

ORDERING INFORMATION

Please note the order quantity must be in multiples of the minimum quantity.

CONDUCTIVE POLYMER ALUMINUM SOLID ELECTROLYTIC CAPACITORS

Size of product			Bulk				Taping minimum quantity
			Quantity vinyl bag		Minimum quantity		
			Long lead	Lead forming	Long lead	Lead forming	
Chip Type	φ5	6L	—				1,000
	φ6.3	5.5L 6L	—				1,000
		8L	—				900
		10L	—				600
		φ8	7L	—			
	8L		—				900
	10L 10.5L		—				500
	12L		—				400
	φ10	8L 10L 10.5L	—				500
		12.7L 13.2L	—				400
Radial Lead Type	φ6.3	6L	200	4,000	4,000	2,000	
		9L 10.5L		3,000	3,000		
	φ8	7L 8L 9L	200	2,000	3,000	1,000	
		12L		2,000	2,000		
	φ10	8L 10L 13L	200	1,000	2,000	500	

CONDUCTIVE POLYMER ALUMINUM SOLID ELECTROLYTIC CAPACITORS(FPCAP)

Size of product			Bulk				Taping minimum quantity
			Quantity vinyl bag		Minimum quantity		
			Long lead	Lead forming	Long lead	Lead forming	
Chip Type	φ4	5.2L	—				2,000
	φ5	5.7L	—				1,000
	φ6.3	4.2L	—				1,000
		5.7L	—				1,000
		7.7L	—				900
	φ8	6.7L	—				1,000
		7.7L	—				900
		8.7L	—				500
		11.7L	—				500
	φ10	7.7L	—				500
12.4L		—				400	
Radial Lead Type	φ4	5L	200		8,000		—
	φ5	8L 10L	200		3,200	4,000	2,000
	φ6.3	5L 6L 7L	200		4,000		2,000
		8L 10L	200		3,200	4,000	
	φ8	6L 8L 9L	200		3,200	4,000	1,000
		11.5L	100	200	2,000	2,400	
		16L	100		1,600 2,000		
		1,200 1,600					
	φ10	12.5L	100		1,600 2,000		500
		16L			1,200 1,600		
20L		800 1,200					

CONDUCTIVE POLYMER HYBRID ALUMINUM ELECTROLYTIC CAPACITORS

Size of product			Taping minimum quantity
Chip Type	φ6.3	5.8L	1,000
		7.7L	900
	φ8	10L	500
	φ10	10L	500

ALUMINUM ELECTROLYTIC CAPACITORS

Size of product		Bulk				Taping minimum quantity
		Quantity vinyl bag		Minimum quantity		
		Long lead	Lead forming	Long lead	Lead forming	
Chip Type	φ4	—				2,000 (1,500 : 7L product)
	φ5	—				1,000
	φ6.3	—				1,000 (900 : 7.7L product, 800 : 8.7L, 600 : 10L product)
	φ8	5.4 L 6.2 L	—			1,000
		10 L	—			500
	φ10	7.7L 10 L	—			500
		13.5 L	—			400
	φ12.5	13.5 L	—			200
		16 L	—			150
		21 L	—			125
	φ16	16.5 L	—			125
		21.5 L	—			75
	φ18	16.5 L	—			125
		21.5 L	—			75

ALUMINUM ELECTROLYTIC CAPACITORS

Size of product			Bulk				Taping minimum quantity
			Quantity vinyl bag		Minimum quantity		
			Long lead	Lead forming	Long lead	Lead forming	
Radial Lead Type	φ5	11L	200	200	6,000	8,000	2,000
	φ6.3	11L	200	200	4,000	7,000	2,000
		15L			4,000	6,000	
	φ8	11.5L	200	200	3,000	4,000	1,000
		15L			2,000	3,600	
		20L			2,000	2,200	
	φ10	12.5L	200	200	2,000	2,800	500
		15L 16L			1,800	2,000	
		20L			1,400	1,600	
		25L			1,200	1,600	
		31.5L	1,000	1,200	—		
		40L	100	—		500	—
		50L	300	—			
	φ12.5	12.5L	100	100	1,500	1,800	500
		15L			1,200	1,400	
		20L			1,000	1,000 (1330)*	
		25L			800	900 (1000)*	
		31.5L			600	800 (650)*	—
		35.5L			500	700 (650)*	
		40L			400	600 (650)*	
		50L	50	—	400	—	
	φ16	15L	50	50	700	900 (1050)*	250
		20L			600	700 (840)*	
		25L			400	400 (630)*	
		31.5L			300	400 (630)*	—
		35.5L			300	300 (400)*	
		40L	—	300	400		
	φ18	15L	50	50	400	500 (750)*	250
		20L			400	400 (600)*	
		25L			300	400 (450)*	
		31.5L		—	300	450	—
		35.5L			250	300	
		40L 46L	200		300		
	φ20	15L	50	—	300	400	—
		20L			250	400	
		25L			250	300	
		31L			200	300	
		35L			200	200	
		40L			150	200	
	φ22	20L	—		250	250 (400)*	—
		Other Length			250	250	
	φ25	30L	—		160	250	—
		40L			180	250	
		50L			140	250	
	692 Type	φ20 to φ35		50			

()* : Export packaging The minimum packing unit of lead cut product code SZ, may differ from the above. Please confirm before you order.

Eco-Products “GeoCap”

Nichicon promotes environmentally conscious practices.

Nichicon offers “GeoCap”, which has completely lead free terminals and contains no polyvinyl chloride in the sleeve.

Conductive Polymer Aluminum Solid Electrolytic Capacitors

Type · Classification	Type · Series	Lead-Free Compliance	Anti Polyvinyl Chloride Compliance	Page
Surface Mount type	PCF, PCJ, PCK, PCG, PCS, PCL, PCV, PCX, PCR, PCM, PCH, PCZ	Complied	Complied	38 ~
Radial Lead type	PLF, PLE, PLG, PLS, PLV, PLX			62 ~

Conductive Polymer Aluminum Solid Electrolytic Capacitors(FPCAP)

Type · Classification	Type · Series	Lead-Free Compliance	Anti Polyvinyl Chloride Compliance	Page
Surface Mount type	RPS, RPA, RHS, RHA, RSS, RSA, RSB, RFS, RFA, RSL	Complied	Complied	72 ~
Radial Lead type	RNS, RR7, RR5, RL8, RE5, RS8, RF8, RNU, RNE, RNL, RS6, RHT			80 ~

Conductive Polymer Hybrid Aluminum Electrolytic Capacitors

Type · Classification	Type · Series	Lead-Free Compliance	Anti Polyvinyl Chloride Compliance	Page
Surface Mount type	GYA, GYB, GYC, GYD, GYE	Complied	Complied	98 ~

Aluminum Electrolytic Capacitors

Type · Classification	Type · Series	Lead-Free Compliance	Anti Polyvinyl Chloride Compliance	Page
Surface Mount type	UZR, UZG, UZS, UZT, UWX, UWR, UWJ, UWP, UWT, UWZ, UWF, UWG, UUP, UUT, UUA, UUL, UCB, UCW, UCD, UCL, UCM, UCV, UUD, UWD, UUB, UWH, ULT, ULH, UCJ, UCZ, UCH, UCX, UUR, UUX, ULR, ULV, UUQ, UCQ, UUG, UUU, UUN, UUE, UBC, UBH	Complied	Complied	109 ~
Radial Lead type	Standard type			190 ~
	High Reliability type			221 ~
	For special Circuits			289 ~
	For Audio Equipment			293 ~
Snap-in Terminal type	Standard type			306 ~
	High Reliability type			314 ~
	For special circuits			344 ~
Screw Terminal type	LNR, LNX, LNK, LNC, LQR, LNY, LNT, LNU		Available upon request	350 ~
For Audio Equipment	LKG, LKS, LKX		Complied	WEB

Please refer to our website for the details of the series described as “WEB”.

Corresponding to RoHS Directive

		Conductive Polymer Aluminum Solid Electrolytic Capacitors				Conductive Polymer Aluminum Solid Electrolytic Capacitors(FPCAP)		Conductive Polymer Hybrid Aluminum Electrolytic Capacitors
		SMD type (PCV, PCX, PCR, PCM, PCH, PCZ)	Lead wire terminal type (PLV, PLX)	SMD type (PCF, PCJ, PCK, PCG, PCS, PCL	Lead wire terminal type (except PLV, PLX)	SMD type	Lead wire terminal type	SMD type
Corresponding to RoHS Directive		Complied				Complied		Complied
Material	The portion of the components							
Lead (Pb)	Plating on terminals	Sn plating		Ag plating		Sn plating	Sn plating	Sn plating
	Insulating Sleeves	Does not contain				Does not contain		Does not contain
	Construction of terminals	Fe/Cu/Sn		Fe/Cu/Ag or Cu/Ag		Cu/Sn	Cu/Sn or Fe/Cu/Sn	Fe/Cu/Sn
	Resistance to soldering heat	Please refer to page 19 for the recommendation reflow condition.	Correspondence to 265°C flow soldering condition	Please refer to page 19 for the recommendation reflow condition.	Correspondence to 265°C flow soldering condition	Please refer to page 25 for the recommendation reflow condition(FPCAP).	Correspondence to 260°C flow soldering condition	Please refer to page 19 for the recommendation reflow condition.
	Solderability Tensile strength	No significant solderability difference between Sn-Ag-Cu and Sn-Pb solder.				No significant solderability difference between Sn-Ag-Cu and Sn-Pb solder.		No significant solderability difference between Sn-Ag-Cu and Sn-Pb solder.
Chromium (VI)	Plating material	Does not contain				Does not contain		Does not contain
Mercury		Does not contain				Does not contain		Does not contain
Cadmium								
PBB, PBDE								
DIBP, DBP, BBP, DEHP								
Identification for RoHS compliance parts		Add "Pb free" marking on outer carton label				Add "Pb free" marking on outer carton label		Add "Pb free" marking on inner and outer carton label
MSL (IPC/JEDEC J-STD-020D)		Not Applicable				Not Applicable		Not Applicable

		Aluminum Electrolytic Capacitors			
		SMD type	Lead wire terminal type	Snap-in terminal type	Screw terminal type
Corresponding to RoHS Directive		Complied		Complied (Lug terminal type : Available)	Complied
Material	The portion of the components				
Lead (Pb)	Plating on terminals	(< or=Dia.10mm) Change plating from Sn-Pb toSn-Bi	Change plating from Sn-Pb to Sn		Al
		(> or=Dia.12.5mm) Change plating from Sn-Pb to Sn			
	Insulating Sleeves	No used	Replaced with PET		—
	Construction of terminals	Fe/Cu/Sn-1.5Bi (<or=Dia 10mm) Fe/Cu/Sn (>or=Dia 12.5mm)	Fe/Cu/Sn ----- Cu/Sn (UKZ, UFG, UES, UDB)		Al
		Plating thickness 12μm Plating type matte No heat treatment after plating		Plating thickness 10μm Plating type matte No heat treatment after plating	—
	Resistance to soldering heat	Please refer to page 19 for the recommendation reflow condition.	Correspondence to 260°C flow soldering condition		Not Applicable
	Solderability Tensile strength	No significant solderability difference between Sn-Ag-Cu and Sn-Pb solder.			—
Chromium (VI)	Plating material	Does not contain			Available (Chromium(VI) contained in the plating of fixtures)
Mercury		Does not contain			
Cadmium					
PBB, PBDE					
DIBP, DBP, BBP, DEHP					
Identification for RoHS compliance parts		Part numbers are changed Add "Pb-free" marking on inner and outer carton label.	Part numbers are changed Add "Pb-free" and "PVCless" marking on inner and outer carton label.		Part numbers are changed Add "RoHS" marking on outer carton label.
MSL (IPC/JEDEC J-STD-020D)		Not Applicable			

Part Numbering for Pb-free Aluminum Electrolytic Capacitors

■ SMD type

Part Numbers for Pb-free SMD type capacitors represent as follows:

- (1) When certain part numbers are changed because of replacement with Pb-free plated terminals, their 11 digit shows the distinction.

(Example)

1 2 3 4 5 6 7 8 9 10 11 12 13 14
U ZS 1C 100 M CR 1GB (Sn-Pb plated terminals)

1 2 3 4 5 6 7 8 9 10 11 12 13 14
U ZS 1C 100 M CL 1GB (Pb-free plated terminals)

type Series Code Rated Voltage Rated Capacitance Configuration TapingCode(Inclusive case diameter and packing spec)
RoHS compliant

Ⓛ will be put at 11 digit of numbering system

Exception : ※ 10th digit of the part number also need to be changed for the following type-series and case size.
8X6.2 case size of UWF, UUX and UUR : BR to CL
※ UUE, UBC (Vibration Resistance) is only Pb-free and 11th digit the part number change to "S".
※ UCD is only Pb-free. In case of φ12.5 or more: 11th digit the part number change to "Q".

■ Snap-in terminal type

(Example)

1 2 3 4 5 6 7 8 9 10 11 12
L GU 2D 681 M HL A (Sn-Pb plated terminals, PVC sleeve and bottom plate)

1 2 3 4 5 6 7 8 9 10 11 12
L GU 2D 681 M EL A (Pb-free plated terminals, PETsleeve and no bottom plate)

type Series Code Rated Voltage Rated Capacitance Configuration Case dia. code
RoHS compliant

ⓔ will be put at 10 digit of numbering system

■ Lead wire terminal type

Part Numbers for Pb-free type capacitors represent as follows:

- (1) When certain part numbers are changed because of replacement with Pb-free plated leadwire and PVC less, sleeves the 11th digit of the part number represents the distinction.

(Example)

1 2 3 4 5 6 7 8 9 10 11
U VZ 1A 331 M EH (Sn-Pb plated leadwire,PVC sleeve)

1 2 3 4 5 6 7 8 9 10 11
U VZ 1A 331 M ED (Pb-free plated leadwire, PET sleeve)

type Series Code Rated Voltage Rated Capacitance Configuration
RoHS compliant

ⓓ will be put at 11 digit of numbering system

*Configuration code is subject to change by series of case diameter.

■ Screw terminal type

(Example)

1 2 3 4 5 6 7 8 9 10 11 12
L NX 2W 221 M SM G Bracket, Screwbolt, Lock washer (Cr (VI) plating)

1 2 3 4 5 6 7 8 9 10 11 12
L NX 2W 221 M SE G Cr (III) plating

type Series Code Rated Voltage Rated Capacitance Configuration Case dia. code
RoHS compliant

ⓔ will be put at 11 digit of numbering system

Information about "China RoHS 2"

CONDUCTIVE POLYMER ALUMINUM SOLID ELECTROLYTIC CAPACITORS, CONDUCTIVE POLYMER HYBRID ALUMINUM ELECTROLYTIC CAPACITORS
ALUMINUM ELECTROLYTIC CAPACITORS



Type	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (CrVI)	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
P, R, G, U, L	○	○	○	○	○	○
○ : the amount of the hazardous substance indicated inside the homogeneous materials used for this part is below the limit requirement of GB/T 26572-2011 × : the amount of the hazardous substance indicated inside at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572-2011						

ALUMINIUM ELECTROLYTIC CAPACITORS

■ Standardization

Some of the series listed below have been removed from the catalog.

On designing, please select from the new series for your applications.

