■ Type List for Miniature and Chip Type Aluminum Electrolytic Capacitors

★ : New product series; ☆ : Extension product series
○ : Circle symbols apply to those capacitors with rated voltage of 250V or less.

Category	Series	J S Configuration	Applications	Feature: Thin and small Size	Reliability at 105°C: 1000hrs	2000hrs	3000hrs	5000hrs	10000hrs	Low Impedance	For Audio	Anti-cleaning solvent	Reflow Soldering Resistance	Category Temp. Range °C: Max.	Min.	Rated Voltage Range V.DC: Max.	Min.	Rated capacitance Range µF	Color of sleeve	Page
Surface Mounting Type	RV	32	Higher Capacitance Range									•	•	+85	−40	100	6.3	10 to 1000	Brown	17
	RV2	32	5.5mm L	•								•	•	+85	−40	50	4	0.1 to 220	Silver	18
	RV3	32	High CV	•								•	•	+85	−40	50	6.3	4.7 to 330	Silver	19
	RV4	32	4.5mm L	•								•	•	−85	−40	50	6.3	0.1 to 100	Silver	20
	RVB	32	Non Polarized	•								•	•	−85	−40	50	6.3	0.1 to 47	Silver	21
	RV5	32	105°C, 5.5mm L	•	•							•	•	+105	−55	50	6.3	0.1 to 100	Silver	22
	RVL	32	Long Life, 105°C, 6.0mm L	•		•						•	•	+105	−55	50	6.3	0.1 to 100	Silver	23
	RVJ	32	105°C, Higher Capacitance			•						•	•	+105	−55	100	6.3	10 to 470	Silver / Brown	24
	RVH	32	105°C, Low Impedance			•				•		•	•	−105	−55	35	6.3	47 to 470	Brown	25
	RVZ	32	105°C, Low Impedance		•					•		•	•	−105	−55	35	6.3	47 to 1000	Silver / Brown	26
	RVK	32	125°C, Higher Reliability					•				•	•	−125	−40	63	10	10 to 330	Brown	27
	RT	32	Higher Capacitance, Vibration resistance									•	•	+85	−40	100	6.3	10 to 1000	Brown	28
	RTJ	32	105°C, Higher Capacitance, Vibration resistance			•						•	•	+105	−55	100	6.3	10 to 470	Brown	29
	RTH	32	105°C, Low Impedance, Vibration resistance			•				•		•	•	+105	−55	35	6.3	47 to 470	Brown	30
	RTK	32	125°C, Vibration resistance					•				•	•	+125	−40	63	10	10 to 330	Brown	31
	☆RV	32	Large size, Higher Capacitance Range									•	•	−85	−40	100	6.3	100 to 10000	Brown	32
	☆RVJ	32	105°C, Large size, Higher Capacitance Range					•				•	•	+105	−55	100	6.3	47 to 4700	Brown	33
	☆RVK	32	125°C, Large size, Higher Capacitance Range						•			•	•	−125	−40	63	10	220 to 4700	Brown	34
	☆RYK	88	125°C, Horizontal type					•				•	•	−125	−40	63	6.3	82 to 820	Black	35
Ultra-miniature Type	RC3	04	5mm L, Standard	•										+85	−40	50	4	0.1 to 470	Indigo	36
	R3S	04	5mm L, 105°C	•	•							•		+105	−55	50	6.3	0.1 to 100	Brown	37
	RB3	04	5mm L, Bipolar	•										+85	−40	50	6.3	0.1 to 47	Indigo	38
	RC2	04	7mm L, Standard	•								•		+85	−40	100	4	0.1 to 330	Yellow	39
	R2S	04	7mm L, 105°C	•	•							•		+105	−55	50	6.3	0.1 to 100	Brown	40
	RB2	04	7mm L, Bipolar	•								•		85	40	50	6.3	0.1 to 47	Yellow	41
Standard Type	RE3	04	Miniaturized Standard	•								○		−85	−40	450	6.3	0.1 to 22000	Indigo	42
	R2B	04	Bipolarity Standard									•		85	40	100	6.3	0.1 to 4700	Indigo	44
	RJ4	04	105°C, Miniaturized	•	•							○		+105 +105	55 40	100 450	6.3 160	0.1 to 2200 0.47 to 330	Brown	45
High Reliability Type	RJ3	04	105°C, Low Impedance			•				•		○		+105 +105	−55 40	100 450	6.3 160	0.1 to 15000 0.47 to 220	Brown	47
	RJJ	04	105°C, Low Impedance					•				•		105	−55	100	6.3	0.47 to 15000	Brown	49
	RJH	04	105°C, Extra Low Impedance					•		•		•		105	−55	100	6.3	0.47 to 15000	Brown	52
	RJB	04	105°C, Low Impedance, Miniaturized					•				•		105	55	100	6.3	0.47 to 10000	Brown	55
	★RJF	04	105°C, Extra Low Impedance, Miniaturized					•		•		•		105	−40	50	6.3	22 to 6800	Black	57
	RK	04	125°C, Longevity						•	•		•		125	40	63	10	47 to 3300	Black	59
Bipolar Type	RLB	04	Low-leakage Current									•		85	−40	50	6.3	0.47 to 2200	Orange	61
For Audio	RVO	32	Chip Type (PURECAP)	•								•	•	+85	−40	50	4	0.1 to 1000	Silver / Brown	62
	RFS	04	High Grade (SILMIC II)									•		+85	−40	100	6.3	0.47 to 3300	Brown	63
	ROS	04	High Grade (SILMIC)									•		+85	−40	100	16	2.2 to 4700	Brown	64
	ROA	04	High Grade (Ceraline)									•		+85	−40	100	6.3	0.47 to 6800	Red	65
	ROB	04	Miniaturized Standard (TONEREX)									•		+85	−40	100	6.3	0.47 to 10000	Black	66
	R2O	04	Miniaturized Standard	•								•		+85	−40	100	6.3	0.47 to 15000	Purple	67
	R2A	04	7mm L	•								•		+85	−40	50	4	0.1 to 330	Red	68
	R3A	04	5mm L	•								•		+85	−40	50	4	0.1 to 220	Red	68
	RA2	04	Standard	•								•		+85	−40	100	6.3	0.47 to 15000	Brown	69
	RA3	04	Miniaturized Standard	•								•		+85	−40	100	6.3	0.1 to 22000	Brown	70
	RBD	04	Miniaturized Bipolar	•								•		+85	−40	100	6.3	0.1 to 4700	Brown	71

