

Aluminum Electrolytic Capacitors

Chip Type

CS



85°C

CT



High Temperature

CL



Low Impedance

Miniature Type

SV



5mmL 85°C

ST



5mmL 105°C

NT



5mmL Non-Polarity

SS



7mmL 85°C

SH



7mmL 105°C

SL



7mmL Low Impedance

NS



7mmL Non-Polarity

Standard Type

SK



85°C Standard

SM



85°C Smaller

TK



105°C Standard

TM



105°C High Reliability

NK



105°C Non-Polarity

LK



85°C Low Leakage

Low I.M.P. Type

WG



105°C 2000~3000hrs

WL



105°C 1000~2000hrs

TH



105°C 2000hrs

TL



105°C 2000~5000hrs

TX



105°C 5000hrs

Special Type

WB



125°C High Temperature

FS



55°C For Photo flash

UK



Bi-Polarized For Horizontal Deflection Equalization

NC



Non-Polarity For Twinkling Light

Snap-in Type

LP



85°C Standard

HP



105°C Standard

LS



85°C Smaller

HS



105°C Smaller

Screw Terminal Type

KP



85°C High Ripple

RP



105°C High Ripple

PARTS NUMBER SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12
S	K	R	2	2	1	M	1	C	F	1	1

SERIES

TYPE

CAPACITANCE
(μ F)CAP.
TOL.VOLTAGE
(W.V.)CASE SIZE
(ϕ Dmm) (L.mm)