Type	Contents	Obsoleted Type • Series	New Type • Series	Page
Chip Type	• 3.0mmL, Ultra-Smaller-Sized • 3.95mmL MAX. Bi-Polarized • 4.5mmL, Bi-Polarized • Long Life Assurance • Low Impedance(Low ESR) • For Audio Equipment • High Reliability, Higher Capacitance Range • High C/V	UZD →	UZR	109
		UZE →	UWP	WEB
		UZP →	UWP	WEB
		UUV →	UUL	132
		UUU →	PCF(Polymer)	38
		UUK →	UUQ	301
		UUH →	UUE	185
		UWS →	UUR	169
Miniature Type	• 5mmL, Long Life Assurance • 7mmL, Long Life Assurance • Standard type • Compact & Standard For General Purposes • Low profile Sized, Wide Temperature Range • 12.5mmL height • 12.5mmL, Low profile Sized, Wide Temperature Range • Bi-Polarized, Wide Temperature Range • Miniature Sized, High Ripple Current, High Reliability(105°C 5000h) • Low Impedance, For Switching Power Supplies • Miniature Sized,Low Impedance, For Switching Power Supplies • Low Impedance, High Reliability • Standard, For Switching Power Supplies • Low Impedance, High Reliability • Extremely Low Impedance, High Reliability • Miniature Sized, Low Impedance, High Reliability • Miniature Sized, Low Impedance, High Reliability • Miniature Sized, For Switching Power Supplies • High Temperature Range, For +125°C use • Timer Circuit Use • Memory Back-Up Use • High Grade Type, For Audio Equipment • For General Audio Equipment • For Speaker Network • 5mmL, For Audio Equipment • 7mmL, For Audio Equipment	UMQ →	UMV	—
		USQ • USV →	UUL(Chip)	132
		UVX →	UVR	190
		UVS →	URS	207
		URT →	URZ	210
		URU →	URZ	210
		URY →	※ 1	—
		UET →	UEP	218
		UPB →	※ 1	—
		UPD →	UPM	WEB
		UPE →	UPW	221
		UPF →	UPJ	WEB
		UPR →	UPS	248
		UPY →	UPW	221
		UPL →	UPM	WEB
		UTT →	※ 1	—
		UPQ →	UPV	WEB
		UTS • UTT →	UCW(Chip)	134
		UBD →	UBT	275
		UTM →	※ 1	—
		UJB →	※ 1	—
		UFA • UFS →	UFG	WEB
		UFM • UFX →	UFW	WEB
		UGB →	※ 1	—
		UMC • UMW →	UUQ(Chip)	301
		USK • USW →	UUQ(Chip)	301
Large Can Type	• Snap-in Terminal Type, Standard • Snap-in Terminal Type, Miniature Sized • Horizontal Mounting Type • Snap-in Terminal Type, Wide Temperature Range • Snap-in Terminal Type, Low-Profile Sized, Wide Temperature Range • Snap-in Terminal Type, Long Life, Wide Temperature Range • Wide Temperature Range, Horizontal Mounting Type • Wide Temperature Range, High CV • Screw Terminal Type, Standard • Screw Terminal Type, 85°C High Voltage, For General Inverter • Lug/Snap-in Terminal Type, For Audio Equipment	LLQ • LLU →	LLS	306
		LLN →	LLG	311
		LDM →	※ 2	—
		LGQ →	LGU	314
		LGE →	LGJ, LGJ (15)	329,331
		LGY(160 to 450V) →	LGR, LGZ	336,338
		LDQ →	※ 2	—
		LGK-HH →	※ 3	—
		LNK (350 to 450V) →	LNK	354
		LNW →	LNK	361
		LGS →	LKG	WEB

Please refer to our website for the details of the series described as “WEB”.

※ 1 Please contact us for details.

※ 2 Please contact us if you need horizontal mounting type. (Refer to the Guidelines for Aluminum Electrolytic Capacitors) Please have schematic of dimensions for lead bend.

※ 3 Please contact us if you need multi-terminal-shape. (Refer to the Guidelines for Aluminum Electrolytic Capacitors) Please have schematic of dimensions for lead bend.

■ Matrix for major series

Conductive Polymer Aluminum Solid Electrolytic Capacitors※ (Type:P)

Configuration	Feature	Standard	Low ESR	High Capacitance	Long Life / High Reliability	High Voltage / LongLife	High Voltage / High Reliability	High Capacitance Long Life
Chip type		PCF	PCJ, PCK	PCG	PCS, PCL	PCV	PCX	PCR, PCM, PCH, PCZ
Radial Lead type		PLF	PLE	PLG	PLS	PLV	PLX	—

※ Please contact us about the FPCAP.

Miniature Aluminium Electrolytic Capacitors (Type:U)

Configuration	Feature	Standard (High C / V)	Bi-polarized	Low leakage current	Wide temperature range	For Audio equipment	Low impedance	Long life
Standard type		UVR • UVK	UVP	UKL	UVZ • UVY	UFW	UPA • UPW	ULD
Low Profile		URS	—	—	URZ	—	—	—
Chip type		UZS, UWX, UUR, UUG	UWP, UUN	—	UZT, UWT	UUQ, UCQ	UUD, UCD	UUL, UUU

Large Can Aluminum Electrolytic Capacitors (Type:L)

Configuration	Feature	85°C Product		105°C Product		
		Standard type	Miniature type	Standard type	Miniature type	Long Life
Standard type		LLS	LLG	LGU • LGN	LGG • LGL • LGM	LGJ • LGX • LGR • LGZ
Low Profile		—	—	LGJ	LGJ (15)	—
Permissible abnormal voltage type		—	—	LAK	LAQ • LAS	—



Application Guidelines for Aluminum Electrolytic Capacitors

1. Circuit Design

- (1) When using capacitors, please make sure the application and mounting conditions to which the capacitor will be exposed to are within the conditions specified in catalog or alternate product specification (Referred to as specification here after). The capacitor may be damaged, catch fire, or vent if it is used beyond the specified conditions in the catalog or alternate product specification.
- (2) Operating temperature and applied ripple current shall be within the specification.
 - ① The capacitor shall not be used in an ambient temperature which exceeds the operating temperature specified in the specification.
 - ② Do not apply excessive current which exceeds the allowable ripple current.
- (3) Appropriate capacitors which comply with the life requirement of the products should be selected when designing the circuit.
- (4) Aluminum electrolytic capacitors are polarized. Make sure that no reverse voltage or AC voltage is applied to the capacitors. Please use bi-polar capacitors for a circuit that can possibly see reversed polarity.
Note: Even bi-polar capacitors can not be used for AC voltage application.

- (5) For a circuit that repeats rapid charging / discharging of electricity, an appropriate capacitor that is capable of enduring such a condition must be used. Welding machines and photo flash are a few examples of products that contain such a circuit. In addition, rapid charging / discharging may be repeated in control circuits for servomotors, in which the circuit voltage fluctuates substantially.

For appropriate choice of capacitors for circuit that repeat rapid charging / discharging, please consult Nichicon.

If excess a rush current due to drastic charge/dis-charge was applied to conductive polymer aluminum solid electrolytic capacitors, and conductive polymer hybrid aluminum electrolytic capacitors, it may cause a short circuit or an increase in leakage current. Therefore, Please do not apply a rush current that is larger than 10A.

- (6) Make sure that no excess voltage (that is, higher than the rated voltage) is applied to the capacitor.
 - ① Please pay attention so that the peak voltage, which is DC voltage overlapped by ripple current, will not exceed the rated voltage.
 - ② In the case where more than 2 aluminum electrolytic capacitors are used in series, please make sure that applied voltage will be lower than rated voltage and the voltage be will applied to each capacitor equally using a balancing resistor in parallel with the capacitors.
Please do not use conductive polymer aluminum solid electrolytic capacitors, and conductive polymer hybrid aluminum electrolytic capacitors for the application listed below, since the solid organic polymer aluminum electrolytic capacitor cannot reach its maximum performance.
 - 1) Coupling circuits
 - 2) R-C timing circuit
 - 3) High impedance voltage retention circuit
 - 4) Circuits, which extremely low voltage in compared to the rated voltage is only applied
 - 5) Circuits, which are greatly affected by leakage currents for special use such as multiple parts used in a series, please contact us for recommendations.

- (7) Aluminum electrolytic capacitors must be electrically isolated as follows:

The aluminum case and the cathode foil are connected by the unstable resistance of a naturally formed oxide layer inside the aluminum case and the electrolyte.

- ① (a) Case and negative terminal (except axial leaded part such as JIS configuration 02 type)
(b) Case and positive terminal
(c) Case and circuit pattern
- ② (a) Auxiliary terminal of can type such as JIS style symbol 693, 694 or 695 and negative and positive terminal, including the circuit pattern.
- ③ Case and both terminals of a bi-polarized capacitor.

(8) Outer sleeve of the capacitor is not guaranteed as an electrical insulator. Do not use a standard sleeve on a capacitor in applications that require the electrical insulation. When the application requires special insulation, please contact our sales office for details.

(9) Capacitors may fail if they are used under the following conditions:

① Environmental (climatic) conditions

- (a) Being exposed to water, high temperature & high humidity atmosphere, or condensation of moisture.
- (b) Being exposed to oil or an atmosphere that is filled with particles of oil.
- (c) Being exposed to salty water or an atmosphere that is filled with particles of salt.
- (d) In an atmosphere filled with toxic gasses (such as hydrogen sulfide, sulfurous acid, nitrous acid, chlorine, bromine, methyl bromide, ammonia, etc.).
- (e) Being exposed to direct sunlight, ozone, ultraviolet ray, or radiation.
- (f) Being exposed to acidic or alkaline solutions.

② Under severe conditions where vibration and/or mechanical shock exceed the applicable ranges of the specifications.

(10) When designing a P.C. board, please pay attention to the following:

- ① Have the hole spacing on the P.C. board match the lead spacing of the capacitor.
- ② There should not be any circuit pattern or circuit wire above the capacitor pressure relief vent.
- ③ Unless otherwise specified, following clearance should be made above the pressure relief vent.

Case Diameter	Clearance Required
φ 6.3 to 16mm	2mm or more
φ 18 to 35mm	3mm or more
φ 40mm or more	5mm or more

④ In case the vent side is placed toward P.C. board (such as end seal vented parts), make a corresponding hole on the P.C. board to release the gas when vent is operated. The hole should be made to match the capacitor vent position.

⑤ Screw terminal capacitors must not be installed with the terminals (end seal) facing down. When a screw terminal capacitor is installed in a horizontal position the pressure relief valve and positive terminal must not be in the lowest position.

(11) The main chemical solution of the electrolyte and the separator paper used in the capacitors are combustible. The electrolyte is conductive. When it comes in contact with the P.C. board, there is a possibility of pattern corrosion or short circuit between the circuit pattern which could result in smoking or catching fire.

Do not locate any circuit pattern beneath the capacitor end seal.

(12) Do not design a circuit board so that heat generating components are placed near an aluminum electrolytic capacitor or reverse side of P.C. board (under the capacitor).

(13) Please refer to the pad size layout recommendations in our catalog when designing in surface mount capacitors.

(14) Electrical characteristics may vary depending on changes in temperature and frequency. Please consider this variation when you design circuits.

(15) When you mount capacitors on the double-sided P.C. boards, do not place capacitors on circuit patterns or over on unused holes.

(16) The torque for terminal screw or brackets screws shall be within the specified value on Nichicon's drawings.

(17) When you install more than 2 capacitors in parallel, consider the balance of current flowing through the capacitors. Especially, When a solid conductive polymer aluminum electrolytic capacitors, Conductive polymer hybrid aluminum electrolytic capacitors and a standard aluminum electrolytic capacitors are connected in parallel, special consideration must be given.

(18) If more than 2 aluminum electrolytic capacitors are used in series, make sure the applied voltage will be lower than the rated voltage and that voltage will be applied to each capacitor equally using a balancing resistor in parallel with each capacitor.

2. Mounting

- (1) Once a capacitor has been assembled in the set and power applied, Even if a capacitor is discharged, an electric potential(restriking voltage) may exist between the terminals.
- (2) Electric potential between positive and negative terminal may exist as a result of returned electromotive force, so please discharge the capacitor using a 1k Ω resistor.
- (3) Leakage current of the parts that have been stored for more than 2 years may increase. If leakage current has increased, please perform a voltage treatment using 1k Ω resistor.
- (4) Please confirm ratings before installing capacitors on the P.C. board.
- (5) Please confirm polarity before installing capacitors on the P.C. board.
- (6) Do not drop capacitors on the floor, nor use a capacitor that was dropped.
- (7) Do not damage the capacitor while installing.
- (8) Please confirm that the lead spacing of the capacitor matches the hole spacing of the P.C. board prior to installation.
- (9) Snap-in can type capacitor such as JIS style symbol 692, 693, 694 and 695 type should be installed tightly to the P.C. board (allow no gap between the P.C. board and bottom of the capacitor).
- (10) Please pay attention that the clinch force is not applied on the main body of the capacitor when capacitors are placed and fixed by an automatic insertion machine.
- (11) Please pay attention to that the mechanical shock to the capacitor by suction nozzle of the automatic insertion machine or automatic mounter, or by product checker, or by centering mechanism.
- (12) Hand soldering.
 - ① Soldering condition shall be confirmed to be within the specification.
 - ② If it is necessary that the leads must be formed due to a mismatch of the lead space to hole space on the board, bend the lead prior to soldering without applying too much stress to the capacitor.
 - ③ If you need to remove parts which were soldered, please melt the solder enough so that stress is not applied to lead.
 - ④ Please pay attention so that solder iron does not touch any portion of capacitor body.
- (13) Flow soldering (Wave solder)
 - ① Aluminum capacitor body must not be submerged into the solder bath. Aluminum capacitors must be mounted on the "top side" of the P.C. board and only allow the bottom side of the P.C. board to come in contact with the solder.
 - ② Soldering condition must be confirmed to be within Nichicon specification.
Solder temperature: 260 $\pm$ 5 $^{\circ}$ C Immersing lead time: 10 $\pm$ 1 second, Thickness of P.C. board : 1.6mm.
 - ③ Please avoid having flux adhere to any portion except the terminal.
 - ④ Please avoid contact between other components and the aluminum capacitor.
- (14) Reflow soldering (SMD only)
 - ① Soldering condition must be confirmed to be within Nichicon specification.
 - ② When an infrared heater is used, please pay attention to the extent of heating since the absorption rate of infrared, will vary due to difference in the color of the capacitor body, material of the sleeve and capacitor size.

(15) Soldering flux

There are non-halogen types of flux that do not contain ionic halides, but contain many non-ionic halides. When these non-ionic halides infiltrate the capacitor, they cause a chemical reaction that is just as harmful as the use of cleaning agents. Use soldering flux that does not contain non-ionic halides.

(16) Shrinkage, bulging and/or cracking could be seen on the outer sleeve of the capacitor when capacitors are kept in for more than 2 minutes at 150°C ambient temperature during soldering at reflow process or resin curing process. Applying high temperature gas or heat ray to capacitor can cause the same phenomenon.

(17) Do not tilt lay down or twist the capacitor body after the capacitor are soldered to the P.C. board.

(18) Do not carry the P.C. board by grasping the soldered capacitor.

(19) Please do not allow anything to touch the capacitor after soldering. If P.C. board are stored in a stack, please make sure P.C. board or the other components do not touch the capacitor.

The capacitors shall not be effected by any radiated heat from the soldered P.C. board or other components after soldering.

(20) Recommended Cleaning Condition

Applicable : Any type, any ratings.

Cleaning Agents

Based Alcohol solvent cleaning agent

Isopropyl Alcohol

Based water solvent cleaning agent

• Higher alcohol solvent type

Pine Alpha ST-100S

NEWPOLE B-12

• Surfactant type

Clean Through 750HS, 750HN,
750K, 750J

Cleaning Conditions :

Total cleaning time shall be no greater than 5 minutes by immersion, ultrasonic or other method.

(Temperature of the cleaning agent shall be 60°C maximum.)

After the board cleaning has been completed, the capacitors should be dried using hot air for a minimum of 10 minutes.

If the cleaning solution is infiltrated between the case and the sleeve, the sleeve might soften and swell when hot air temperature is too high. Therefore, hot air temperature should not exceed softening temperature(80°C) of the sleeve.

Insufficient dries after water rinse may cause appearance problems, such as sleeve shrinking, bottom-plate bulging.

In addition, a monitoring of the contamination of cleaning agents (electric conductivity, pH, specific gravity, water content, etc.) must be implemented.

After the cleaning, do not keep the capacitors in an atmosphere containing the cleaning agent or in an air tight container.

In addition regarding jet washing, please use caution since the sleeve may expand cause of the angle and / or the strength of the water jet. Depending on the cleaning method, the marking on a capacitor may be erased or blurred.

Consult Nichicon before using a cleaning method or a cleaning agent other than those recommended.

The use of hydro-chlorofluorocarbon (HCFC) is expected to be banned in the future and Nichicon does not recommend the use of HCFC as a cleaning agent considering its impact on the environment. When it is absolutely necessary to use HCFC, cleaning is possible under the following conditions:

Cleaning Agent		AK-225AES		
Applicable Series	Aluminum Electrolytic Capacitors	Conductive Polymer Aluminum Solid Electrolytic Capacitors※	Chip (SMD) Type	PCF, PCJ, PCK, PCG, PCS, PCL, PCV, PCX, PCR, POM, PCH, PCZ
			Miniature Type	PLF, PLE, PLG, PLS, PLV, PLX
		Conductive Polymer Hybrid Aluminum Electrolytic Capacitors	Chip (SMD) Type	GYA, GYB, GYC, GYD, GYE
		Miniature Type	Chip (SMD) Type	UZR, UZG, UZS, UZT, UWX, UWR, UWJ, UWP, UWT, UWZ, UWF, UWG, UUP, UUT, UUA, UUL, UCB, UCW, UCD, UCL, UCM, UCV, UUD, UWD, UUB(50V or less), UWH, UCJ, UCZ, UCH, UCX, UUR, UUX (100V or less), UUQ, UCQ, UUN, UUE, UBC, UBH, UUG (100V or less), UUU (100V or less)
				UVK (100V or less) UVR (100V or less) UVY (100V or less) UVZ (100V or less) URS (100V or less) URZ (100V or less) UVP, UEP
				UPM (100V or less) UPW (100V or less) UPA, UHV, UHD, UHE, UHW UPJ (100V or less) UPS (100V or less) UPV, UBT (100V or less) UBW, UBY, UXY, UBX (100V or less)
				UKL UVX 02 type (100V or less)
				UKA, UKZ, UFG, UKT, UKW, UFW, UES, UDB
		Large Can Type	Standard Products	LLS (100V or less)
High-Reliability Type	LGU (100V or less) LGY			
Cleaning Conditions		Within 5 minutes, total cleaning time by immersion, vapor spray, or ultrasonic and such. For SMD and ultra-miniature type, within 2 minutes total cleaning time. (Temp. of agent: 40°C or below)		

※ Please contact us about the FPCAP.