■ Type List for Large Aluminum Electrolytic Capacitors

Category	Series	JIS Configuration	Applications	Feature: Thin and small Size	Feature: Reliability at 105°C 1000h's	Feature: Reliability at 105°C 2000h's	Feature: Reliability at 105°C 3000h's	Feature: Reliability at 105°C 5000h's	Feature: Low impedance	Feature: For Audio	Category Temp. Range °C Max.	Category Temp. Range °C Min.	Rated Voltage Range V.DC Max.	Rated Voltage Range V.DC Min.	Rated capacitance Range µF	Color of sleeve	Page
Standard Type	LP5	692	PCB Terminal,Snap-in Type,Ultra-Miniatured	•							+85 +85	−40 −25	400 450	10 —	56 to 82000 47 to 470	Black	72
Standard Type	LH7	—	Large Capacitance Type(for PCB Terminal)								+85	−40	200	16	470 to 15000	Black	74
High Reliability Type	L3J	692	105°C,Standard			•					+105 +105	−40 −25	200 400	10 250	120 to 22000 39 to 820	Black	76
High Reliability Type	LPG	692	High-Reliability,High Ripple	•		•		•			+105	−25	400	160	56 to 1800	Brown	78
High Reliability Type	LPH	692	High-Reliability,Ultra-Miniaturized	•		•					+105	−25	450	16	56 to 47000	Brown	80
High Reliability Type	LPT	692	Super Miniaturization,High Ripple	•		•					+105	−25	400	160	82 to 2700	Brown	83
High Reliability Type	LUV	692	105°C,Compatible with VDE			•					+105	−25	250	—	82 to 1000	Brown	85
High Reliability Type	LUH	692	105°C,Durable against Over Voltage			•					+105	−25	400	200	68 to 1500	Brown	87
High Reliability Type	LPX	692	105°C,Ultra-Longevity	•				•			+105	−25	400	160	56 to 1800	Brown	88
For Audio	LPO	692	For Audio(TONEREX)							•	+85	−40	100	16	680 to 10000	Black	89

* Be sure to "Cautions for Using Aluminum Electrolytic Capacitors", before using these products.
* There are overseas factory product only on above table.

■ Environment-friendly Capacitors

We have environment-friendly capacitors in addition to the standard type.
Environment-friendly Capacitors do not contain the lead and polyvinylchloride (PVC) which affect environment.
The product which can respond is as follows.

■ Aluminum electrolytic capacitors

Category		Lead-free and PVC-free	PVC-free
SMD (Chip type)	General type	RV, RV2, RV3, RVB, RVS, RVL, RVH, RVZ, RVK, RYK	Left series and follows. RV4,RT,RTJ,RTH,RTK,RV(over ø12.5), RVJ(over ø12.5), RVK(over ø12.5) Standard type is not using it.
SMD (Chip type)	For audio type	RVO	We can respond in all series. Standard type is not using it.
Small type	General type	RC3, R3S, RB3, RC2, R2S, RB2, RE3, R2B, RJ4, RJ3, RJJ, RJH, RJB, RJF, RK, RLB	We can respond in all series.
Small type	For audio type	RFS, ROS, ROA, ROB, R2O, R2A, R3A, RA2, RA3, RBD	We can respond in all series.
Large type	General type	LP5, LH7, L3J, LPG, LPH, LPT, LUV, LUH, LPX	We can respond in all series.
Large type	For audio type	LPO	We can respond in all series.

■ Tantalum chip capacitors

Category	Lead-free and PVC-free	PVC-free
SMD (Chip type)	SY1, SY2, SY3, SY4, SY5, SY6, SY7, SY8, SYF, SYL	We can respond in all series. Standard type is not using it.

