7	
series	VB	VC	VE	VA	VB	VA	VB	VA	VB	VA	VB	VA	VB	
15												N (60)	N (30)	
27										N (55)	N (30)	N (60)	N (30)	
33										N (55)	N (30)			
47										N (55)	N (30)			
100								N (25)	N (15)					
150						N (18)	N (15)		N (15)					
220				N (18)	N (15)		N (15)							
330	N (15)	N (9)	N <sup>o</sup> (6)											



Size Code	L±0.2	W1±0.2	W2±0.1	H±0.2	Z±0.2
N	7.3	4.3	2.4	2.8	1.3

※ Mass Production Plan : Dec. 2013

Design, Specifications are subject to change without notice.

CONDUCTIVE POLYMER ALUMINUM SOLID ELECTROLYTIC CAPACITORS

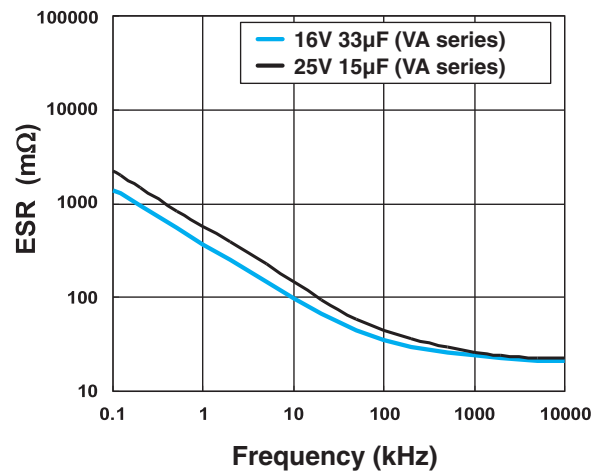
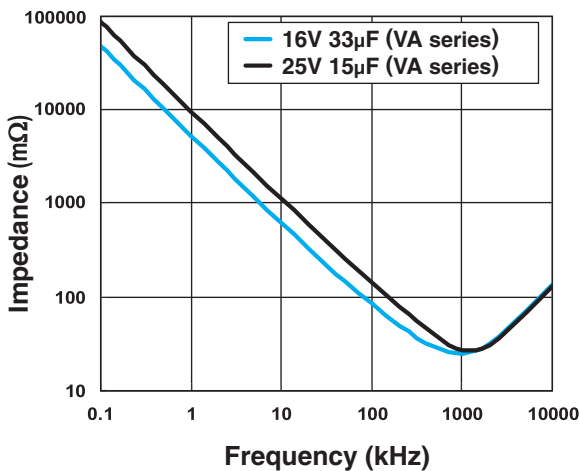
VA / VB / VC / VE series

Standard Ratings

Rated Voltage (V) (code)	Surge Voltage (V)	Rated Capacitance (μF)	Case Size LxWxH (mm)	tan δ	Leakage Current (μA, 2min.)	ESR (mΩ, 100kHz)	Rated Ripple Current (mA rms)	NICHICON	FPCAP	MSL (J-STD-020D)
2.0 (OD)	2.3	330	7.3x4.3x2.8	0.12	700	15	2800	RVB0D331MNG	FP-2R0CM331M-VBR	Level 3
		330	7.3x4.3x2.8	0.12	700	9	3300	RVC0D331MNG	FP-2R0CM331M-VCR	Level 3
		330*	7.3x4.3x2.8	0.12	700	6	3500	RVE0D331MNG	FP-2R0CM331M-VER	Level 3
2.5 (OE)	2.8	220	7.3x4.3x2.8	0.12	700	18	2600	RVA0E221MNG	FP-2R5CM221M-VAR	Level 3
		220	7.3x4.3x2.8	0.12	700	15	2800	RVB0E221MNG	FP-2R5CM221M-VBR	Level 3
4.0 (OG)	4.6	150	7.3x4.3x2.8	0.12	700	18	2600	RVA0G151MNG	FP-4R0CM151M-VAR	Level 3
		150	7.3x4.3x2.8	0.12	700	15	2800	RVB0G151MNG	FP-4R0CM151M-VBR	Level 3
		220	7.3x4.3x2.8	0.12	1000	15	2800	RVB0G221MNG	FP-4R0CM221M-VBR	Level 3
6.3 (OJ)	7.2	100	7.3x4.3x2.8	0.12	700	25	2000	RVA0J101MNG	FP-6R3CM101M-VAR	Level 3
		100	7.3x4.3x2.8	0.12	700	15	2800	RVB0J101MNG	FP-6R3CM101M-VBR	Level 3
		150	7.3x4.3x2.8	0.12	1000	15	2800	RVB0J151MNG	FP-6R3CM151M-VBR	Level 3
16 (1C)	18.4	27	7.3x4.3x2.8	0.12	216	55	1100	RVA1C270MNG	FP-016CM270M-VAR	Level 3
		27	7.3x4.3x2.8	0.12	216	30	1400	RVB1C270MNG	FP-016CM270M-VBR	Level 3
		33	7.3x4.3x2.8	0.12	264	55	1100	RVA1C330MNG	FP-016CM330M-VAR	Level 3
		33	7.3x4.3x2.8	0.12	264	30	1400	RVB1C330MNG	FP-016CM330M-VBR	Level 3
		47	7.3x4.3x2.8	0.12	376	55	1100	RVA1C470MNG	FP-016CM470M-VAR	Level 3
		47	7.3x4.3x2.8	0.12	376	30	1400	RVB1C470MNG	FP-016CM470M-VBR	Level 3
25 (1E)	28.7	15	7.3x4.3x2.8	0.12	188	60	1000	RVA1E150MNG	FP-025CM150M-VAR	Level 3
		15	7.3x4.3x2.8	0.12	188	30	1400	RVB1E150MNG	FP-025CM150M-VBR	Level 3
		27	7.3x4.3x2.8	0.12	337	60	1000	RVA1E270MNG	FP-025CM270M-VAR	Level 3
		27	7.3x4.3x2.8	0.12	337	30	1400	RVB1E270MNG	FP-025CM270M-VBR	Level 3

\* Mass Production Plan : Dec. 2013.

Frequency Characteristics (The frequency characteristics are typical and not a guaranteed value.)



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