(21) Fixing Material and Coating Material

- 1) Do not use any fixing or coating materials, which contain halide substance.
- 2) Remove flux and any contamination, which remains in the gap between the end seal and PC board.
- 3) Please dry the cleaning agent on the PC board before using fixing or coating materials.
- 4) Please do not apply any material all around the end seal when using fixing or coating materials.

There are variations of cleaning agents, fixing and coating materials, so please contact those manufacture or our sales office to make sure that the material would not cause any problems.

(22) Others

When halogen contained in a fumigation agent enters the capacitors, it may chemically react with the electrolytic solution, electrode foil, etc. inside. (Some gases mainly permeate the sealing parts of the capacitors and they enter the capacitors.)

When this chemical reaction progresses further, the capacitors may cause a leakage current failure, opening failure, pressure valve operation, etc. due to the corrosion of the aluminum materials inside.

The capacitors may be fumigated by halogen compounds, such as methyl bromide, when they are exported or being used to protect them against pests.

When fumigating capacitors and devices embedded with capacitors and when using packing materials, such as a pallet, that have been fumigated, be very careful so that the capacitors are not exposed to the halogen atmosphere.

3. In the equipment

- (1) Do not directly touch terminal by hand.
- (2) Do not short between terminals with conductor, nor spill conductible liquid such as alkaline or acidic solution on or near the capacitor.

(3) Please make sure that the ambient conditions where the set is installed not have any of the following conditions:

- ① Being exposed to water, high temperature & high humidity atmosphere, or condensation of moisture.
- ② Being exposed to oil or an atmosphere that is filled with particles of oil.
- ③ Being exposed to salty water or an atmosphere that is filled with particles of salt.
- ④ In an atmosphere filled with toxic gasses (such as hydrogen sulfide, sulfurous acid, nitrous acid, chlorine, bromine, methyl bromide, ammonia, etc.).
- ⑤ Being exposed to acidic or alkaline solutions.
- ⑥ Since shrinkage, bulging and/or crack could be seen on outer sleeve of capacitor when capacitors are used in atmosphere where condensation of moisture occurs, please confirm their adaptation before the use.
The condensation of moisture could occur when temperature cycling test /Rapid change of temperature test is performed, in this case, aforementioned sleeve problem could be seen.

4. Maintenance Inspection

- (1) Please periodically inspect the aluminum capacitors that are installed in industrial equipment. The following items should be checked:
- ① Appearance : Remarkable abnormality such as vent operation, leaking electrolyte etc.
 - ② Electrical characteristic: Capacitance, dielectric loss tangent, leakage current, and items specified in the specification.

5. In an Emergency

- (1) If you see smoke due to operation of safety vent, turn off the main switch or pull out the plug from the outlet.
- (2) Do not bring your face near the capacitor when the pressure relief vent operates. The gasses emitted from that are over 100°C.
If the gas gets into your eyes, please flush your eyes immediately in pure water.
If you breathe the gas, immediately wash out your mouth and throat with water.
Do not ingest electrolyte. If your skin is exposed to electrolyte, please wash it away using soap and water.

6. Storage

- (1) It is recommended to keep capacitors between the ambient temperatures of 5°C to 35°C and a relative humidity of 75% or below.
- (2) Please make sure the ambient storage conditions will be free from the conditions that are listed in clause 1. "Circuit Design" at (9).

In order to maintain the satisfactory soldering condition for conductive polymer aluminum solid electrolytic capacitors, the following items must be strictly adhered to.

- 1) Parts should be stored sealed in a bag until they are actually used.
- 2) Once the sealed bag is cut open, all the parts should be used at one time. If not, then the remaining parts should be placed in a bag and sealed with tape.
- 3) In order to maintain a good solderability of the parts, shelf life of parts should not exceed 1 year.

7. Disposal

(1) Take either of the following methods in disposing of capacitors.

- ① Make a hole in the capacitor body or crush capacitors and incinerate them.
- ② If incineration is not applicable, hand them over to a waste disposal agent and have them buried in a landfill.

(2) When removing a capacitor from the circuit board or when disposing of capacitor please ensure that the capacitor is properly discharged.

8. AEC-Q200 Compatibility

The Automotive Electronics Council (AEC) is an organization created by U.S. automakers and electronic component manufacturers for the standardization of reliability and certification criteria for automotive electronic components. AEC-Q200 is a certification reliability test standard for passive components widely adopted as the standard for electronic components for automotive use in Europe and the United States.

Nichicon provides products that conform to AEC-Q200 requirements. Please contact us for details.

The above mentioned material according to JEITA RCR - 2367D (issued in March, 2019), titled "Safety Application Guide for fixed aluminium electrolytic capacitors for use in electronic equipment".
Please refer to the book for details.

Type numbering system ※1

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Type	Series name		Rated voltage		Rated capacitance		Capacitance tolerance	Configuration	Size code				
Conductive polymer type (CA32,04)	P		Rated voltage (V)	Code	Rated voltage (V)	Code	Cap. tol. (%)	Code					
FPCAP (CA32,04)	R		2.5	0E	125	2B	±10	K					
Hybrid type	G		4	0G	160	2C	±20	M					
			5.5	0L	180	2Z	-10 to +30	Q					
			6.3	0J	200	2D	-10 to +50	T					
Aluminum electrolytic capacitors			10	1A	220	2P	Special	A					
Chip type			16	1C	250	2E							
Radial lead type (CE32,04)	U		20	1D	315	2F							
Aluminum electrolytic capacitors			25	1E	350	2V							
Axial lead type (CE02)	T		35	1V	400	2G							
			50	1H	420	W6							
Aluminum electrolytic capacitors			63	1J	450	2W							
Can type (CE621,622,692,694,695,331)	L		80	1K	500	2H							
			100	2A	550	2L							
			110	2Q	630	2J							

※ Standard capacitance tolerance is ±20%(M), please contact us for any other tolerance requirements.

Miniature Type
Taped, lead cut / formed
Please refer to the Guidelines for Aluminum Electrolytic Capacitors.

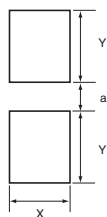
Large Can Type
Specification code

※ 1 Please contact us about the FPCAP part number.

Product type and series names are listed on the top left of the individual specification pages.

Surface Mount Type

Recommended Land Size (mm)



Size	X	Y	a
φ4	1.6	2.6	1.0
φ5	1.6	3.0	1.4
φ6.3	1.6	3.5	1.9
φ8×5.4L, φ8×6.2L	2.5	4.0	2.1
φ8×10L	2.5	3.5	3.0
φ10	2.5	4.0	4.0
Perpendicularly mounted terminal type			
Size	X	Y	a
φ12.5	2.0	7.3	3.0
φ16	2.0	7.9	5.3
φ18	2.0	8.9	5.3

※ Chip product of φ12.5 or larger where the 11th digit of the product number code is "Q" or "J".

Conductive polymer aluminum solid electrolytic capacitors

Size	X	Y	a
φ5	1.6	3.0	1.4
φ6.3	1.6	3.5	2.1
φ8	2.0	3.5	3.0
φ10	2.0	4.0	4.0

Conductive polymer aluminum solid electrolytic capacitors (RPS, RPA, RHS, RHA, RSS, RSA, RSB, RFS, RFA, RSL) (mm)

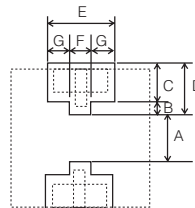
Size	X	Y	a
φ4	1.6	2.6	1.0
φ5	1.6	3.0	1.4
φ6.3	1.6	3.5	2.1
φ8	1.9	4.2	2.8
φ10	1.9	4.4	4.3

Vibration Resistance Type (UCZ, UCH, UCX, UUE, UBC, UBH)

① φ6.3 to 10

Size	X	Y	a
φ6.3×7.7L	3.0	4.0	1.6
φ6.3×10 L	3.0	4.0	1.6
φ8×10 L	4.3	5.3	2.0
φ10×10 L	4.3	5.6	3.3

② φ12.5 to 18



Size	A	B	C	D	E	F	G
φ12.5	3.0	2.3	5.0	7.3	7.0	2.0	2.5
φ16	5.3	2.9	5.0	7.9	7.0	2.0	2.5
φ18	5.3	3.1	5.8	8.9	11.0	2.0	4.5

Conductive polymer aluminum solid electrolytic capacitors Vibration Resistance Type (PCX, PCR, PCM, PCH, PCZ)

Size	X	Y	a
φ6.3×8L	3.0	4.0	1.6
φ8×10.5L	4.3	5.3	2.0
φ10×10.5L	4.3	5.6	3.3
φ10×13.2L	4.3	5.6	3.3

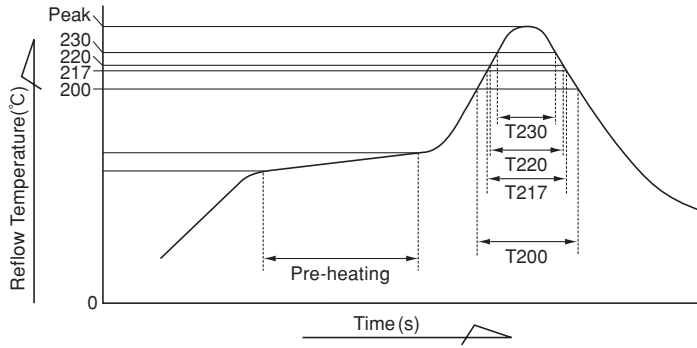
Conductive polymer hybrid aluminum electrolytic capacitors (GYA, GYB, GYC, GYD, GYE)

Size	X	Y	a
φ6.3	1.6	3.5	1.9
φ8	2.5	3.5	3.0
φ10	2.5	4.0	4.0

Conductive polymer hybrid aluminum electrolytic capacitors Vibration Resistance Type

Size	X	Y	a
φ6.3×7.7L	3.0	4.0	1.6
φ8×10 L	4.3	5.3	2.0
φ10×10 L	4.3	5.6	3.3

■ Recommended conditions of Soldering by Reflow



T200 : Duration for over +200°C at capacitor surface.

T217 : Duration for over +217°C at capacitor surface.

T220 : Duration for over +220°C at capacitor surface.

T230 : Duration for over +230°C at capacitor surface.

The temperature measuring point is at the case top.

Please contact us if capacitors are subject to the conditions other than the allowable range of reflow.

No.	Type · Series	Size	Pre-heating	Peak temperature	Duration over 230°C	Duration over 220°C	Duration over 217°C	Duration over 200°C	Reflow cycle
1	Chip Type Conductive Polymer Aluminum Solid Electrolytic Capacitors (PCF, PCJ, PCK, PCG, PCS, PCL, PCV, PCX, PCR, PCM, PCH, PCZ)	—	+150°C to 200°C from 60 to 180s	260°C Max.	within 60s	—	within 70s	—	1 cycle only (within 2 cycles ^{※5} for series ^{※4})
		—		250°C Max.	within 60s	—	within 70s	—	within 2 cycles ^{※5}
2	Conductive Polymer Hybrid Aluminum Electrolytic Capacitors (GYA, GYB, GYC, GYD, GYE)	—		260°C Max.	within 40s	—	within 50s	—	1 cycle only
		—		250°C Max.	within 30s	—	within 40s	—	within 2 cycles ^{※5}
3	Chip Type Aluminum Electrolytic Capacitors (UZS, UZT, UWX ^{※1} , UWR, UWP ^{※1} , UWT ^{※1} , UWF, UWG, UUP, UUT, UUA, UUL, UCB, UCW, UCD ^{※2} , UCL, UCM ^{※2} , UCV, UUD, UUB ^{※3} , UCJ, UCZ ^{※2} , UCH, UCX ^{※2} , UUR, UUX ^{※3} , UUU, UCQ, UUE ^{※2} , UBC ^{※2} , UBH)	~ φ10	+150°C to 180°C within 120s	250°C Max.	within 30s	—	within 40s	—	within 2 cycles ^{※5}
4	Chip Type Aluminum Electrolytic Capacitors (UWX, UWP, UWT)	φ8×5.4L		245°C Max.	—	within 30s	within 30s	—	within 2 cycles ^{※5}
5	Chip Type Aluminum Electrolytic Capacitors (UZR, UZG)	3.9L		240°C Max.	—	within 30s	within 30s	—	within 2 cycles ^{※5} (φ6.3: 1 cycle only)
6	Chip Type Aluminum Electrolytic Capacitors (UUX (160-400V), UUB (160-400V), ULT, ULH, ULR, ULV)	~ φ10		240°C Max.	—	within 30s	within 30s	—	within 2 cycles ^{※5}
7	Chip Type Aluminum Electrolytic Capacitors (UCD, UCM, UCZ, UCX, UUG, UUU, UUN, UUE, UBC)	φ12.5 ~		240°C Max.	—	—	within 30s	within 60s	within 2 cycles ^{※5}
8	Chip Type Aluminum Electrolytic Capacitors ^{※6} (UWJ, UWZ, UWD, UWH)	—		260°C Max.	within 60s	—	within 70s	—	within 2 cycles ^{※5} (φ8×6.2L and φ10×10L: 1 cycle only)

s=seconds

※1: For φ8×5.4L, please refer to the No.4.

※2: For φ12.5 or greater, please refer to the No.7.

※3: For 160~400V, please refer to the No.6.

※4: Including PCR, PCM, PCH and PCZ.

※5: Please make sure the parts have enough cooling down time between the first and second soldering process.

※6: For High Temp. Reflow.

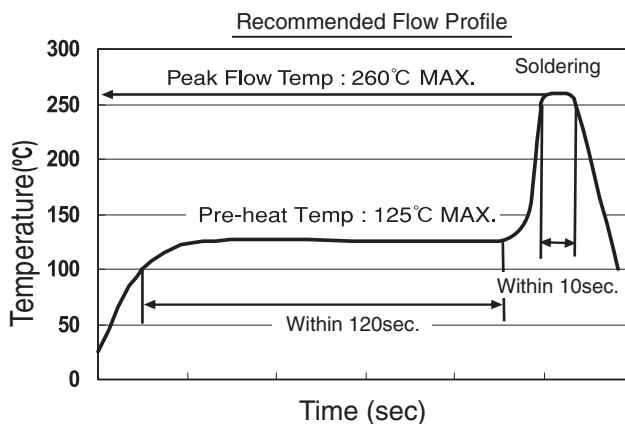
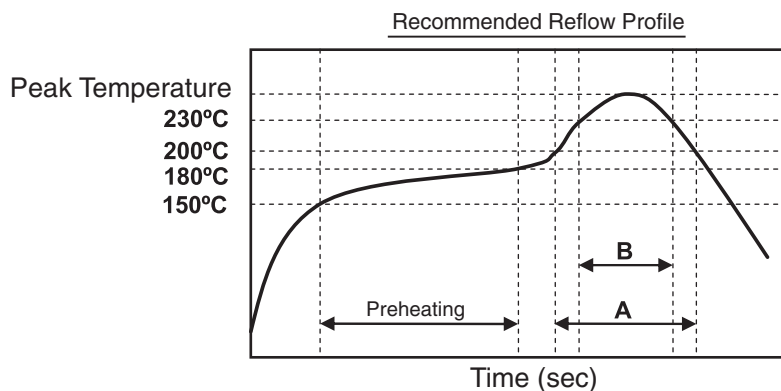
ESR. Impedance Measuring Point

Radial lead type

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

Chip type

ESR should be measured at both of the terminal ends closest where the terminals protrude through the plastic platform.

FPCAP Lead free and RoHS directive compliant soldering requirements**Flow Soldering(Radial Lead Type)***RNS, RR7, RR5, RL8, RE5, RS8, RF8, RNU, RNE, RNL, RS6, RHT***Reflow Soldering(SMD Type)***RPS, RPA, RHS, RHA, RSS, RSA, RSB, RFS, RFA, RSL*

Item	Recommended Condition 1	Recommended Condition 2
Peak Temperature	260°C MAX.	250°C MAX.
Preheating	150°C to 180°C within 90 seconds	150°C to 180°C within 90 seconds
A	200°C and higher within 60 seconds	200°C and higher within 60 seconds
B	230°C and higher within 40 seconds	230°C and higher within 40 seconds
The Number of Reflow	Only 1 time	Twice or less

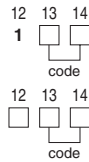
※Trimmed (Cut) or Formed Leads

※Please refer to FPCAP Lead Forming about the FPCAP product spec.

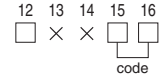
● Radial lead type

In order to identify correct part number for the processed lead product, cut/formed lead code must be added to bulk part number.