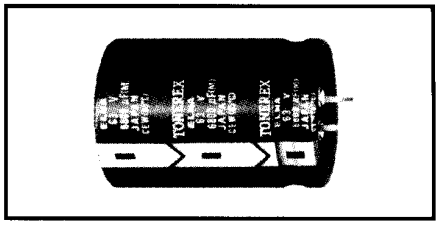
■ Electric double layer capacitors "DYNACAP"

Category	Lead-free and PVC-free	PVC-free
SMD (Chip type)	DC, DCK, DS, DSK	We can respond in all series. Standard type is not using it.
Lead type	DB, DX, DXJ, DK, DH, DZ	We can respond in all series. Standard type is not using it.

* Environment-friendly Capacitors, the color of sleeve may be change from the standard type.
* At "For audio type", if it is made environment-friendly Capacitors, tone quality may change. For details, please ask us.

Power Supply Smoothing Use,Standard Capacitors (Common name : TONEREX) Series LPO

- **Adopting the newly developed formation method and composite electrolytic paper for audio application has reduced distortion, achieving high-quality sound.**
- **Best suited as power supply filters for sound quality priority audio equipment.**
- **Printed circuit board terminal snap-in type.**
- **Gold-printing on a black sleeve. (labeled "TONEREX")**



Marking color : Gold print on a brown sleeve

For audio

LPO ⇦ LP5

Specifications

Item	Performance
Category temperature range (°C)	−40 to +85
Tolerance at rated capacitance (%)	±20 (20°C,120Hz)
Leakage current (μA)	Less than 0.03CV or 5mA whichever is smaller, C: Rated capacitance(μF), V: Rated voltage(V) (20°C)

Tangent of loss angle (tanδ)

tanδ (max.)	Rated voltage(V) \ Frequency(Hz)	CV>200000	CV≤200000
	16 to 25	0.40	0.30
	35 to 42	0.35	0.20
	50 to 100	0.30	0.20

(20°C,120Hz)

Characteristics at high and low temperature

Rated voltage (V)		16 to 35	50 to 100
Impedance ratio (max.)	Z−25°C / Z+20°C	4	3
	Z−40°C / Z+20°C	15	10

(120Hz)

Endurance (85°C) (Applied ripple current)

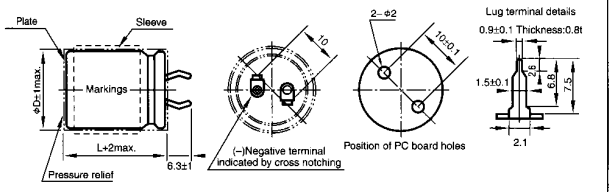
Test time	1000 hours
Leakage current	The initial specified value or less
Percentage of capacitance change	Within ±20% of initial value
Tangent of the loss angle	150% or less of the initial specified value

Shelf life (85°C)	Test time : 500 hours. Other have same as endurance. Voltage application treatment
Applicable standards	JIS C5101-1, -4 1998 (IEC 60384-1 1992, -4 1985)

Outline Drawing

Unit: mm

Printed circuit board snap-in type(Series LPO)



Coefficient of Frequency for Rated Ripple Current

Frequency(Hz) / Rated voltage(V)	50	120	1k	10k	20k
50 or less	0.95	1	1.10	1.15	1.15
63 to 100	0.95	1	1.16	1.30	1.33

Part numbering system (example: 63V6800μF)

Printed circuit board snap-in type	LPO	—	63V	682	MPD	⬚
	Series code		Rated voltage symbol	Rated capacitance symbol		Additional symbol

• The standard ratings are described on the next page.

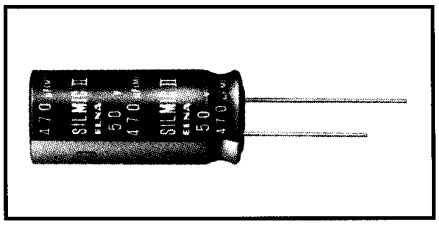
* There are overseas factory product only on this page.

SILMIC series Silk fiber using audio purpose capacitor

- **ELNA developed new raw material for the separate paper which use a silk fibers. Therefore, this capacitor can give you high grade sound for your audio design.**
- **Due to the silk fiber's pliability, the capacitor makes a dream of the high quality sound.**

For examples;

- **To relieve the music's vibration energy.**
- **To decrease the peak feeling sound at high compass and rough quality sound at middle compass.**
- **To increase massive sound at low compass.**
- **For bipolar capacitors, consult with us.**



Marking color : White print on a black sleeve

Miniature High Grade Capacitors for Audio(SILMIC II) Series RFS

- **All lead wires oxygen-free copper for extremely low distortion. (Third high frequency distortion 10kHz,0.1A,-120dB or less)**
- **Vinyl sleeve is of brown finish gold "SILMIC II" mark.**