Length of Al.case

13	14	15
-	M	A

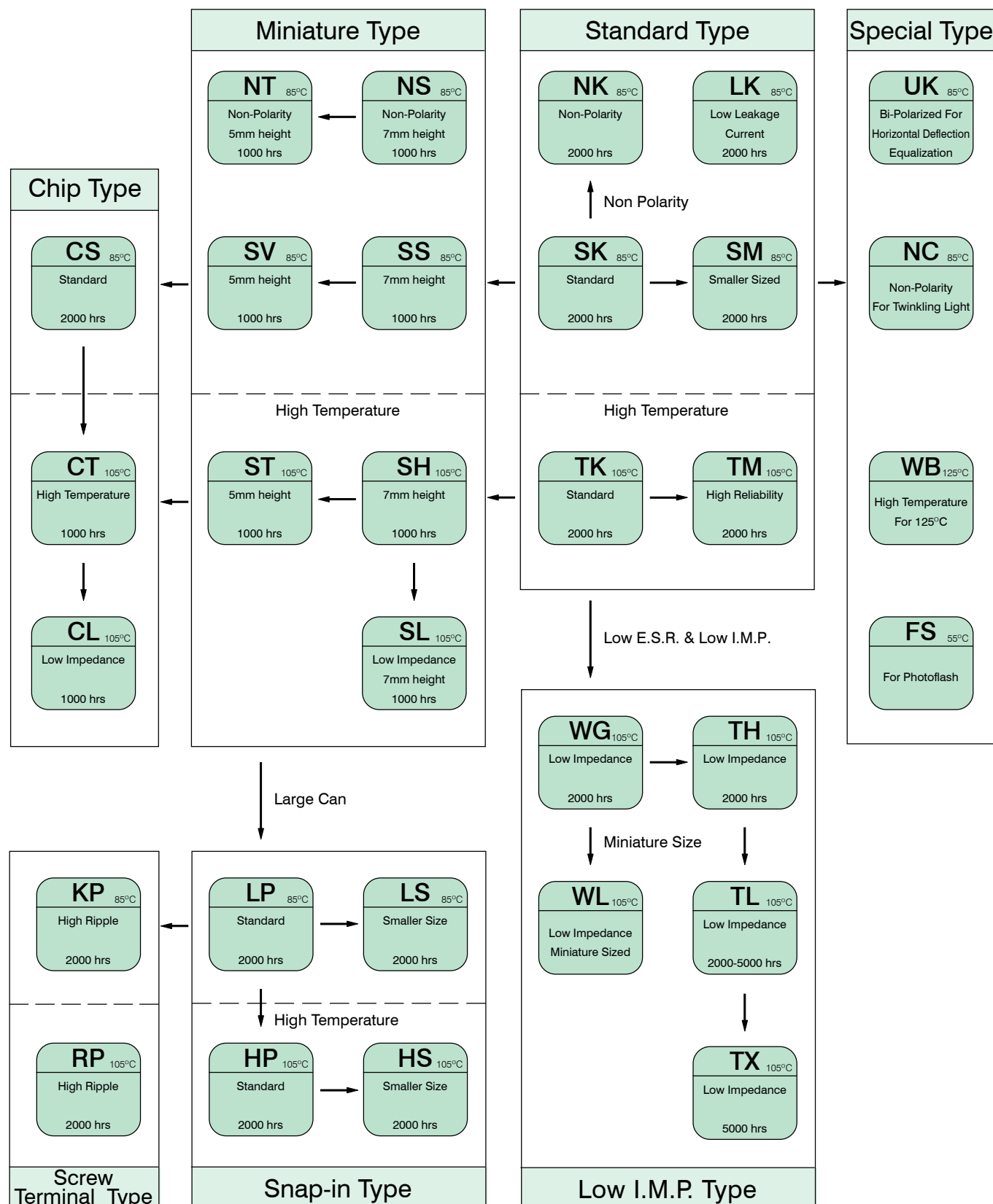
SPECAIL
REQUIREMENTS

Series		Type	Code	CAP (μ F)	Code	Tolerance (%)	Code	Voltage (W.V.)	Code	Diameter (ϕ)	Code
SV	FS	Radial	R	0.1	OR1	+10	K	4	0G	3	A
ST	LP			0.22	R22	-10		6.3	0J	3.8	S
NT	LS			0.33	R33	+15	L	10	1A	4	C
SS	KP	Radial Taping	P	0.47	R47	-15		13	1P	5	D
SH	HP			1	010	+20	M	16	1C	6	W
NS	HS			2.2	2R2	-20		20	1D	6.3	E
SL	RP	Lug	W	3.3	3R3	+100	P	25	1E	7	Y
SK	AP			4.7	4R7	-0		35	1V	8	F
SM	FW			10	100	+30	Q	40	1G	10	G
TK	CS	Screw	S	22	220	-10		50	1H	12	H
TM				33	330	+20	R	63	1J	12.5	I
NK				47	470	-0		80	1K	13	J
LK		Surface Mount	M	100	101	+50	T	100	2A	16	K
WL				220	221	-10		125	2B	18	L
WG				330	331	+75	U	160	2C	20	M
TL		Auxiliary lead (Radial)	K	470	471	-10		200	2D	22	N
WB				1000	102	+20	V	250	2E	25	O
TH				2200	222	-10		315	2F	30	P
UK				3300	332	+20	H	330	2U	35	Q
NC				4700	472	-5		350	2V	40	R
				10000	103	+30	F	400	2G	51	V
				22000	223	-0		450	2W	64	1
										77	2
										90	3