- If the bulk part number is up to 11th digit, processed lead coding shall be as follows:



- In case 12th digit is alphabet, it shall be:



- In case 12th digit is numeral, it shall be:



Configurations	Cut / Formed lead code	Dimensions (mm)				Lead configurations
	Code	φD	F	L	ℓ	
Forming and cutting	F A	5	5	5.0	—	
		6.3			—	
		8			—	
	F V	5	5	3.5	—	
		6.3			—	
		8			—	
Forming and cutting	S Z	10	5	3.2	—	
		12.5			—	
		16	7.5		—	
		18			—	
Cutting	C A	5	2.0	5.0	—	
		6.3	2.5		—	
		8	3.5		—	
		10	5		—	
		12.5			—	
		16	7.5		—	
		18			—	
		20	10		—	
		22			—	
	25	12.5	—			
	C P	Same as above.		4.5	—	
	C C	Same as above.		4.0	—	
	C V	Same as above.		3.5	—	
	C T	Same as above.		3.2	—	
C M	Same as above.		3.0	—		
Snap-in	A A	5	5	4.5	1.1	
		6.3			1.3	
		8			1.3	
		10	5	4.5	1.3	
		12.5			1.3	
		16			1.3	
		18	7.5	4.5	1.3	
		20			1.3	
		22			1.3	
		25	10	5.0	1.8	
		25			1.8	

● Conductive polymer aluminum solid electrolytic capacitors : Cutting configurations only

*Lead diameter (φd) and lead pitch (P) are subject to capacitor specifications.

End seal Configuration

※Please contact us about the FPCAP.

Configuration	※1				
φ(mm)	—	5 · 6.3	8 · 10	12.5 · 16 · 18	20 · 22 · 25

Exception : φ6.3 × 6mmL, φ6.3 × 9mmL, φ8 × 7mmL, φ8 × 9mmL, φ10 × 8mmL, φ10 × 10mmL size of PLF*, PLE*, PLG*, PLS*, PLV*, PLX*, UPV

[9] will be put at 12th digit of type numbering system of UCS, UPZ : configuration ※1

*Conductive polymer aluminum solid electrolytic capacitors

※Taped Leads for Automatic Insertion Systems

※Please refer to FPCAP Taped Leads for Automatic Insertion Systems about the FPCAP product spec.

- Radial lead type (Applicable standard JIS C0806-2)
In order to identify correct part number for the taped product, taping code must be added.

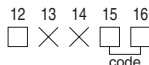
- If the bulk part number is up to 11th digit, taping code shall be as follows: 12 13 14



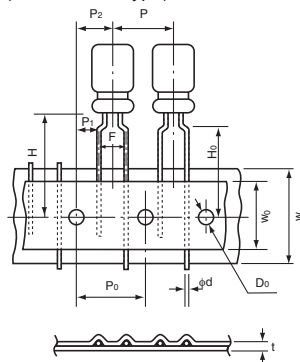
- In case 12th digit is numeral, it shall be 12 13 14



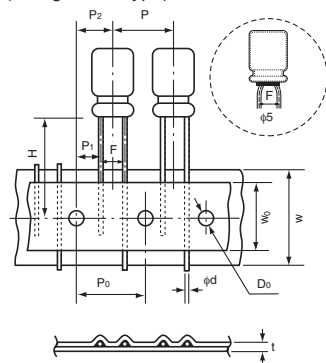
- In case 12th digit is alphabet, it shall be 12 13 14 15 16



(Formed lead type)



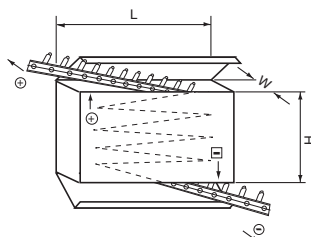
(Straight lead type)



- Special taping specifications on H, F, and K. dimensions other than the above figures are available upon request.
- Conductive polymer aluminum solid electrolytic capacitors : Straight lead type only
- Only the above mentioned dimensions are specified.

Packaging

- Ammo-pack (Flat box type)



Specifications				Capacitor diameter (ϕ)	Taping code	
Packaging	Lead style	F	P ₀		Code	Applicable size
Ammo-pack	Formed lead	See Table 1	12.7	5 to 8	TA	ϕ5×11 to ϕ8×20
	Straight lead	See Table 2	12.7	5 to 10	TP, TD	ϕ6.3×6※ ϕ5×11, ϕ6.3×9 or more, ϕ8×7 or more, ϕ10×8 to 25
		See Table 2	15.0	12.5	TO	ϕ12.5×12.5 to 25
		See Table 2	15.0	16, 18	TN	ϕ16×15 to 25, ϕ18×15 to 25

Notes: ※ Conductive polymer aluminum solid electrolytic capacitors

Table 1

Item		Tolerance	Case Size	
			Formed Lead Type	Case dia (ϕ) × Length (L)
			ϕ5 × 11 ϕ6.3 × 11 ϕ6.3 × 15	ϕ8 × 11.5 ϕ8 × 15 ϕ8 × 20
			TA	TA
ϕd	Lead-wire diameter	±0.05	0.5	0.6
P	Pitch of component	±1.0	12.7	12.7
P ₀	Feed hole pitch	±0.2	12.7	12.7
P ₁	Hole center to lead	±0.5	3.85	3.85
P ₂	Feed hole center to component center	±1.0	6.35	6.35
F	Lead-to-lead distance	+0.8 -0.2	5.0	5.0
H	Height of component from tape center	±0.75	18.5	20.0
H ₀	Lead-wire clinch height	±0.5	16.0	16.0
W	Tape Width	±0.5	18.0	18.0
W ₀	Hold down tape width	MIN.	7.0	7.0
ϕD ₀	Feed hole diameter	±0.2	4.0	4.0
t	Total tape thickness	±0.2	0.6	0.6

Table 2

Item		Tolerance	Case Size		Straight Lead Type						
			ϕ5	ϕ6.3	ϕ8 × 7	Case dia (ϕ) × Length (L)					
						ϕ8	ϕ10	ϕ12.5	ϕ16	ϕ18	
			TD	TP, TD	TD	TD	TD	TD	TO	TN	
ϕd	Lead-wire diameter	±0.05	0.5, 0.6	0.45 0.5, 0.6	0.5	0.6	0.6	0.6	0.6	0.8	
P	Pitch of component	±1.0	12.7	12.7	12.7	12.7	12.7	15.0	30.0		
P ₀	Feed hole pitch	±0.2	12.7	12.7	12.7	12.7	12.7	15.0	15.0		
P ₁	Hole center to lead	±0.5	5.1 (※1 5.35)	5.1	4.6	4.6	3.85	5.0	3.75		
P ₂	Feed hole center to component center	±1.0	6.35	6.35	6.35	6.35	6.35	7.5	7.5		
F	Lead-to-lead distance	+0.8 -0.2	2.5※1	2.5	3.5	3.5	5.0	5.0	7.5※2		
H	Height of component from tape center	±0.75	18.5	18.5	18.5	18.5	18.5	18.5	18.5		
W	Tape Width	±0.5	18.0	18.0	18.0	18.0	18.0	18.0	18.0		
W ₀	Hold down tape width	MIN.	7.0	7.0	7.0	7.0	7.0	12.5	12.5		
ϕD ₀	Feed hole diameter	±0.2	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
t	Total tape thickness	±0.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6		

Notes: ※ 1 F = 2.0mm is also available, provided Taping code to be T[C].

※ 2 Tolerance on F for ϕ16 and ϕ18 units shall be ±0.8mm.

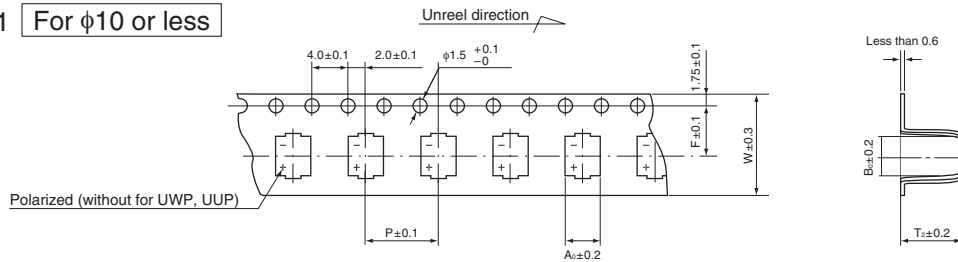
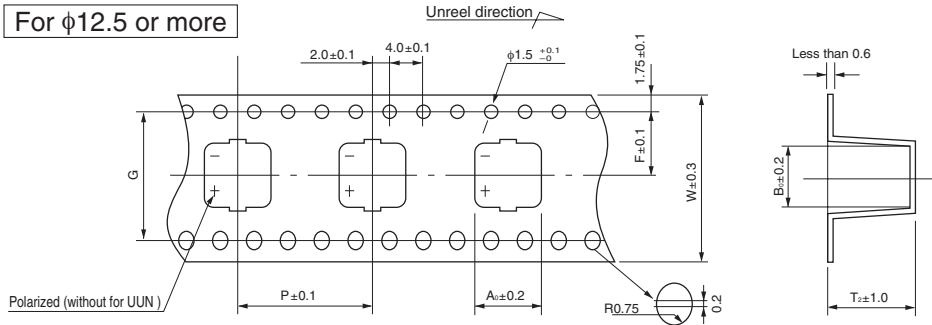
L	H	W	Case Size (ϕD × L)	Q'ty / Box
340	250	50	8 × 7, 8 × 8	1,000
340	300	50	6.3 × 6	2,000
340	260	54	5 × 11	2,000
			8 × 9, 8 × 10, 8 × 11.5, 8 × 12, 8 × 15	1,000
340	200	54	10 × 8, 10 × 9, 10 × 10, 10 × 12.5, 10 × 13, 10 × 15, 10 × 16	500
340	300	54	6.3 × 9, 6.3 × 10.5, 6.3 × 11, 6.3 × 15	2,000
340	260	62	8 × 20	1,000
340	200	62	10 × 20	500
340	200	65	10 × 25	500
330	290	65	12.5 × 12.5, 12.5 × 15, 12.5 × 20	500
			12.5 × 25	
320	230	65	18 × 15, 18 × 20, 18 × 25	250
			16 × 15, 16 × 20, 16 × 25	250

■ Taping Specifications for Chip Type Capacitors

※ Please refer to FPCAP Taping Specifications for Chip Type about the FPCAP product spec.

● Carrier tape

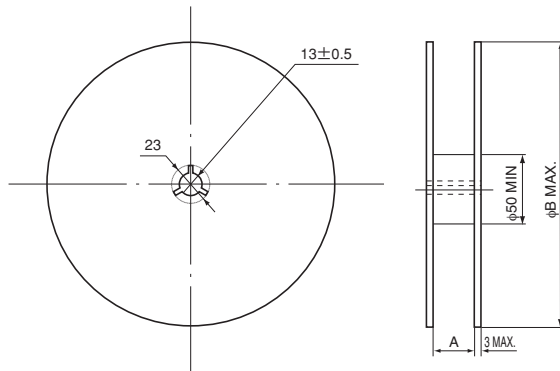
(mm)

Fig.1 For $\phi 10$ or lessFig.2 For $\phi 12.5$ or more

Size	Item							fig.	Type - Series
	W	P	F	A ₀	B ₀	T ₂	G		
$\phi 5 \times 6$ L	12.0	12.0	5.5	5.7	5.7	6.3	—	1	PCF, PCJ, PCK, PCG, PCS, PCL, PCV, PCX, PCR, PCM, PCH, PCZ (Conductive Polymer Aluminum Solid Electrolytic Capacitors)
$\phi 6.3 \times 5.5$ L	16.0	12.0	7.5	7.0	7.0	5.7			
$\phi 6.3 \times 6$ L	16.0	12.0	7.5	7.0	7.0	6.3			
$\phi 6.3 \times 8$ L	16.0	12.0	7.5	7.0	7.0	8.2			
$\phi 8 \times 7$ L	24.0	12.0	11.5	8.7	8.7	7.3			
$\phi 8 \times 8$ L	24.0	12.0	11.5	8.7	8.7	8.3			
$\phi 8 \times 10$ L	24.0	16.0	11.5	8.7	8.7	11.0			
$\phi 8 \times 10.5$ L	24.0	16.0	11.5	8.7	8.7	11.0			
$\phi 8 \times 12$ L	24.0	16.0	11.5	8.7	8.7	12.3			
$\phi 10 \times 8$ L	24.0	16.0	11.5	10.7	10.7	8.3			
$\phi 10 \times 10$ L	24.0	16.0	11.5	10.7	10.7	11.0			
$\phi 10 \times 10.5$ L	24.0	16.0	11.5	10.7	10.7	11.0			
$\phi 10 \times 12.7$ L	24.0	16.0	11.5	10.7	10.7	12.8	—	1	GYA, GYB, GYC, GYD, GYE (Conductive Polymer Hybrid Aluminum Electrolytic Capacitors)
$\phi 10 \times 13.2$ L	24.0	16.0	11.5	10.7	10.7	13.5			
$\phi 6.3 \times 5.8$ L	16.0	12.0	7.5	7.0	7.0	6.3			
$\phi 6.3 \times 7.7$ L	16.0	12.0	7.5	7.0	7.0	8.0	—	1	UZR, UZG
$\phi 8 \times 10$ L	24.0	16.0	11.5	8.7	8.7	11.0			
$\phi 10 \times 10$ L	24.0	16.0	11.5	10.7	10.7	11.0			
$\phi 4 \times 3.9$ L	12.0	8.0	5.5	4.7	4.7	4.3	—	1	UZS, UZT, UCQ
$\phi 5 \times 3.9$ L	12.0	12.0	5.5	5.7	5.7	4.3			
$\phi 6.3 \times 3.9$ L	16.0	12.0	7.5	7.0	7.0	4.4			
$\phi 4 \times 4.5$ L	12.0	8.0	5.5	4.7	4.7	4.9	—	1	UWX, UWR, UWJ, UWP, UWT, UWZ, UWF, UWG, UUQ
$\phi 5 \times 4.5$ L	12.0	12.0	5.5	5.7	5.7	4.9			
$\phi 6.3 \times 4.5$ L	16.0	12.0	7.5	7.0	7.0	5.0			
$\phi 4 \times 5.4$ L	12.0	8.0	5.5	4.7	4.7	5.8	—	1	UWT, UWZ, UUT, UUP, UCD, UCL, UCM, UUD, UWD, UCZ, UUR, UUA, UUL, UCQ
$\phi 5 \times 5.4$ L	12.0	12.0	5.5	5.7	5.7	5.8			
$\phi 6.3 \times 5.4$ L	16.0	12.0	7.5	7.0	7.0	5.8			
$\phi 8 \times 5.4$ L	16.0	12.0	7.5	8.7	8.7	5.8	—	1	UWT, UWZ, UUT, UUP, UCD, UCL, UCM, UUD, UWD, UCZ, UUR, UUA, UUL, UCQ
$\phi 4 \times 5.8$ L	12.0	8.0	5.5	4.7	4.7	6.3			
$\phi 5 \times 5.8$ L	12.0	12.0	5.5	5.7	5.7	6.3			
$\phi 6.3 \times 5.8$ L	16.0	12.0	7.5	7.0	7.0	6.3	—	1	UWT, UWZ, UUT, UUP, UCD, UCL, UCM, UUD, UWD, UCZ, UUR, UUA, UUL, UCQ
$\phi 4 \times 7$ L	12.0	8.0	5.5	4.7	4.7	7.5			
$\phi 5 \times 7$ L	16.0	12.0	7.5	5.7	5.7	7.5			
$\phi 6.3 \times 7$ L	16.0	12.0	7.5	7.0	7.0	7.5			
$\phi 6.3 \times 7.7$ L	16.0	12.0	7.5	7.0	7.0	8.0			
$\phi 6.3 \times 8.7$ L	16.0	12.0	7.5	7.0	7.0	9.1			
$\phi 6.3 \times 10$ L	16.0	12.0	7.5	7.0	7.0	11.4			
$\phi 8 \times 6.2$ L	16.0	12.0	7.5	8.7	8.7	6.8			
$\phi 8 \times 10$ L	24.0	16.0	11.5	8.7	8.7	11.0			
$\phi 10 \times 7.7$ L	24.0	16.0	11.5	10.7	10.7	8.4			
$\phi 10 \times 10$ L	24.0	16.0	11.5	10.7	10.7	11.0			
$\phi 10 \times 13.5$ L	24.0	16.0	11.5	10.7	10.7	14.1			
$\phi 12.5 \times 13.5$ L	32.0	24.0	14.2	14.0	14.0	14.0	28.4	2	UCD, UCM, UCZ, UCX, UUG, UUI, UUN, UUE, UBC
$\phi 12.5 \times 16$ L	32.0	24.0	14.2	14.0	14.0	16.3	28.4		
$\phi 12.5 \times 21$ L	32.0	24.0	14.2	14.0	14.0	21.3	28.4		
$\phi 16 \times 16.5$ L	44.0	28.0	20.2	17.5	17.5	16.8	40.4		
$\phi 16 \times 21.5$ L	44.0	28.0	20.2	17.5	17.5	21.8	40.4		
$\phi 18 \times 16.5$ L	44.0	32.0	20.2	19.5	19.5	16.8	40.4		
$\phi 18 \times 21.5$ L	44.0	32.0	20.2	19.5	19.5	21.8	40.4		

- Reel ※ Please refer to FPCAP Taping Specifications for Chip Type about the FPCAP product spec.