For higher grade ⇦ For higher grade ⇦ For higher grade

RFS ⇦ ROS ⇦ ROA ⇦ ROB

Specifications

Item	Performance
Category temperature range (°C)	–40 to +85
Tolerance at rated capacitance (%)	±20 (20°C,120Hz)
Leakage current (μA)	Less than 0.01CV or 3 whichever is larger (after 5 minutes) C: Rated capacitance(μF); V: Rated voltage(V) (20°C)
Tangent of loss angle (tanδ)	See table below
Endurance (85°C) (Applied ripple current)	See table below
Shelf life (85°C)	Test time : 1000 hours. Other have same as endurance. Voltage application treatment
Applicable standards	JIS C5101-1, -4 1998 (IEC 60384-1 1992, -4 1985)

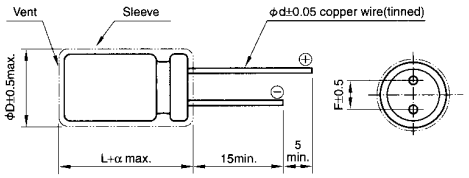
Rated voltage (V)	6.3	10	16	25	35	50	63	100
tanδ (max.)	0.20	0.17	0.13	0.10	0.10	0.08	0.08	0.08

0.02 is added to every 1000μF increase over 1000μF (20°C,120Hz)

Test time	2000 hours (with the polarity inverted every 250 hours)
Leakage current	The initial specified value or less
Percentage of capacitance change	Within ±20% of initial value
Tangent of the loss angle	150% or less of the initial specified value

Outline Drawing

Unit: mm



ø D	5	6.3	8	10	12.5	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
ø d	0.5	0.5	0.6	0.6	0.6	0.8	0.8
α	1.5			1.5 for L16 max. 2.0 for L20 min.			

Coefficient of Frequency for Rated Ripple Current

Rated voltage(V)	Frequency(Hz) / CV(μFxWV)	50 · 60	120	1k	10k	100k
6.3 to 16	All CV value	0.8	1	1.1	1.2	1.2
25 to 35	≤ 1000	0.8	1	1.5	1.7	1.7
	1000 <	0.8	1	1.2	1.3	1.3
50 to 100	≤ 1000	0.8	1	1.6	1.9	1.9
	1000 <	0.8	1	1.2	1.3	1.3

Part numbering system (example: 25V100μF)

RFS	—	25	V	101	M	□□
Series code		Rated voltage symbol		Rated capacitance symbol	Capacitance tolerance symbol	Additional symbol

- The SILMIC series capacitors can be manufactured in larger sizes for power supply smoothing; consult with us.

Case symbol

Case ø DxL(mm)	Casing Symbol	Case ø DxL(mm)	Casing Symbol	Case ø DxL(mm)	Casing Symbol	Case ø DxL(mm)	Casing Symbol
5x11	E3	10x12.5	H3	12.5x20	I 5	16x31.5	J 7
6.3x11	F3	10x16	H4	12.5x25	I 6	16x35.5	J 8
8x11.5	G3	10x20	H5	16x25	J 6	18x35.5	K8
						18x40	K9

Standard Ratings

Rated voltage(V) / Item / Rated capacitance(μF)	6.3 Case ø DxL(mm)	6.3 Rated ripple current mArms	10 Case ø DxL(mm)	10 Rated ripple current mArms	16 Case ø DxL(mm)	16 Rated ripple current mArms	25 Case ø DxL(mm)	25 Rated ripple current mArms	35 Case ø DxL(mm)	35 Rated ripple current mArms	50 Case ø DxL(mm)	50 Rated ripple current mArms	63 Case ø DxL(mm)	63 Rated ripple current mArms	100 Case ø DxL(mm)	100 Rated ripple current mArms
0.47	—	—	—	—	—	—	—	—	—	—	5x11	9	—	—	5x11	10
											6.3x11	12				
1	—	—	—	—	—	—	—	—	—	—	5x11	14	—	—	5x11	20
											6.3x11	18				
2.2	—	—	—	—	—	—	—	—	—	—	5x11	20	5x11	22	5x11	25
											6.3x11	23			6.3x11	30
3.3	—	—	—	—	—	—	—	—	—	—	5x11	25	5x11	30	8x11.5	40
											6.3x11	30				
4.7	—	—	—	—	—	—	5x11	25	5x11	30	5x11	35	5x11	35	10x12.5	60
											6.3x11	40	6.3x11	40		
10	—	—	—	—	5x11	35	5x11	35	5x11	35	8x11.5	75	8x11.5	75	10x16	95
							6.3x11	60	6.3x11	55						
22	—	—	5x11	50	5x11	55	5x11	60	8x11.5	95	10x12.5	130	10x16	140	10x20	155
					6.3x11	70	6.3x11	80								
33	5x11	55	5x11	65	5x11	70	8x11.5	120	10x12.5	140	10x16	175	10x20	190	12.5x20	220
			6.3x11	70	6.3x11	90										
47	5x11	65	5x11	75	8x11.5	125	8x11.5	140	10x12.5	170	10x16	210	10x20	225	12.5x25	285
	6.3x11	80	6.3x11	85												
100	8x11.5	135	8x11.5	145	10x12.5	215	10x16	270	10x20	295	12.5x20	380	12.5x25	415	16x25	485
220	10x12.5	240	10x16	260	10x20	385	12.5x20	505	12.5x25	550	16x25	720	16x31.5	785	18x40	930
330	10x16	290	10x20	350	12.5x20	545	12.5x25	675	16x25	785	16x31.5	965	16x35.5	1010	—	—
470	10x20	390	12.5x20	455	12.5x25	710	16x25	940	16x31.5	1030	16x35.5	1210	18x35.5	1295	—	—
1000	12.5x25	710	16x25	835	16x31.5	1315	16x35.5	1575	18x35.5	1690	18x40	1985	—	—	—	—
2200	—	—	16x35.5	1500	18x40	2150	—	—	—	—	—	—	—	—	—	—
3300	—	—	18x40	1980	—	—	—	—	—	—	—	—	—	—	—	—