Code	Dascription
W	Without Sleeve
1~9	Customer
A~Z	Assige
a~	Brand

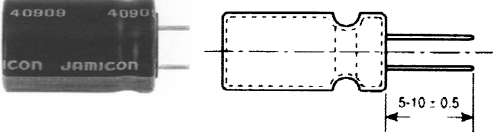
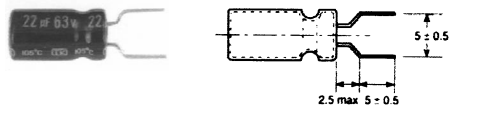
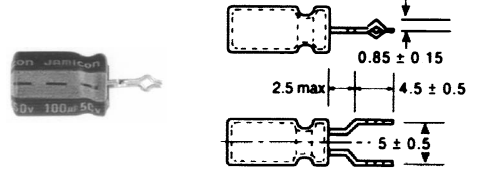
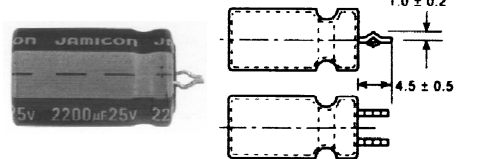
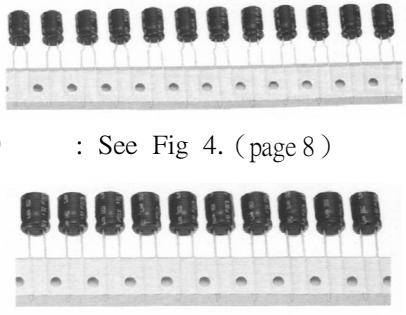
SERIES CHART OF CAPACITORS

ALUMINUM ELECTROLYTIC CAPACITORS



LEAD STYLE & TAPING AVAILABILITY

● Lead style & taping:

Item List	Code	Lead Diameter (mm)	Case Size DxL(mm)	Range	Dimensions
Lead Cut	C	0.5~0.8	5x11 18x42	$\phi 5 \sim \phi 18$	
Lead Forming Cut	F	0.5~0.6	5x11 8x11	$\phi 5 \sim \phi 8$	
Lead Forming Cut	Y	0.5~0.8	5x11	$\phi 5 \sim \phi 8$	
			18x42	$\phi 10 \sim \phi 18$	
Lead Taping	P	0.45~0.8	4x5 18x35	$\leq \phi 18$	$\phi 4 \sim \phi 8$: See Fig 1. (page 7)  $\phi 10$: See Fig 4. (page 8)