(mm)



Package quantity

$\phi D, \phi D \times L$	Q'ty / reel
4	2,000pcs.
4 × 7	1,500pcs.
5, 6.3	1,000pcs.
6.3 × 7.7, 6.3 × 8, 8 × 8	900pcs.
6.3 × 8.7	800pcs.
6.3 × 10	600pcs.
8 × 5.4, 8 × 6.2, 8 × 7	1,000pcs.
8 × 10, 8 × 10.5, 10 × 7.7, 10 × 8, 10 × 10, 10 × 10.5	500pcs.
8 × 12, 10 × 12.7, 10 × 13.2, 10 × 13.5	400pcs.
12.5 × 13.5	200pcs.
12.5 × 16	150pcs.
12.5 × 21, 16 × 16.5, 18 × 16.5	125pcs.
16 × 21.5, 18 × 21.5	75pcs.

Conductive Polymer Aluminum Solid Electrolytic Capacitors

ϕD	5	6.3	8	10
A	14	18		26
B			382	

Conductive Polymer Hybrid Aluminum Electrolytic Capacitors

ϕD	6.3	8	10
A	18		26
B			382

Aluminum Electrolytic Capacitors

ϕD	4	5×3, 5×3.9, 5×4.5, 5×5.4, 5×5.8	5×7	6.3	8×5.4, 8×6.2	8×7, 8×10, 10×7.7, 10×8, 10×10, 10×13.5	12.5	16, 18
A	14	14	18	18	18	26	34	46
B	382	382	382	382	382	382	332	332

Optional tray packaging for chip type ($\phi 12.5$ to $\phi 18$) available upon request, please ask for details.

FPCAP Lead forming (Radial lead type)*RNS, RR7, RR5, RL8, RE5, RS8, RF8, RNU, RNE, RNL, RS6, RHT***Components are packaged as per following packing unit.**

● Packing Quantity (Bulk)

Case Size $\phi D \times L$ (mm)	Long Lead		Cut Lead	
	Quantity vinyl bag (PCS)	Minimum quantity (PCS / Carton Box)	Quantity vinyl bag (PCS)	Minimum quantity (PCS / Carton Box)
$\phi 4 \times 5$	200	8,000	200	8,000
$\phi 5 \times 8, \phi 5 \times 10$	200	3,200	200	4,000
$\phi 6.3 \times 5, \phi 6.3 \times 6, \phi 6.3 \times 7$	200	4,000	200	4,000
$\phi 6.3 \times 8, \phi 6.3 \times 10$	200	3,200	200	4,000
$\phi 8 \times 6, \phi 8 \times 8, \phi 8 \times 9$	200	3,200	200	4,000
$\phi 8 \times 11.5$	100	2,000	200	2,400
$\phi 8 \times 16$	100	1,600	100	2,000
$\phi 8 \times 20$	100	1,200	100	1,600
$\phi 10 \times 12.5$	100	1,600	100	2,000
$\phi 10 \times 16$	100	1,200	100	1,600
$\phi 10 \times 20$	100	800	100	1,200

Please note the order quantity must be in multiples of the minimum quantity.

● Bulk Long Lead Part Number

Nichicon P/N : R□□□□□□ M□□□ □

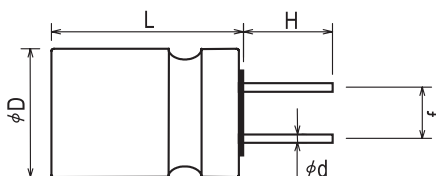
FPCAP P/N : FP- □□□RE□□□M- □□ R

● Cut Lead (Bulk) Dimensions

Lead Forming (Symbol:CG)

Nichicon P/N : R□□□□□□ M□□□ CG

FPCAP P/N : FP- □□□RE□□□M- □□ CG



[Unit : mm]

Item	$\phi D \times L$	$\phi 4 \times 5$	$\phi 5 \times 8, \phi 5 \times 10$	$\phi 6.3 \times 5, \phi 6.3 \times 6, \phi 6.3 \times 7, \phi 6.3 \times 8, \phi 6.3 \times 10$	$\phi 8 \times 6, \phi 8 \times 8, \phi 8 \times 9, \phi 8 \times 11.5, \phi 8 \times 16, \phi 8 \times 20$	$\phi 10 \times 12.5, \phi 10 \times 16, \phi 10 \times 20$
Lead Forming Symbol		CG	CG	CG	CG	CG
Lead Wire Diameter ϕd		0.45±0.05	0.5, 0.6±0.05	0.45, 0.5, 0.6±0.05	0.6±0.05	0.6±0.05
Lead Wire Length H		3.1±0.3	3.1±0.3	3.1±0.3	3.1±0.3	3.1±0.3
Lead Wire Interval f		1.5±0.5	2.0±0.5	2.5±0.5	3.5±0.5	5.0±0.5

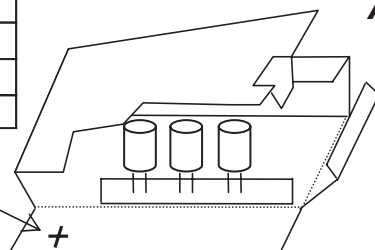
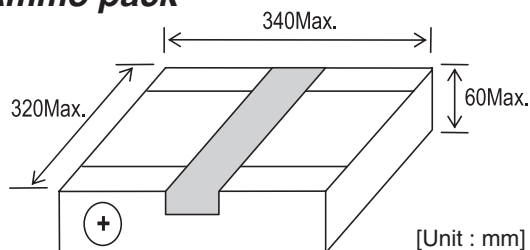
Note : Please inquire for FPCAP by Packing Unit as above.

FPCAP Taped Leads for Automatic Insertion Systems (Radial lead type)*RNS, RR7, RR5, RL8, RE5, RS8, RF8, RNU, RNE, RNL, RS6, RHT*

● Packing Quantity(Ammo Pack)

Size (dia)	Minimum quantity (pcs / Ammo Pack)
$\phi 5$	2,000
$\phi 6.3$	2,000
$\phi 8$	1,000
$\phi 10$	500

Polarity mark

**Ammo pack**

[Unit : mm]

The lid of feeding side of the taping box shall be torn off at the perforation line.

● Taping Dimensions

Lead Forming (Symbol:Ex. PX) Nichicon P/N Symbol : R□□□□□□ M□□□ PX

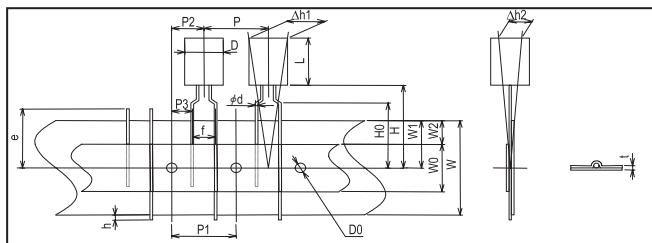
FPCAP P/N Symbol : FP-□□□RE□□□M-□□ P

■ 2.5mm pitch taping

Taping Dimensions for $\phi 5$

Nichicon P/N Symbol : JT ($\phi 5 \times 8$) , JX ($\phi 5 \times 10$)

FPCAP P/N Symbol : JT ($\phi 5 \times 8$) , J ($\phi 5 \times 10$)

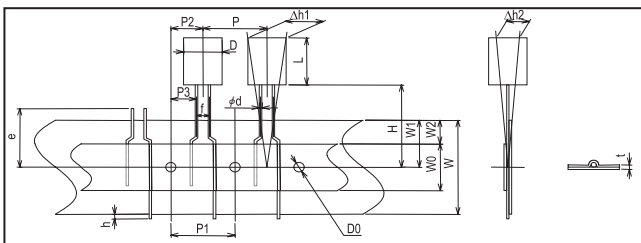


■ 2.5mm pitch taping

Taping Dimensions for $\phi 6.3$

Nichicon P/N Symbol : JT ($\phi 6.3 \times 5$ to 8) , JX ($\phi 6.3 \times 10$)

FPCAP P/N Symbol : JT ($\phi 6.3 \times 5$ to 8) , J ($\phi 6.3 \times 10$)

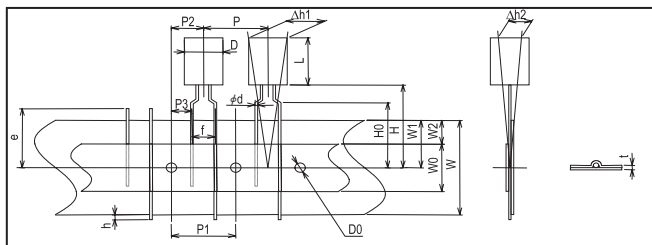


■ 5.0mm pitch taping

Taping Dimensions for $\phi 5$, $\phi 6.3$, $\phi 8$

Nichicon P/N Symbol : PX

FPCAP P/N Symbol : P

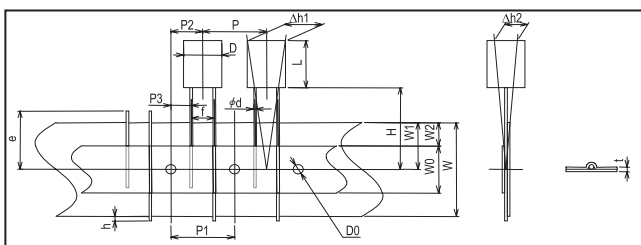


■ 2.0mm($\phi 5$) or 3.5mm($\phi 8$) or 5.0mm($\phi 10$) pitch taping

Taping Dimensions for $\phi 5$, $\phi 8$, $\phi 10$

Nichicon P/N Symbol : TX ($\phi 5$) , KX ($\phi 8$) , PH ($\phi 10$)

FPCAP P/N Symbol : T ($\phi 5$) , K ($\phi 8$) , PH ($\phi 10$)



● Specification Table

[Unit : mm]

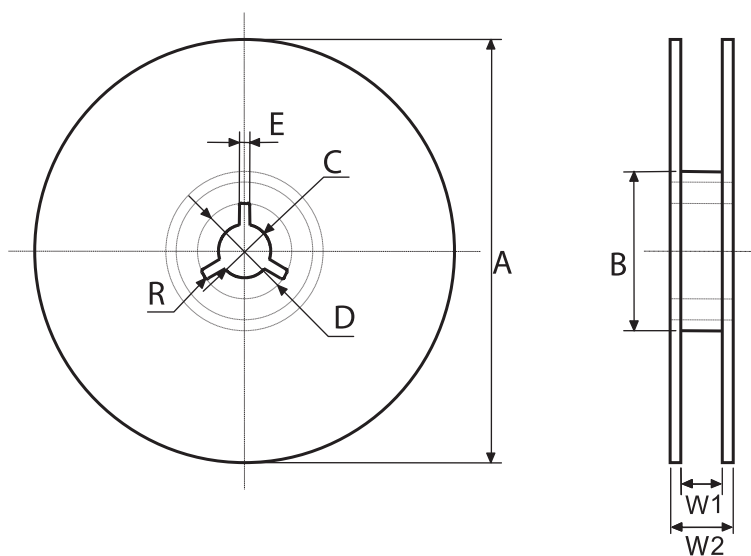
Item	$\phi D \times L$	$\phi 6.3 \times 6$, $\phi 6.3 \times 7$	$\phi 5 \times 8$, $\phi 6.3 \times 8$	$\phi 6.3 \times 5$, $\phi 5 \times 8$	$\phi 5 \times 10$, $\phi 6.3 \times 10$	$\phi 6.3 \times 6$, $\phi 6.3 \times 7$	$\phi 5 \times 8$, $\phi 6.3 \times 8$	$\phi 5 \times 10$, $\phi 6.3 \times 5$, $\phi 6.3 \times 10$	$\phi 8 \times 6$, $\phi 8 \times 8$, $\phi 8 \times 9$, $\phi 8 \times 11.5$, $\phi 8 \times 16$, $\phi 8 \times 20$	$\phi 5 \times 8$	$\phi 8 \times 6$, $\phi 8 \times 8$, $\phi 8 \times 9$, $\phi 8 \times 11.5$, $\phi 8 \times 16$, $\phi 8 \times 20$	$\phi 10 \times 12.5$, $\phi 10 \times 16$, $\phi 10 \times 20$
Lead Forming Symbol (Nichicon P/N)		<u>JT</u>			<u>JX</u>	<u>PX</u>			<u>PX</u>	<u>TX</u>	<u>KX</u>	<u>PH</u>
Lead Forming Symbol (FPCAP P/N)		<u>JT</u>			<u>J</u>	<u>P</u>			<u>P</u>	<u>T</u>	<u>K</u>	<u>PH</u>
Lead Wire Diameter ϕd		0.45	0.6	0.5	0.5	0.45	0.6	0.5	0.6	0.6	0.6	0.6
Tolerance		± 0.05	± 0.05	± 0.05	± 0.05	± 0.05	± 0.05	± 0.05	± 0.05	± 0.05	± 0.05	± 0.05
Lead Wire Interval f		2.5 +0.8/-0.2 ($\phi 6.3$: 2.5 ± 0.5)				5.0 +0.8/-0.2			5.0 +0.8/-0.2	2.0 +0.8/-0.2	3.5 +0.8/-0.2	5.0 +0.8/-0.2
Pitch Between Components P		12.7 ± 1.0				12.7 ± 1.0			12.7 ± 1.0	12.7 ± 1.0	12.7 ± 1.0	12.7 ± 1.0
Feed Holes Position Gap $P1$		12.7 ± 0.3				12.7 ± 0.3			12.7 ± 0.3	12.7 ± 0.3	12.7 ± 0.3	12.7 ± 0.3
Feed Holes Position Gap $P2$		6.35 ± 1.0				6.35 ± 1.0			6.35 ± 1.0	6.35 ± 0.5	6.35 ± 0.5	6.35 ± 0.5
Lead Wire Clinch Height $H0$		—				16.0 ± 0.5			16.0 ± 0.5	—	—	—
Components Height H		18.5 ± 0.5				17.5 ± 0.5			20.0 ± 0.75	18.5 ± 0.5	20.0 ± 0.5	18.5 ± 0.5
Base Tape W		18.0 +1.0/-0.5				18.0 +1.0/-0.5			18.0 +1.0/-0.5	18.0 +1.0/-0.5	18.0 +1.0/-0.5	18.0 +1.0/-0.5
Feed Holes Position Gap $W1$		9.0 ± 0.5				9.0 ± 0.5			9.0 ± 0.5	9.0 ± 0.5	9.0 ± 0.5	9.0 ± 0.5
Feed Holes Diameter $D0$		4.0 ± 0.2				4.0 ± 0.2			4.0 ± 0.2	4.0 ± 0.2	4.0 ± 0.2	4.0 ± 0.2
Components Alignment Δh		2.0 max.				2.0 max.			2.0 max.	2.0 max.	2.0 max.	2.0 max.
Tape Thickness t		0.6 ± 0.2				0.6 ± 0.2			0.6 ± 0.2	0.6 ± 0.2	0.6 ± 0.2	0.6 ± 0.2

FPCAP Packing Unit Quantity for Reel (SMD Type)*RPS, RPA, RHS, RHA, RSS, RSA, RSB, RFS, RFA, RSL***Components are packaged as per following packing unit.**

● Packing Quantity (Reel)

Case Size $\phi D \times L$ (mm)	Packing Unit (pcs)
$\phi 4 \times 5.2$	2,000
$\phi 5 \times 5.7$	1,000
$\phi 6.3 \times 4.2$	1,000
$\phi 6.3 \times 5.7$	1,000
$\phi 6.3 \times 7.7$	900
$\phi 8 \times 6.7$	1,000
$\phi 8 \times 7.7$	900
$\phi 8 \times 8.7$	500
$\phi 8 \times 11.7$	500
$\phi 10 \times 7.7$	500
$\phi 10 \times 12.4$	400

Note : Please inquire for FPCAP by Packing Unit as above.



[Unit : mm]

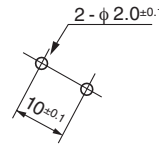
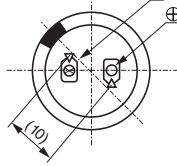
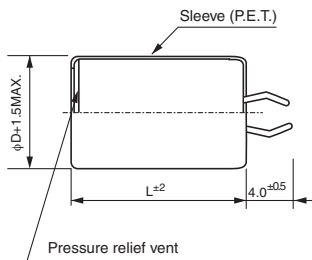
Size (dia)	A ± 2.0	B ± 1.0	C ± 0.5	D ± 1.0	E ± 0.5	W1 ± 1.0	W2 ± 1.0	R
$\phi 4, \phi 5$	380	80	13.0	21	2.0	13.4	17.4	1.0
$\phi 6.3$	380	80	13.0	21	2.0	17.4	21.4	1.0
$\phi 8, \phi 10$	380	80	13.0	21	2.0	25.4	29.4	1.0

Snap-in Terminal Style

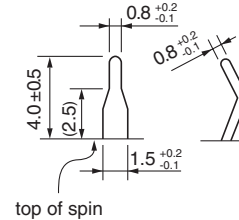
- Available terminal styles below.
- Not all terminal styles are available for all case sizes.
- Please contact us for the ordering part number.
- Custom terminal styles available, Contact Nichicon for more information.