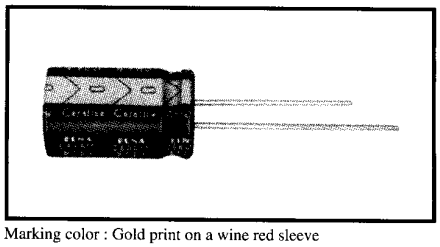
(Note) Rated ripple current : 85°C, 120Hz

NOTE
Design, Specifications are subject to change without notice.
Ask factory for technical specifications before purchase and/or use.

MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS FOR AUDIO ROA

CERAFINE series Fine ceramic adopted electrolytic capacitor for audio

- **This reproduces very clear sound with real concert-hall presence by depressing the generation of electrical noise due to external vibration.**
- **As the charging and discharging speed between the oxidized film of anode and field surface of electrolyte and the variation of potential due to unevenness of fibers of separating paper sheets are improved by the electro-chemical action of super fine particle ceramic, this product realize high grade audio tone with excellent sound resolution power, good rise in the low-pitched sound region and no distortion in the medium and high-pitched sound region.**
- **For bipolar capacitors, consult with us.**



Marking color : Gold print on a wine red sleeve

Standard Capacitors for Audio(Cerafine) Series ROA

For higher grade

ROA ⇦ ROB

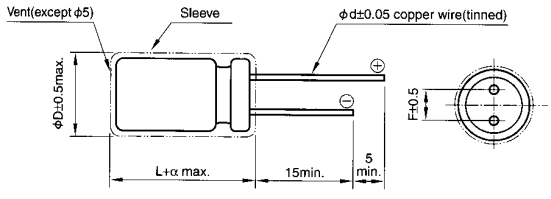
- **All lead wires oxygen-free copper for extremely low distortion. (Third high frequency distortion 10kHz,0.1A,-120dB or less)**
- **Vinyl sleeve is of brown finish gold "SILMIC II" mark.**

Specifications

Item	Performance
Category temperature range (°C)	−40 to +85
Tolerance at rated capacitance (%)	±20 (20°C,120Hz)
Leakage current (μA)	Less than 0.01CV or 3 whichever is larger (after 5 minutes) C: Rated capacitance(μF); V: Rated voltage(V) (20°C)
Tangent of loss angle (tanδ)	Rated voltage (V): 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 100 tanδ (max.): 0.23 / 0.20 / 0.16 / 0.16 / 0.14 / 0.12 / 0.12 / 0.12 0.02 is added to every 1000μF increase over 1000μF (20°C,120Hz)
Endurance (85°C) (Applied ripple current)	Test time: 1000 hours Leakage current: The initial specified value or less Percentage of capacitance change: Within ±20% of initial value Tangent of the loss angle: 150% or less of the initial specified value
Shelf life (85°C)	Test time : 1000 hours. Other have same as endurance. Voltage application treatment
Applicable standards	JIS C5101-1, -4 1998 (IEC 60384-1 1992, -4 1985)

Outline Drawing

Unit: mm



ø D	5	6.3	8	10	12.5	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
ø d	0.5	0.5	0.6	0.6	0.8	0.8	0.8
α	1.5			1.5 for L16 max. 2.0 for L20 min.			

Coefficient of Frequency for Rated Ripple Current

Rated voltage(V)	Frequency(Hz) / CV(μFxWV)	50 · 60	120	1k	10k	100k
6.3 to 16	All CV value	0.8	1	1.1	1.2	1.2
25 to 35	≤ 1000	0.8	1	1.5	1.7	1.7
	1000 <	0.8	1	1.2	1.3	1.3
50 to 100	≤ 1000	0.8	1	1.6	1.9	1.9
	1000 <	0.8	1	1.2	1.3	1.3

Part numbering system (example: 25V100μF)

ROA	—	25	V	101	M	□
Series code		Rated voltage symbol		Rated capacitance symbol	Capacitance tolerance symbol	Additional symbol