EL-Terminal (2-pins type, Snap-in type) (terminal length) 4.0mm

Applicable size : $\phi 20$ to $\phi 35$, Less than 50mL
Pb-free terminal



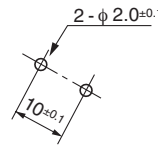
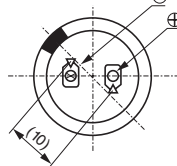
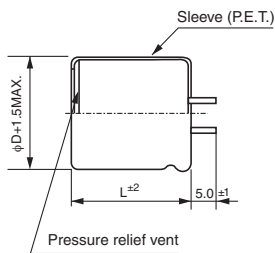
PC board hole dimensions



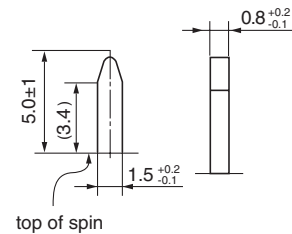
terminal dimensions

EK-Terminal (2-pins type, Straight type)

Applicable size : $\phi 20$ to $\phi 35$, Less than 50mL
Pb-free terminal



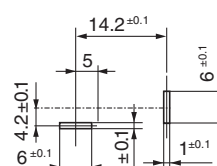
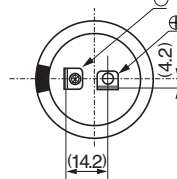
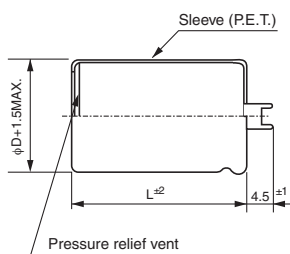
PC board hole dimensions



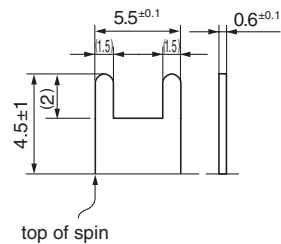
terminal dimensions

EU-Terminal (Vibration-resistant type)

Applicable size : $\phi 30$ to $\phi 40$
Pb-free terminal



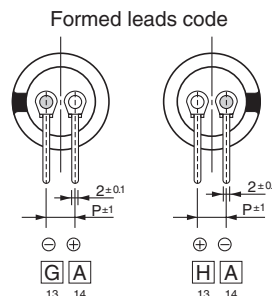
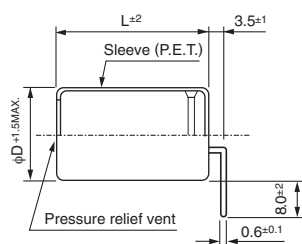
PC board hole dimensions



terminal dimensions

ER-Terminal (Horizontal mounting type)

Applicable size : $\phi 20$ to $\phi 25$
Pb-free terminal



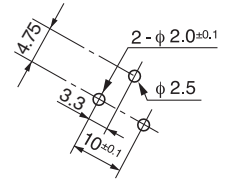
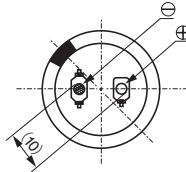
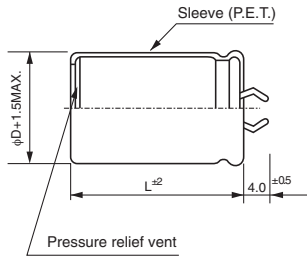
$\phi 20$: P=7.5
$\phi 22, \phi 25$: P=8.5

Snap-in Terminal Shape

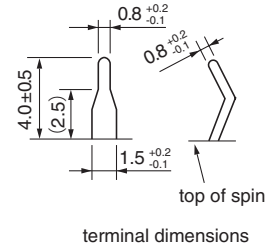
ET-Terminal (3-pins type, Snap-in type)

Applicable size : $\phi 22$ to $\phi 35$

Pb-free terminal



PC board hole dimensions



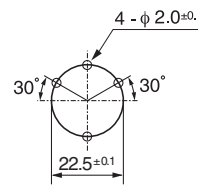
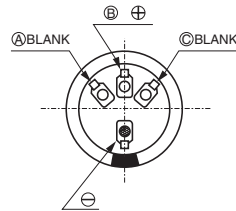
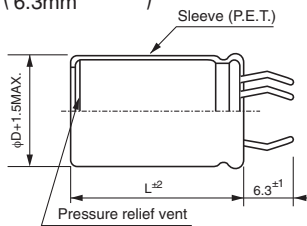
terminal dimensions

EF-Terminal (4-pins type, Snap-in type)

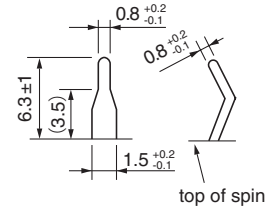
(terminal length)
6.3mm

Applicable size : $\phi 35$, $\phi 40$

Pb-free terminal



PC board hole dimensions



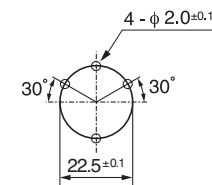
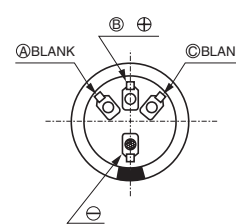
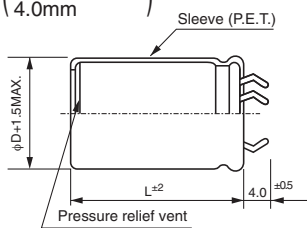
terminal dimensions

EG-Terminal (4-pins type, Snap-in type)

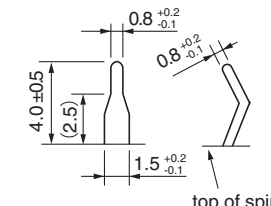
(terminal length)
4.0mm

Applicable size : $\phi 35$, $\phi 40$

Pb-free terminal



PC board hole dimensions

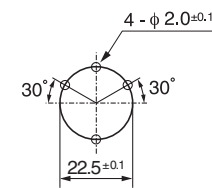
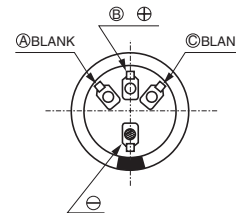
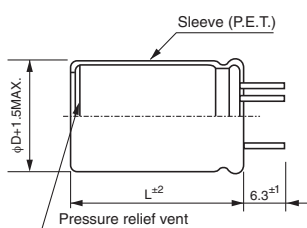


terminal dimensions

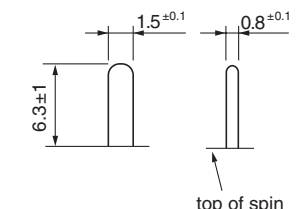
EH-Terminal (4-pins type, Straight type)

Applicable size : $\phi 35$, $\phi 40$

Pb-free terminal



PC board hole dimensions

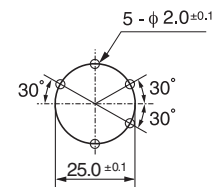
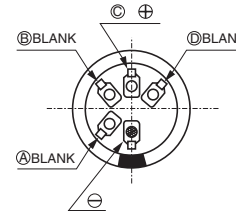
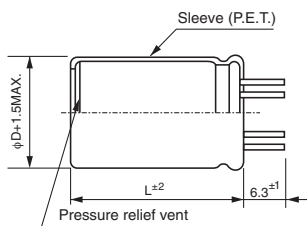


terminal dimensions

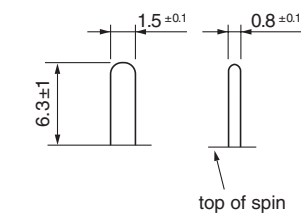
EJ-Terminal (5-pins type, Straight type)

Applicable size : $\phi 40$

Pb-free terminal



PC board hole dimensions



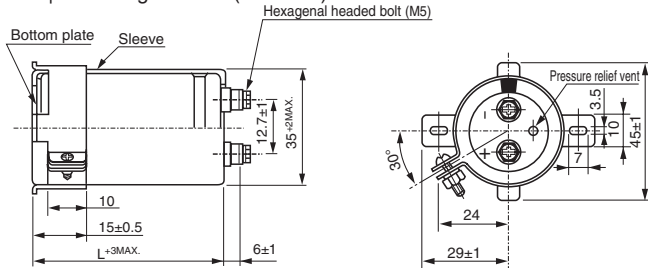
terminal dimensions

Dimension of bracket / bushing for screw terminal type

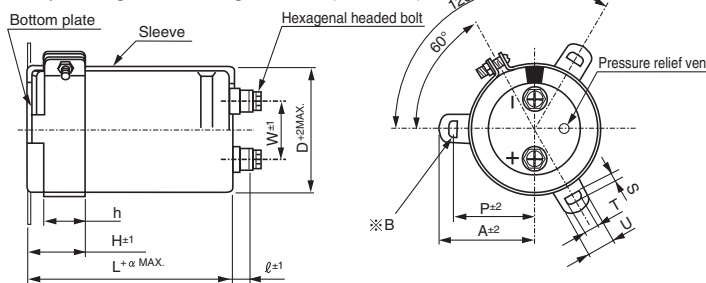
- Screw terminal type can be supplied with the following bracket and bushing.
- Here is standard position and angle of the bracket / bushing. Please contact us if you have specific requirement.
- There is a restriction for capacitors size.

Method to mount with metal bracket

For $\phi 35$: 2-leg brackets(standard)

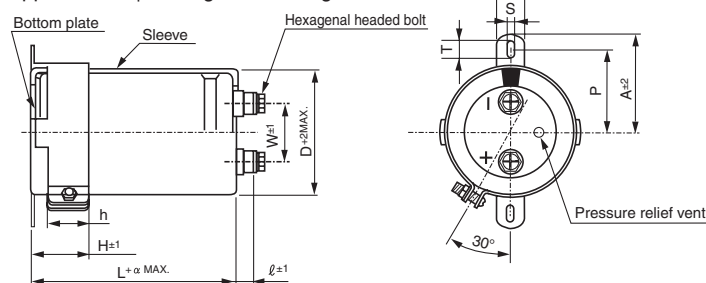


For $\phi 51$ or greater : 3-leg brackets(standard)



(mm)					
Symbol	ϕD	51	63.5	76.2	90
P		32.5	38.1	44.5	50.8
A		38.5	43	49.2	58.5
T		7.5	8	7	8
S		5	5	5	5
U		12	14	14	18
H		20	25	30	35
h		15	20	24	25
W		22	28.6	31.8	31.8
ℓ		6	6	6	10
α		3	3	3	4

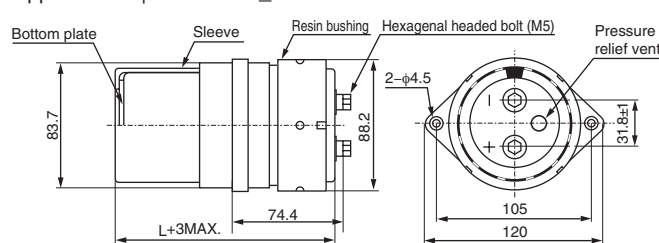
Applicable to $\phi 51$ or greater : 2-leg brackets



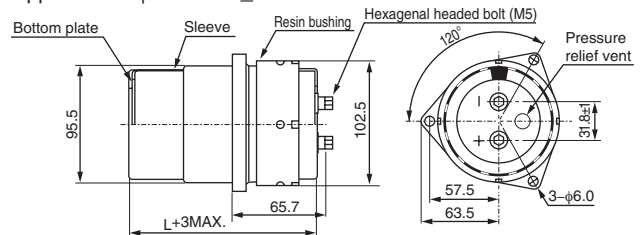
(mm)				
Symbol	ϕD	51	63.5	76.2
P		33.2	40.5	46.5
A		40	46.5	53
T		6	7	6
S		4.5	4.5	4.5
U		14	14	14
H		25	35	35
h		15	20	20
W		22	28.6	31.8
ℓ		6	6	6
α		3	3	3

Method to mount with resin bushing.

Applicable to $\phi 76.2$ and $L \geq 150$

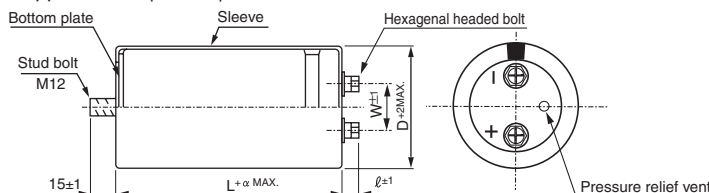


Applicable to $\phi 90$ and $L \geq 150$



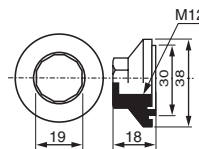
Method to mount with stud bolt.

Applicable to $\phi 51$ to $\phi 90$

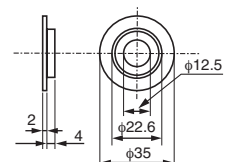


A nut for stud bolt. (option)

Plastic nut



Plastic washer



※ Bracket hole : $\phi 30.5\text{mm(MIN.)}$

(mm)				
Symbol	ϕD	51	63.5	76.2
W		22	28.6	31.8
ℓ		6	6	6
α		3	3	3

Conductive Polymer Aluminum Solid Electrolytic Capacitors

Type	Classification	Type • Series	NICHICON ELECTRONICS (SUQIAN) CO., LTD.
Conductive Polymer Aluminum Solid Electrolytic Capacitors (FPCAP)	Surface Mount Type	RPS, RPA, RHS, RHA, RSS, RSA, RSB, RFS, RFA, RSL	○
	Radial Lead Type	RNS, RR7, RR5, RL8, RE5, RS8, RF8, RNU, RNE, RNL, RS6, RHT	○

Aluminum Electrolytic Capacitors

Type	Classification	Type • Series	NICHICON (MALAYSIA) SDN. BHD.	NICHICON ELECTRONICS (WUXI) CO., LTD.
Chip Aluminum Electrolytic Capacitors	Chip Type	UWX, UWJ, UWT, UWZ, UWF, UWG, UUT, UUA, UUL, UCD, UUD, UWD, UUB, UWH, UUR, UUX, UCJ	○	○
		UCL, UCZ, UCM	○	—
Miniature Aluminum Electrolytic Capacitors	Standard Type	UVK, UVR, UVY, UVZ, URS, URZ, UVP	○	○
		UEP	○	—
	High Reliability Type	UPM, UPW, UHV, UHD, UHE, UHW, UPJ, UPS, UBT, UPT, UCY, UPZ, UCA, UCS, UPA	○	○
		UPV, ULD	○	—
	Special Equipment	UKL	○	○
		UAQ, UAS	—	○
	For Audio Equipment	UFW, UES, UFG, UKA, UKT, UKW	○	—
Large Can Aluminum Electrolytic Capacitors	Standard Type	LLS, LLG	○	○
	High Reliability Type	LGU, LGN, LGG, LGM, LGJ, LGY, LGZ, LGX, LAR, LGR, LGL, LGW, LAK, LAQ, LAS, LQS	○ (Excluding LAK, LAQ, LAS)	○
	For Audio Equipment	LKG, LKS, LKX	○	LKG : ○ LKS, LKX : —
Screw Terminal Electrolytic Capacitors			—	applicable Size D=φ 35 to 100 L= 80 to 200L Please contact us for details.

※ However, please contact us because there may be a series, size that cannot be produced at a given factory.

Conductive Polymer Aluminum Solid Electrolytic Capacitors

Classification	Type · Series	Configuration	Applications	Category Temperature Range (°C)	Features								Rated Voltage Range (V.D.C)	Rated Capacitance Range (μF)	Tolerance on Rated Capacitance (%)	Page
					Standard type	Low ESR	High Capacitance	Long Life	Anti-cleaning solvent	High Voltage	High Reliability	AEC-Q200				
Chip type	PCF	32	Standard	−55 to +105	●				●			●	2.5 to 25	6.8 to 1500	±20	38
	PCJ	32	Low ESR, Higher Capacitance	−55 to +105		●	●		●			●	2.5 to 16	33 to 2700	±20	41
	PCK	32	Ultra-low ESR	−55 to +105		●			●			●	2.5 to 6.3	220 to 2200	±20	WEB
	PCG	32	Higher Capacitance	−55 to +105			●		●			●	2.5 to 16	47 to 4700	±20	43
	PCS	32	Long Life Assurance	−55 to +105				●	●		●	●	4 to 16	22 to 560	±20	45
	Expanded PCL	32	Higher Capacitance / Long Life Assurance	−55 to +105		●	●	●	●		●	●	2.5 to 25	12 to 3300	±20	47
	PCV	32	High Voltage / Long Life Assurance	−55 to +105				●	●	●		●	16 to 125	5.6 to 680	±20	49
	PCX	32	High Voltage / High Reliability	−55 to +125				●	●	●	●	●	16 to 50	5.6 to 390	±20	52
	PCR	32	Higher Capacitance / Long Life Assurance	−55 to +125			●	●	●	●	●	●	16 to 80	22 to 1000	±20	54
	PCM	32	Higher Capacitance / High Temperature Range	−55 to +125		●	●	●	●	●	●	●	16 to 80	12 to 1000	±20	56
	PCH	32	Higher Capacitance / High Temperature Range	−55 to +135		●	●	●	●	●	●	●	16 to 80	12 to 1000	±20	58
	PCZ	32	Higher Capacitance / High Temperature Range	−55 to +150		●	●	●	●	●	●	●	16 to 63	12 to 1000	±20	60
Radial Lead type	PLF	04	Standard	−55 to +105	●				●			●	2.5 to 25	6.8 to 1500	±20	62
	PLE	04	Ultra-low ESR	−55 to +105		●			●				2.5 to 6.3	470 to 1500	±20	WEB
	PLG	04	Higher Capacitance	−55 to +105			●		●				2.5 to 16	330 to 3900	±20	64
	PLS	04	Long Life Assurance	−55 to +105				●	●		●		2.5 to 16	100 to 1500	±20	66
	PLV	04	High Voltage / Long Life Assurance	−55 to +105				●	●	●		●	16 to 100	6.8 to 470	±20	68
	PLX	04	High Voltage / High Reliability	−55 to +125				●	●	●	●	●	16 to 50	22 to 390	±20	70

FPCAP Product List

Classification	Type · Series	Note	Rated Voltage Range (V.D.C)	Capacitance Range (μF)	Endurance	Page
SMD Type	RPS / RPA	Standard (φ6.3, φ8, φ10)	2.5 to 63	8.2 to 1500	105°C 2000 / 5000Hrs	72
	Expanded RHS / RHA	High Capacitance (φ8)	2.5 to 35	56 to 1500	105°C 2000 / 5000Hrs	74
	Expanded RSS/RSA/RSE	High Capacitance (φ6.3)	2.5 to 35	10 to 820	105°C 2000Hrs	76
	RFS / RFA	High Capacitance (φ4, φ5)	2.5 to 25	10 to 330	105°C 2000Hrs	78
	RSL	Low Profile (φ6.3)	2.5 to 25	15 to 330	105°C 2000Hrs	WEB
Radial Lead Type	RNS	Standard	4.0 to 25	10 to 1200	105°C 2000Hrs	WEB
	RR7	Low ESR	2.5 to 16	68 to 1500	105°C 2000 / 5000Hrs	WEB
	RR5	Ultra-Low ESR	2.5 to 6.3	390 to 1500	105°C 2000Hrs	WEB
	RL8	Low ESR and Low Profile (φ8)	2.5 to 35	100 to 1500	105°C 2000 / 5000Hrs	80
	RE5	Ultra-Low ESR and Low Profile (φ8)	2.5 to 4.0	560 to 820	105°C 2000Hrs	WEB
	Expanded RS8	Low ESR / ESL and Low Profile (φ6.3)	2.5 to 25	56 to 1200	105°C 2000 / 5000Hrs	83
	RF8	Low ESR / ESL and Low Profile (φ5)	2.5 to 6.3	100 to 560	105°C 2000Hrs	WEB
	RNU	High Capacitance	2.5 to 63	10 to 2700	105°C 2000 / 5000Hrs	85
	Expanded RNE	High Capacitance	2.5 to 25	100 to 1500	105°C 2000 / 5000Hrs	88
	Expanded RNL	Large Sized High Capacitance	16 to 25	270 to 2400	105°C 2000 / 5000Hrs	90
	RS6	Miniature Sized High Capacitance	2.5 to 25	33 to 560	105°C 2000 / 5000Hrs	92
	RHT	High Temperature (125°C)	6.3 to 35	100 to 1000	125°C 1000Hrs	94

Conductive Polymer Hybrid Aluminum Electrolytic Capacitors

Classification	Type · Series	Configuration	Applications	Category Temperature Range (°C)	Features								Rated Voltage Range (V.D.C)	Rated Capacitance Range (μF)	Tolerance on Rated Capacitance (%)	Page
					Standard type	Low ESR	High Capacitance	Long Life	Anti-cleaning solvent	High Voltage	High Reliability	AEC-Q200				
Chip type	Expanded GYA	32	Chip type, 125°C High Reliability	−55 to +125		●		●	●		●	●	16 to 80	10 to 470	±20	98
	GYB	32	Chip type, 105°C High Reliability	−55 to +105		●		●	●		●	●	25 to 63	10 to 330	±20	100
	GYC	32	Chip type, 135°C High Reliability	−55 to +135		●		●	●		●	●	25 to 63	10 to 330	±20	102
	GYD	32	Chip type, 150°C High Reliability	−55 to +150		●		●	●		●	●	25 to 35	100 to 270	±20	104
	NEW GYE	32	Chip type, 125°C High Reliability	−55 to +125		●	●	●	●		●	●	25 to 35	56 to 470	±20	106

AEC-Q200 : AEC-Q200 compliant. Please contact us for details.

Please refer to our website for the details of the series described as "WEB".

Chip Aluminum Electrolytic Capacitors

Classification	Type · Series	Configuration	Applications	Category Temperature Range (°C)	Features						Rated Voltage Range (V.D.C)	Rated Capacitance Range (μF)	Tolerance on Rated Capacitance (%)	Page
					Standard type	Smaller-sized & low profile	Low impedance	Long life	Anti-cleaning solvent	AEC-Q200				
Surface Mount type	UZR	32	3.95mmL MAX. Standard	−40 to +85		●			●	●	4 to 50	1 to 220	±20	109
	UZG	32	3.95mmL MAX. Wide Temperature Range	−40 to +105		●			●	●	6.3 to 50	1 to 100	±20	111
	UZS	32	4.5mmL Standard	−40 to +85		●			●	●	4 to 50	1 to 220	±20	113
	UZT	32	4.5mmL, Wide Temperature Range	−40 to +105		●			●	●	6.3 to 50	1 to 100	±20	115
	UWX	32	5.5mmL, Standard	−40 to +85	●				●	●	4 to 50	1 to 330	±20	117
	UWJ	32	5.5mmL, High Temperature Reflow	−40 to +85					●	●	6.3 to 50	1 to 150	±20	120
	UWP	32	5.5mmL, Bi-Polarized	−40 to +85		●			●	●	6.3 to 50	0.1 to 100	±20	WEB
	UWT	32	Wide Temperature Range	−55 to +105		●			●	●	4 to 50	1 to 1500	±20	122
	UWZ	32	Wide Temperature Range High Temperature Reflow	−55 to +105					●	●	6.3 to 50	1 to 1500	±20	125
	UWF	32	Low Impedance	−55 to +105			●		●	●	6.3 to 35	1 to 220	±20	WEB
	UWG	32	Low Impedance	−55 to +105			●		●	●	6.3 to 50	1 to 1500	±20	WEB
	UUP	32	6mmL, Bi-Polarized	−55 to +105	●				●	●	6.3 to 50	0.1 to 47	±20	WEB
	UUT	32	6mmL, Wide Temperature Range	−55 to +105	●				●	●	4 to 50	1 to 100	±20	128
	UUA	32	Long Life Assurance	−55 to +105				●	●	●	6.3 to 50	1 to 1000	±20	130
	UUL	32	Long Life Assurance (105°C 5,000h)	−40 to +105				●	●	●	6.3 to 50	1 to 1000	±20	132
	UCB	32	Long Life Assurance (105°C 7,000h)	−25 to +105				●	●	●	6.3 to 50	1 to 1000	±20	WEB
	UCW	32	Long Life Low Impedance (105°C 7,000h)	−25 to +105			●	●	●	●	6.3 to 50	10 to 470	±20	134
	UCD	32	Low Impedance	−55 to +105			●		●	●	6.3 to 100	1 to 3300	±20	136
	UCL	32	Low Impedance	−55 to +105			●		●	●	6.3 to 50	10 to 2200	±20	140
	UCM	32	Low Impedance	−55 to +105			●		●	●	6.3 to 100	10 to 5100	±20	143
	UCV	32	Low Impedance	−55 to +105			●		●	●	16 to 35	220 to 1500	±20	146
	UUD	32	Low Impedance	−55 to +105			●		●	●	6.3 to 50	1 to 1500	±20	148
	UWD	32	Low Impedance High Temperature Reflow	−55 to +105			●		●	●	6.3 to 50	1 to 1500	±20	151
	UUB	32	High Reliability, For +125°C Use	−40 to +125				●	▲	●	10 to 400	1 to 330	±20	154
	UWH	32	High Reliability (For +125°C Use) High Temperature Reflow	−40 to +125				●	●	●	10 to 50	10 to 330	±20	WEB
	ULT	32	High Voltage, High Temperature Range(For +125°C Use)	−40 to +125		●		●		●	160 to 500	1.8 to 33	±20	156
	ULH	32	High Voltage, High Reliability (For +125°C 4000h)	−40 to +125				●		●	160 to 450	2.2 to 27	±20	158
	UCJ	32	High Reliability Low Temperature ESR specification	−40 to +125				●	●	●	10 to 50	10 to 470	±20	160
	UCZ	32	High Reliability Low Temperature ESR specification	−40 to +125				●	●	●	10 to 100	10 to 3300	±20	162
	UCH	32	High Reliability Low Temperature ESR specification	−40 to +125				●	●	●	25 to 63	33 to 560	±20	165
	UCX	32	High Reliability Low Temperature ESR specification	−40 to +135				●	●	●	10 to 50	47 to 3300	±20	167
	UUR	32	High C / V	−40 to +85		●			●	●	4 to 100	3.3 to 1500	±20	169
	UUX	32	Wide Temperature Range	−55 (−40) to +105					▲	●	6.3 to 400	1 to 1000	±20	172
	ULR	32	High Voltage	−40 to +105		●				●	160 to 500	2.7 to 39	±20	175
	ULV	32	High Voltage, Long Life	−40 to +105				●		●	160 to 500	1.8 to 33	±20	177
	UUQ	32	Wide Temperature Range	−40 to +105					●	●	6.3 to 50	1 to 1000	±20	301
	UCQ	32	Wide Temperature Range	−55 to +105					●	●	10 to 35	4.7 to 680	±20	304
	UUG	32	Higher Capacitance Range	−40 to +85	●				▲	●	6.3 to 450	4.7 to 10000	±20	179
	UUJ	32	Higher Capacitance Range	−55 (−40) to +105	●			●	▲	●	6.3 to 450	3.3 to 6800	±20	182
	UUN	32	Bi-Polarized, Higher Capacitance Range	−55 to +105					●		6.3 to 100	22 to 3300	±20	WEB
	UUE	32	Vibration Resistance (125°C)	−55 (−40) to +125				●	●	●	10 to 50	33 to 4700	±20	185
	UBC	32	Vibration Resistance (150°C)	−55 (−40) to +150				●	●	●	10 to 50	33 to 3300	±20	187
	NEW UBH	32	High Temperature Range Vibration Resistance Low Temperature ESR specification	−40 to +150				●	●	●	25 to 35	100 to 270	±20	189

Above description is a feature against AK-225AES.
 ▲ : Applicable up to 100V ratings or less.

AEC-Q200 : AEC-Q200 compliant. Please contact us for details.

Please refer to our website for the details of the series described as “WEB”.

Miniature Aluminum Electrolytic Capacitors

Classification	Type · Series	Configuration	Applications	Category Temperature Range (°C)	Features						Rated Voltage Range (V.D.C.)	Rated Capacitance Range (μF)	Tolerance on Rated Capacitance (%)	Page
					Standard type	Smaller-sized & low profile	Low impedance	Long life	Anti-cleaning solvent	AEC-Q200				
Standard type	UVK	04	Miniature Sized, Standard	-40 (-25) to +85		●			▲		6.3 to 450	0.47 to 33000	±20	WEB
	UVR	04	Standard	-40 (-25) to +85	●				▲		6.3 to 450	0.47 to 33000	±20	190
	UVC	04	High Voltage, Ultra-Miniature Sized, For Adapters	-40 to 105		●					400	4.7 to 18	±20	213
	UVY	04	Miniature Sized, Wide Temperature Range	-55 (-40, -25) to +105		●			▲		6.3 to 450	0.47 to 33000	±20	197
	UVZ	04	Wide Temperature Range	-55 (-40, -25) to +105	●				▲		6.3 to 450	0.47 to 33000	±20	202
	URS	04	Compact & Standard For General Purposes	-40 to +85		●			▲		6.3 to 400	10 to 10000	±20	207
	URZ	04	Low-Profile Sized, Wide Temperature Range	-55 (-40) to +105		●			▲		6.3 to 400	10 to 10000	±20	210
	UVP	04	Bi-Polarized	-40 to +85	●				●		6.3 to 100	1 to 6800	±20	215
	UEP	04	Bi-Polarized, Wide Temperature Range	-55 to +105	●				●		6.3 to 100	1 to 6800	±20	218
High Reliability type	UPM	04	Low Impedance, High Reliability	-55 (-40, -25) to +105			●	●	▲	●	6.3 to 450	1 to 15000	±20	WEB
	UPW	04	Miniature Sized, Low Impedance, High Reliability	-55 (-40, -25) to +105		●	●	●	▲	●	6.3 to 450	0.47 to 15000	±20	221
	UPA	04	Miniature Sized, Low Impedance, High Reliability	-55 to +105		●	●	●	●		6.3 to 35	180 to 10000	±20	WEB
	UHV	04	Extremely Low Impedance, High Reliability	-40 to +105		●	●	●	●		6.3 to 35	47 to 8200	±20	229
	UHD	04	Extremely Low Impedance, High Reliability	-40 to +105		●	●		●		6.3 to 50	22 to 6800	±20	233
	UHE	04	Extremely Low Impedance, High Reliability	-40 to +105		●	●	●	●		6.3 to 100	2.2 to 18000	±20	236
	UHW	04	Extremely Low Impedance, High Reliability	-40 to +105		●	●	●	●		6.3 to 100	8.2 to 15000	±20	242
	UPJ	04	Low Impedance, For Switching Power Supplies	-55 (-40, -25) to +105	●		●	●	▲		6.3 to 450	1 to 15000	±20	WEB
	UPS	04	Miniature Sized, Low Impedance, For Switching Power Supplies	-55 (-40, -25) to +105		●	●		▲		6.3 to 450	0.47 to 15000	±20	248
	UPV	04	Miniature Sized, Low Impedance, High Reliability	-55 to +105			●	●	●		6.3 to 50	1.5 to 390	±20	WEB
	UPT	04	Miniature Sized, High Ripple Current, Long Life	-40 to +105		●		●			200 to 450	15 to 820	±20	254
	UPZ	04	High voltage, MiniatureSized	-40 to +105		●					200 to 450	18 to 470	±20	258
	UPH	04	High voltage, MiniatureSized	-40 to +105		●					400 to 450	27 to 220	±20	WEB
	UCP	04	High voltage, MiniatureSized, Long Life Assurance	-40 to +105		●		●			400 to 450	27 to 220	±20	261
	ULD	04	Miniature Sized, Long Life Assurance	-40 to +105				●			10 to 450	1 to 330	±20	263
	UCA	04	Miniature Sized, High Ripple Current, Long Life	-25 to +105		●		●			160 to 450	6.8 to 220	±20	WEB
	UCS	04	Miniature Sized, High Ripple Current, High Reliability	-40 to +105		●		●			160 to 450	6.8 to 330	±20	266
	UCY	04	Miniature Sized, High Ripple Current, High Reliability	-40 to +105		●		●		●	160 to 500	6.8 to 680	±20	269
	UBT	04	High Temperature Range (125°C)	-40 (-25) to +125				●	▲	●	10 to 450	4.7 to 4700	±20	275
	UBW	04	High Temperature Range (135°C)	-55 to +135				●	●	●	10 to 100	4.7 to 4700	±20	278
	UBY	04	High Temperature Range, For Automobile equipment (125/135°C)	-40 to +135	●			●	●	●	25 to 100	160 to 12000	±20	281
	UXY	04	Vibration Resistance (125/135°C)	-40 to +135	●		●		●	●	25 to 35	5000 to 11000	±20	284
	UBX	04	High Temperature Range, For Automobile equipment (150°C)	-55 (-40, -25) to +150				●	▲	●	10 to 400	2.2 to 4700	±20	286

Above description is a feature against AK-225AES.

▲ : Applicable up to 100V ratings or less.

AEC-Q200 : AEC-Q200 compliant. Please contact us for details.

Please refer to our website for the details of the series described as "WEB".