Standard Ratings

Rated voltage(V) / Item / Rated capacitance(μF)	6.3 Case ø DxL(mm)	6.3 Rated ripple current mArms	10 Case ø DxL(mm)	10 Rated ripple current mArms	16 Case ø DxL(mm)	16 Rated ripple current mArms	25 Case ø DxL(mm)	25 Rated ripple current mArms	35 Case ø DxL(mm)	35 Rated ripple current mArms	50 Case ø DxL(mm)	50 Rated ripple current mArms	63 Case ø DxL(mm)	63 Rated ripple current mArms	100 Case ø DxL(mm)	100 Rated ripple current mArms
0.47	—	—	—	—	—	—	—	—	—	—	5x11	9	—	—	5x11	9
1	—	—	—	—	—	—	—	—	—	—	5x11	14	—	—	5x11	14
2.2	—	—	—	—	—	—	—	—	—	—	5x11	20	5x11	20	6.3x11	20
3.3	—	—	—	—	—	—	—	—	—	—	5x11	25	5x11	25	8x11.5	30
4.7	—	—	—	—	—	—	5x11	25	5x11	25	6.3x11	35	6.3x11	35	8x11.5	40
10	—	—	—	—	5x11	35	5x11	35	6.3x11	45	6.3x11	50	8x11.5	60	10x12.5	70
22	—	—	5x11	50	6.3x11	65	6.3x11	65	8x11.5	80	10x12.5	105	10x12.5	105	10x20	125
33	5x11	55	6.3x11	70	6.3x11	80	8x11.5	95	10x12.5	120	10x12.5	130	10x16	140	12.5x20	175
47	6.3x11	80	6.3x11	85	8x11.5	110	8x11.5	110	10x12.5	140	10x16	170	10x20	185	12.5x25	230
100	8x11.5	135	8x11.5	145	10x12.5	195	10x16	215	10x20	250	12.5x20	310	12.5x20	310	16x25	395
220	10x12.5	240	10x12.5	260	10x16	320	10x20	350	12.5x25	465	16x25	585	16x31.5	640	18x40	760
330	10x12.5	290	10x16	350	10x20	425	12.5x20	490	16x25	665	16x31.5	785	16x35.5	825	—	—
470	10x16	390	10x20	455	12.5x20	585	12.5x25	640	16x25	795	16x35.5	985	18x35.5	1050	—	—
1000	12.5x20	710	12.5x25	835	16x25	1080	16x31.5	1180	18x35.5	1430	—	—	—	—	—	—
2200	16x25	1280	16x31.5	1500	18x35.5	1870	—	—	—	—	—	—	—	—	—	—
3300	16x31.5	1660	18x35.5	1980	—	—	—	—	—	—	—	—	—	—	—	—
4700	16x35.5	2000	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6800	18x40	2550	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(Note) Rated ripple current : 85°C, 120Hz

NOTE
Design, Specifications are subject to change without notice.
Ask factory for technical specifications before purchase and/or use.

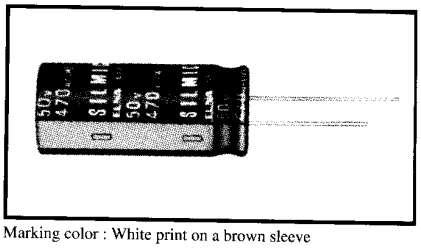
ROS MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS FOR AUDIO

ELNA

■ SILMIC series Silk fiber using audio purpose capacitor

High Grade Capacitors for Audio(SILMIC) Series ROS

- **All lead wires oxygen-free copper for extremely low distortion. (Third high frequency distortion 10kHz,0.1A,-120dB or less)**
- **Vinyl sleeve is of brown finish gold "SILMIC Ⅱ" mark.**



Marking color : White print on a brown sleeve

For higher grade For higher grade

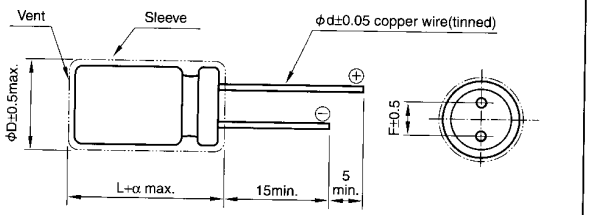
ROS ⇦ ROA ⇦ ROB

Specifications

Item	Performance						
Category temperature range (°C)	−40 to +85						
Tolerance at rated capacitance (%)	±20						(20°C,120Hz)
Leakage current (μA)	Less than 0.01CV or 3 whichever is larger (after 5 minutes) C: Rated capacitance(μF); V: Rated voltage(V)						(20°C)
Tangent of loss angle (tanδ)	Rated voltage (V)	16	25	35	50	63	100
	tanδ (max.)	0.13	0.10	0.10	0.08	0.08	0.08
	0.02 is added to every 1000μF increase over 1000μF						(20°C,120Hz)
Endurance (85°C) (Applied ripple current)	Test time	1000 hours					
	Leakage current	The initial specified value or less					
	Percentage of capacitance change	Within ±20% of initial value					
	Tangent of the loss angle	150% or less of the initial specified value					
Shelf life (85°C)	Test time : 500 hours. Other have same as endurance. Voltage application treatment						
Applicable standards	JIS C5101-1, -4 1998 (IEC 60384-1 1992, -4 1985)						

Outline Drawing

Unit: mm



ø D	6.3	8	10	12.5	16	18	22	25	30
F	2.5	3.5	5.0	5.0	7.5	7.5	10	12.5	15
ø d	0.6	0.6	0.6	0.8	0.8	0.8	1.2	1.2	1.2
α	1.5		1.5 for L16 max. 2.0 for L20 min.				3.0		

• The SILMIC series capacitors can be manufactured in larger sizes for power supply smoothing ; consult with us.

Coefficient of Frequency for Rated Ripple Current

Rated voltage(V)	Frequency(Hz) / CV(μFxWV)	50 · 60	120	1k	10k	100k
16	All CV value	0.80	1	1.1	1.2	1.2
25 to 35	≤ 1000	0.80	1	1.5	1.7	1.7
	1000 <	0.80	1	1.2	1.3	1.3
50 to 100	≤ 1000	0.80	1	1.6	1.9	1.9
	1000 <	0.80	1	1.2	1.3	1.3

Part numbering system (example: 25V100μF)

ROS	—	25	V	101	M
Series code		Rated voltage symbol		Rated capacitance symbol	Capacitance tolerance symbol

Standard Ratings

Rated voltage(V) / Item / Rated capacitance(μF)	16		25		35		50		63		100	
	Case ø DxL(mm)	Rated ripple current mArms	Case ø DxL(mm)	Rated ripple current mArms	Case ø DxL(mm)	Rated ripple current mArms	Case ø DxL(mm)	Rated ripple current mArms	Case ø DxL(mm)	Rated ripple current mArms	Case ø DxL(mm)	Rated ripple current mArms
0.47	—	—	—	—	—	—	—	—	—	—	—	—
1	—	—	—	—	—	—	—	—	—	—	—	—
2.2	—	—	—	—	—	—	—	—	—	—	—	—
3.3	—	—	—	—	—	—	—	—	—	—	6.3x11	25
4.7	—	—	—	—	—	—	—	—	—	—	8x11.5	35
10	—	—	—	—	—	—	6.3x11	40	6.3x11	40	10x12.5	60
22	6.3x11	70	6.3x11	80	6.3x11	55	8x11.5	75	8x11.5	75	10x16	95
33	6.3x11	90	8x11.5	120	8x11.5	95	10x12.5	130	10x16	140	10x20	155
47	8x11.5	125	8x11.5	140	10x12.5	140	10x16	175	10x20	190	12.5x20	220
100	10x12.5	215	10x16	270	10x12.5	170	10x16	210	10x20	225	12.5x25	285
220	10x20	385	12.5x20	505	10x20	295	12.5x20	380	12.5x25	415	16x25	485
330	12.5x20	545	12.5x25	675	12.5x25	550	16x25	720	16x31.5	785	18x40	930
470	12.5x25	710	16x25	940	16x25	785	16x31.5	965	16x35.5	1010	22x35.5	1100
1000	16x31.5	1315	16x35.5	1575	16x31.5	1030	16x35.5	1210	18x35.5	1295	22x40	1350
2200	18x40	2150	22x40	2330	18x35.5	1690	18x40	1985	22x40	1990	25x50	2160
3300	22x40	2390	25x40	2760	25x40	2450	25x50	2830	30x50	3050	—	—
4700	25x40	2820	30x50	3450	25x50	2910	30x50	3380	—	—	—	—

(Note) Rated ripple current : 85°C, 120Hz.

RVO VERTICAL CHIP TYPE ALUMINUM ELECTROLYTIC CAPACITORS FOR AUDIO

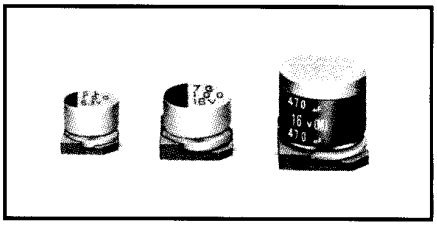
ELNA®

Chip Type Audio Use Capacitors Series RVO (PURECAP)

- **Audio grade surface mount product with completely new components using synthetic mica paper for the separator.**
- **Both quality sense and sound field that could not be realized by the surface mount products are reproducible.**

For higher grade

RVO (PURECAP) ⇦ RVO



Marking color : Black print (except height : 10mm)
White print on a brown sleeve (ø8x10L, ø10x10L)

Specifications

Item	Performance
Category temperature range (°C)	−40 to +85
Tolerance at rated capacitance (%)	±20 (20°C,120Hz)
Leakage current (μA)	Less than 0.01CV or 3 whichever is larger(after 2 minutes) C: Rated capacitance(μF); V: Rated voltage(V) (20°C)

Tangent of loss angle (tanδ)

Rated voltage (V)	6.3	10	16	25	35	50
tanδ (max.)	0.28	0.24	0.20	0.14	0.12	0.10

(20°C,120Hz)