Miniature Aluminum Electrolytic Capacitors

Classification	Type · Series	Configuration	Applications	Category Temperature Range (°C)	Features						Rated Voltage Range (V.D.C)	Rated Capacitance Range (μF)	Tolerance on Rated Capacitance (%)	Page
					Standard type	Smaller-sized & low profile	Low impedance	Long life	Anti-cleaning/solvent	AEC-Q200				
Special equipment	UKL	04	Low Leakage Current	-40 to +85	●				●		6.3 to 100	1.5 to 10000	±20, ±10	WEB
	UAQ	04	For Permissible Abnormal Voltage	-40 to +105							200 · 400	10 to 220	±20	289
	UAS	04	Miniature sized, For Permissible Abnormal Voltage	-40 to +105		●					200 · 400	22 to 330	±20	291
For audio equipment	UKA	04	105°C For High Grade Equipment	-55 to +105					●	●	6.3 to 50	22 to 22000	±20	293
	UKZ	04	Premium Grade Type, For Audio Equipment	-40 to +85					●		25 to 100	10 to 1000	±20	296
	UFG	04	High Grade Type, For Audio Equipment	-40 to +85	●				●		6.3 to 100	1 to 10000	±20	WEB
	UKT	04	105°C Standard, For Audio Equipment	-55 to +105	●				●	●	6.3 to 50	2.2 to 33000	±20	298
	UKW	04	Standard, For Audio Equipment	-40 to +85	●				●		6.3 to 100	2.2 to 33000	±20	WEB
	UFW	04	Standard, For Audio Equipment	-40 to +85		●			●		6.3 to 100	2.2 to 33000	±20	WEB
	UUQ	32	105°C Chip Type, For Audio Equipment	-40 to +105					●	●	6.3 to 50	1 to 1000	±20	301
	UCQ	32	105°C Chip Type, For Audio Equipment	-55 to +105					●	●	10 to 35	4.7 to 680	±20	304
	UES	04	Bi-Polarized, For Audio Equipment	-40 to +85	●				●		6.3 to 50	1 to 1000	±20	WEB
	UDB	04	Bi-Polarized, For Speaker Network	-40 to +85	●				●		50	1 to 47	±20	WEB

AEC-Q200 : AEC-Q200 compliant. Please contact us for details.

Large Can Aluminum Electrolytic Capacitors

Classification	Type · Series	Configuration	Applications	Category Temperature Range (°C)	Features						Rated Voltage Range (V.D.C)	Rated Capacitance Range (μF)	Tolerance on Rated Capacitance (%)	Page
					Standard type	Smaller-sized & low profile	High ripple	High reliability	Long life	Anti-cleaning/solvent				
Standard type	LLS	692	85°C Standard	-40 (-25) to +85	●					▲	16 to 450	56 to 56000	±20	306
	LLG	692	85°C Smaller-Sized	-40 (-25) to +85		●					160 to 450	120 to 3900	±20	311
	LGU	692	105°C Standard	-40 (-25) to +105	●					▲	16 to 450	47 to 47000	±20	314
	LGN	692	105°C Smaller-sized	-40 (-25) to +105		●					160 to 600	56 to 3300	±20	319
	LGG	692	105°C Ultra Smaller-Sized	-40 (-25) to +105		●					160 to 450	100 to 3300	±20	323
	LGL	692	105°C Ultra Smaller-Sized	-25 to +105		●					400 · 450	120 to 1000	±20	326
	LGM	692	105°C Ultra Smaller-Sized	-25 to +105		●					450	180 to 820	±20	328
	LGJ	692	105°C Low-Profile Sized	-40 (-25) to +105		●					200 to 450	47 to 680	±20	329
	LGJ(15)	692	105°C Low-Profile Sized (15mmL)	-40 (-25) to +105		●					160 to 400	39 to 390	±20	331
	LGY	692	105°C Long Life Assurance	-40 to +105					●	●	16 to 100	560 to 47000	±20	333
	LGR	692	105°C Long Life, Assurance	-40 (-25) to +105					●		200 to 450	39 to 1500	±20	336
	LGZ	692	105°C Long Life, Assurance	-25 to +105					●		450	82 to 330	±20	338
	LGX	692	105°C Long Life, Smaller-Sized	-25 to +105		●			●		200 to 500	56 to 2200	±20	339
	LGW	692	105°C High Ripple Current	-40 (-25) to +105			●				200 to 450	82 to 2200	±20	342
	LAK	692	105°C Permissible Abnormal Voltage	-25 to +105				●			200 · 400 · 420	33 to 1200	±20	WEB
	LAQ	692	105°C Permissible Abnormal Voltage, Smaller-sized	-25 to +105		●		●			200 · 220 · 400	33 to 1500	±20	344
	LAS	692	105°C Permissible Abnormal Voltage, Smaller-sized	-25 to +105		●		●			400 · 420 · 450	56 to 390	±20	346
	LAR	692	105°C Permissible Overvoltage	-40 (-25) to +105		●		●			200 to 450	82 to 2200	±20	WEB
	LQS	692	105°C Permissible for Rapid Charge and Discharge Application	-25 to +105		●		●			350 to 450	82 to 820	±20	348
Screw Terminal Type	LNR	331	85°C Standard	-40 (-25) to +85	●		●				10 to 250	1000 to 680000	±20	350
	LNX	331	85°C Long Life Assurance	-25 to +85			●	●	●		350 to 630	1000 to 27000	±20	354
	LNK	331	85°C Smaller-Sized	-25 to +85		●					350 to 500	1000 to 18000	±20	WEB
	LNC	331	85°C Smaller-Sized High Ripple Current	-40 to +85		●	●	●			350 to 500	1000 to 22000	±20	357
	LQR	331	85°C Permissible for Rapid Charge and Discharge Application	-25 to +85		●	●	●			350 to 450	680 to 15000	±20	359
	LNy	331	85°C High Voltage, For General Inverter	-40 to +85	●						350 to 450	820 to 22000	±20	361
	LNT	331	105°C Standard	-40 (-25) to +105	●		●	●			10 to 500	220 to 680000	±20	363
	LNU	331	105°C High voltage, Smaller-Sized	-40 to +105		●	●				400 to 525	680 to 18000	±20	368
For audio equipment	LKG	621 692	Lug / Snap-in Terminal Type, For Audio Equipment	-40 to +85	●						16 to 100	680 to 33000	±20	WEB
	LKS	692	Snap-in Terminal Type, For Audio Equipment, Smaller-Sized	-40 to +85		●					25 to 100	680 to 33000	±20	WEB
	LKX	692	Snap-in Terminal Type, For Audio Equipment of Switching Power Supplies	-40 (-25) to +105	●						200 to 450	56 to 2200	±20	WEB

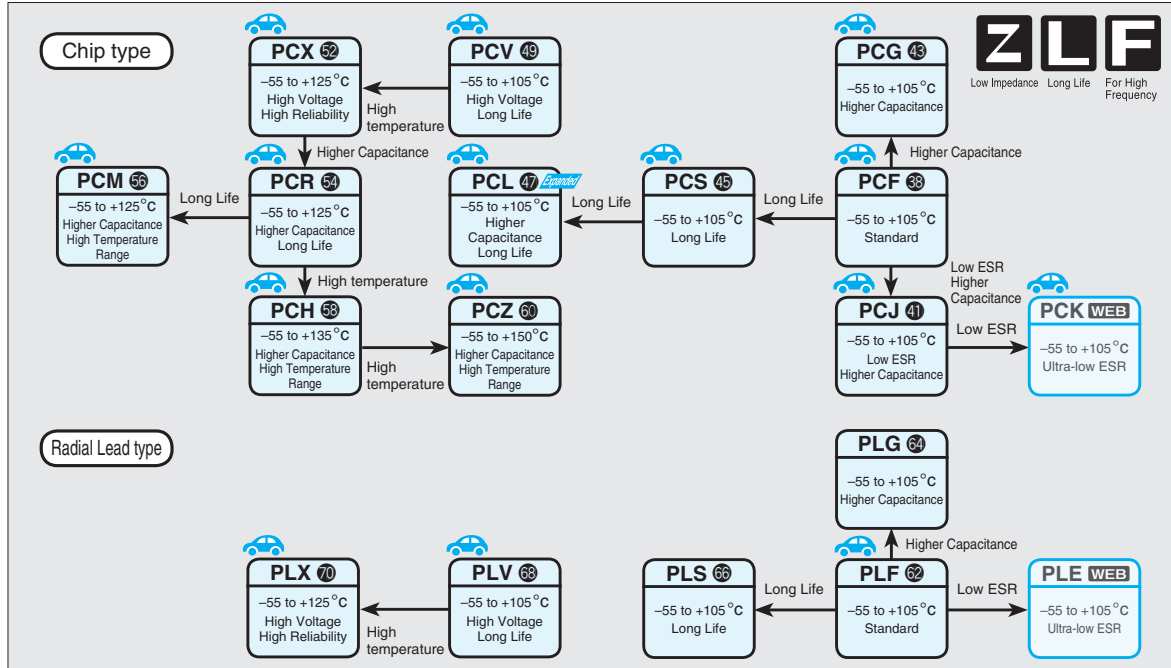
Above description is a feature against AK-225AES.

▲ : Applicable up to 100V ratings or less. Please refer to the Guidelines for Aluminum Electrolytic Capacitors for details of cleaning.

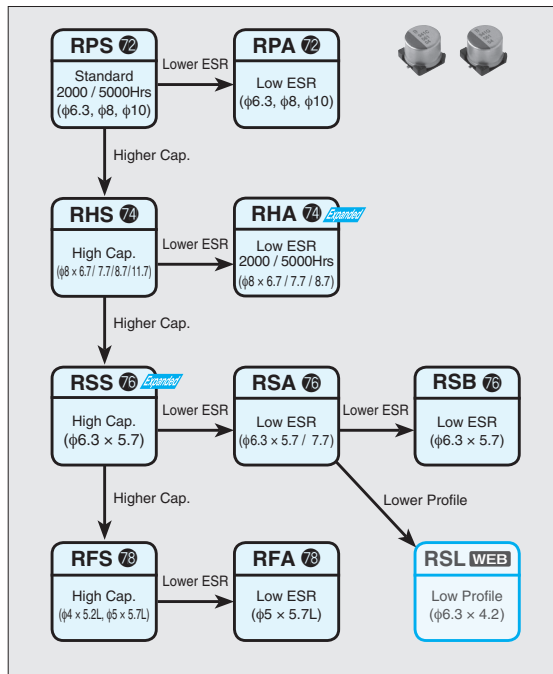
Please refer to our website for the details of the series described as "WEB".

Conductive Polymer Aluminum Solid Electrolytic Capacitors

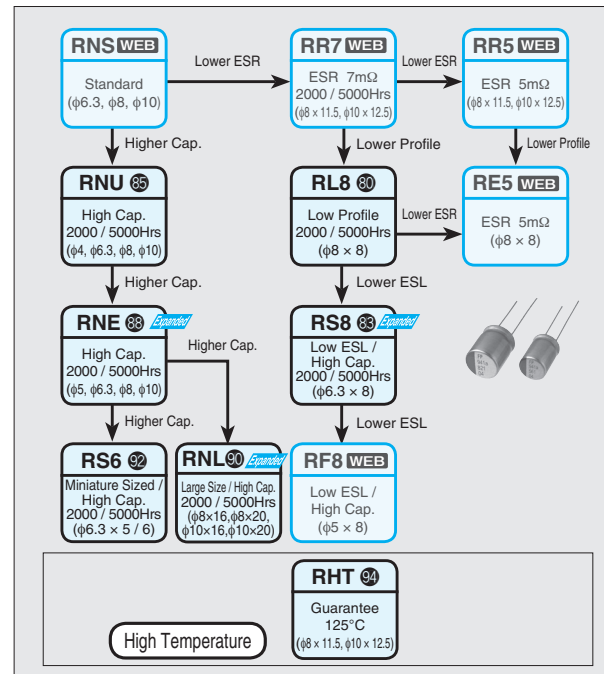
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System Diagram for **FPCAP**

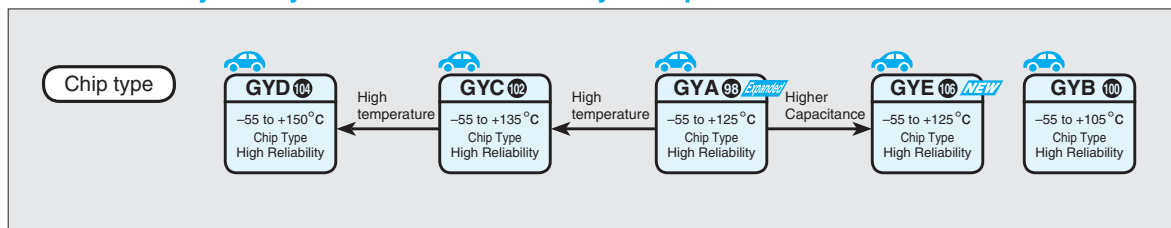
SMD type



Radial Lead type

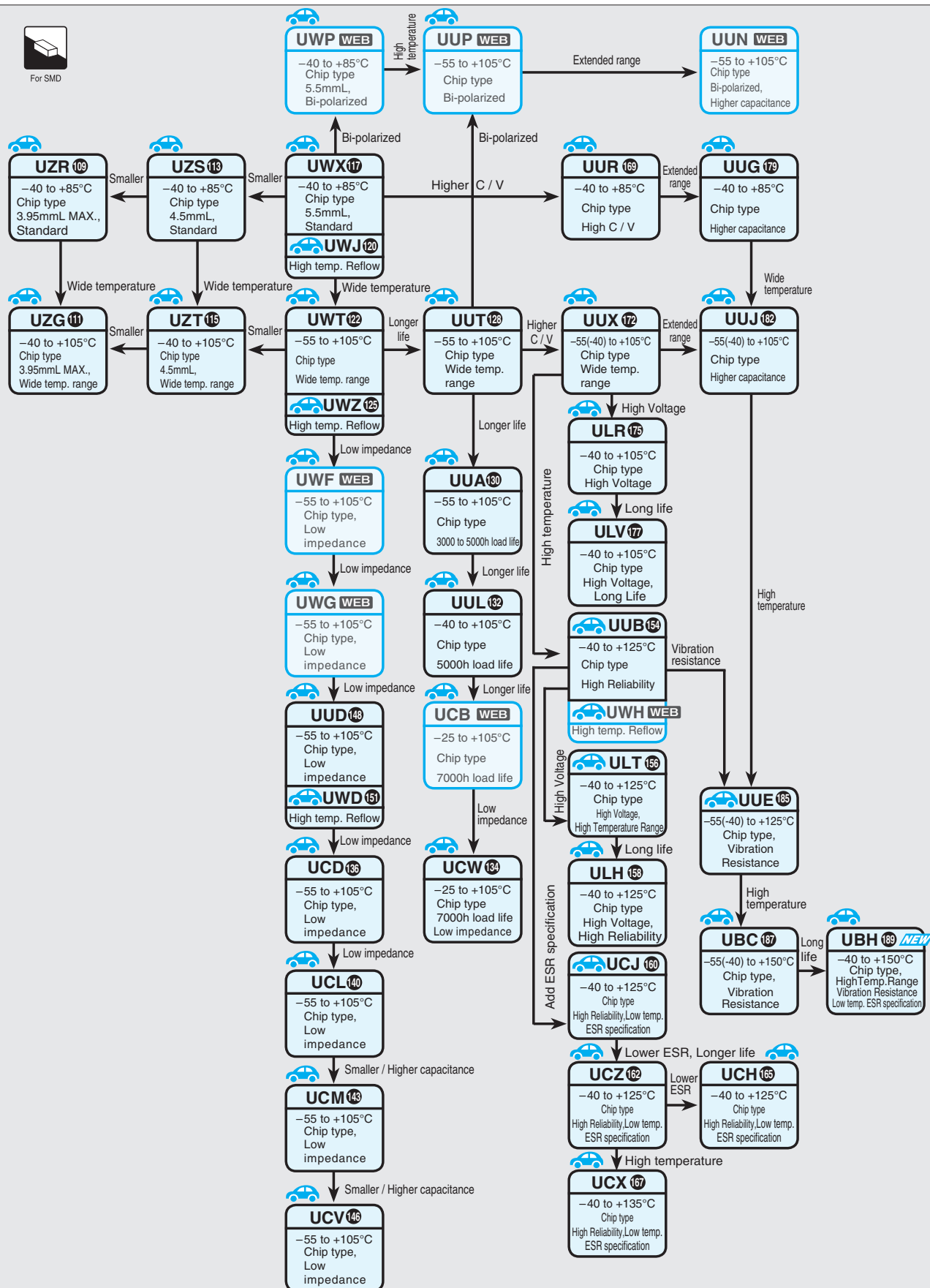


Conductive Polymer Hybrid Aluminum Electrolytic Capacitors

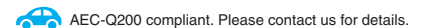


Chip Aluminum Electrolytic Capacitors

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Please refer to our website for the details of the series described as “WEB”.

Large Can Aluminum Electrolytic Capacitors

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