Characteristics at high and low temperature

Rated voltage (V)		6.3	10	16	25	35	50
Impedance ratio (max.)	Z−25°C / Z+20°C	3	3	2	2	2	2
	Z−40°C / Z+20°C	8	5	4	3	3	3

(120Hz)

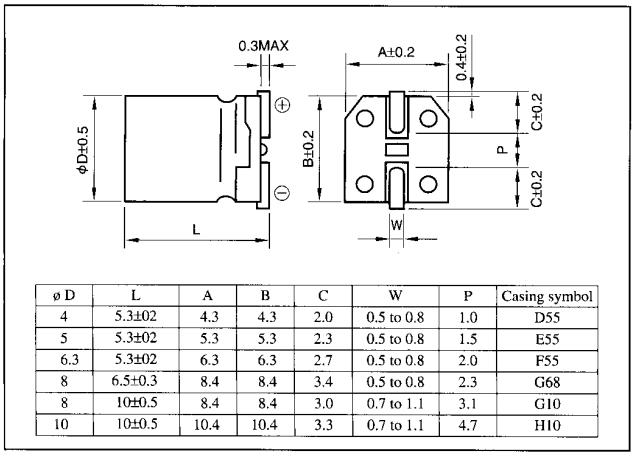
Endurance (85°C) (Applied ripple current)

Test time	2000 hours
Leakage current	The initial specified value or less
Percentage of capacitance change	Within ±20% of initial value
Tangent of the loss angle	200% or less of the initial specified value

Shelf life (85°C)	Test time : 500 hours; other items are the same as those for the endurance. Voltage application treatment
Applicable standards	JIS C5101-1, -18 1998 (IEC 60384-1 1992, -18 1993)

Outline Drawing

Unit: mm



ø D	L	A	B	C	W	P	Casing symbol
4	5.3±02	4.3	4.3	2.0	0.5 to 0.8	1.0	D55
5	5.3±02	5.3	5.3	2.3	0.5 to 0.8	1.5	E55
6.3	5.3±02	6.3	6.3	2.7	0.5 to 0.8	2.0	F55
8	6.5±0.3	8.4	8.4	3.4	0.5 to 0.8	2.3	G68
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

Coefficient of Frequency for Rated Ripple Current

Frequency(Hz) / Rated voltage(V)	50	120	1k	10k · 100k
6.3 to 16	0.80	1	1.15	1.25
25 to 35	0.80	1	1.25	1.40
50	0.80	1	1.35	1.50

Part numbering system (example: 16V470μF)

RVO	—	16	V	471	M	H10	□	—	□
Series code		Rated voltage symbol		Rated capacitance symbol	Capacitance tolerance symbol	Casing symbol	Additional symbol		Taping symbol

• Soldering conditions and land size are described on page 12. The taping spesifications are described on page 13.

Standard Ratings

Rated voltage(V) / Item / Rated capacitance(μF)	6.3		10		16		25		35		50	
	Case ø DxL(mm)	Rated ripple current mArms	Case ø DxL(mm)	Rated ripple current mArms	Case ø DxL(mm)	Rated ripple current mArms	Case ø DxL(mm)	Rated ripple current mArms	Case ø DxL(mm)	Rated ripple current mArms	Case ø DxL(mm)	Rated ripple current mArms
0.1	—	—	—	—	—	—	—	—	—	—	4x5.3	3
0.22	—	—	—	—	—	—	—	—	—	—	4x5.3	5
0.33	—	—	—	—	—	—	—	—	—	—	4x5.3	6
0.47	—	—	—	—	—	—	—	—	—	—	4x5.3	7
1	—	—	—	—	—	—	—	—	—	—	4x5.3	10
2.2	—	—	—	—	—	—	—	—	—	—	4x5.3	15
3.3	—	—	—	—	—	—	—	—	4x5.3	17	4x5.3	19
4.7	—	—	—	—	4x5.3	18	4x5.3	19	4x5.3	20	5x5.3	26
10	—	—	4x5.3	23	4x5.3	26	5x5.3	32	5x5.3	34	6.3x5.3	44
22	4x5.3	31	5x5.3	40	5x5.3	44	6.3x5.3	55	6.3x5.3	59	8x6.5	124
33	5x5.3	44	5x5.3	49	6.3x5.3	63	6.3x5.3	67	8x6.5	124	8x6.5	124
47	5x5.3	53	6.3x5.3	68	6.3x5.3	76	8x6.5	124	8x6.5	124	8x10	200
100	6.3x5.3	90	6.3x5.3	99	8x6.5	124	8x6.5	137	8x10	200	10x10	366
220	8x6.5	149	8x6.5	149	8x10	200	8x10	235	10x10	366	—	—
330	8x6.5	160	8x10	226	8x10	245	10x10	366	—	—	—	—
470	8x10	251	10x10	366	10x10	366	—	—	—	—	—	—
1000	10x10	423	—	—	—	—	—	—	—	—	—	—

(Note) Rated ripple current : 85°C, 120Hz.

NOTE
Design, Specifications are subject to change without notice.
Ask factory for technical specifications before purchase and/or use.