LEAD STYLE & TAPING AVAILABILITY

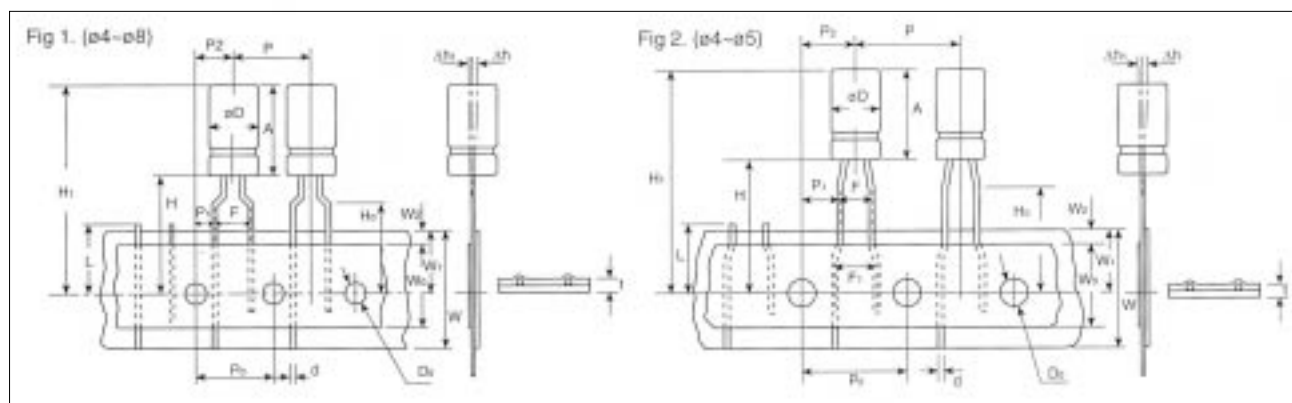
RADIAL AMMO PACK

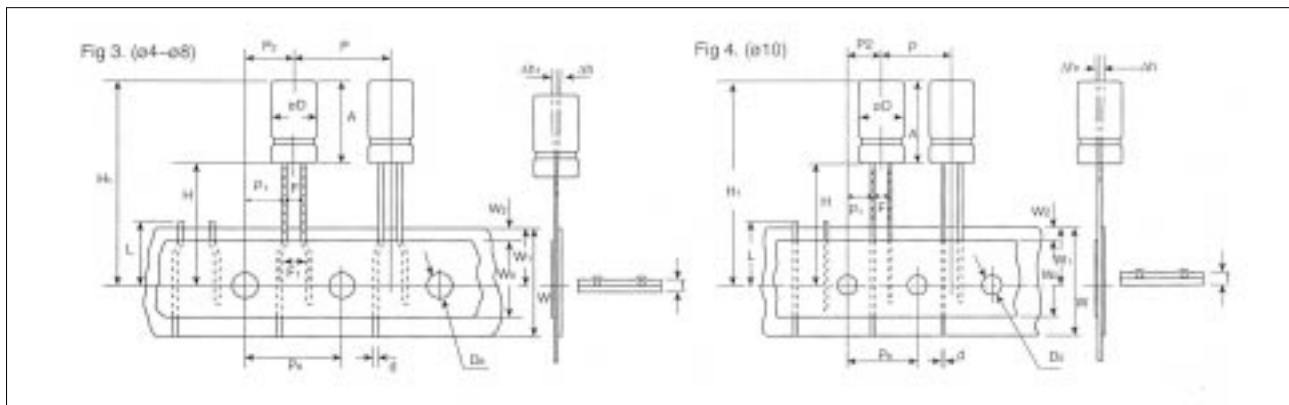
Lead taping is designed for automatic insertion equipment. Capacitor with case size of 18mmX 35mm or smaller are available in taping type.

DIMENSIONS (ø4~ø10)

(mm)

Item	Symbol	Case Size																Tolerance	Remark
		4× 5	5× 5	6.3× 5	8× 5	4× 7	5× 7	6.3× 7	8× 7	5× 11	6.3× 11	8× 11	10× 13	10× 16	10× 18	10× 21			
Lead wire diameter	d	0.45								0.5				0.6				± 0.05	
Body height	A	6.0				8.5				12.5				14.5	17.5	19.5	22.5	max	
Intervals of bodies	P	12.7																± 1.0	
Intervals of punched holes	P ₀	12.7																± 0.2	
Distance between holes and lead wire	P ₁	3.85																± 0.7	Fig 1. Fig 4.
		5.35	5.1	5.1			5.35	5.1	5.1			5.1					Fig 2.		
		5.6	5.35	5.1	5.1	5.6	5.35	5.1	4.6	5.35	5.1	4.6					Fig 3.		
Distance between holes and bodies	P ₂	6.35																± 1.0	
Distance between lead and lead	F	5.0																+0.8	Fig1. Fig 4.
		2.0	2.5	2.5			2.0	2.5	2.5			2.5					Fig2.F1:5.0 ^{+0.5} _{-1.0}		
		1.5	2.0	2.5	2.5	1.5	2.0	2.5	3.5	2.0	2.5	3.5					Fig3.F1:5.0 ^{+0.5} _{-1.0}		
Base tape width	W	18.0																± 0.5	
Adhesive tape width	W ₀	12.5																min	
Deviation between holes and base tape	W ₁	9.0																± 0.5	
Deviation between adhesive and base tape	W ₂	1.5																max	
Distance between body bottom and tape center	H	17.5								18.5				20.0	18.5			± 0.5	Fig1. Fig 4.
		17.5								18.5				18.5					Fig2. Fig 3.
Lead wire clinched hight	H ₀	16.0																± 0.5	
Distance between body top and tape center	H ₁	24.5				27.5				32.5				33.0	36.0	38.0	41.0	max	
Punched hole diameter	D ₀	4.0																± 0.3	
Length of not good lead slit	L	11.0																max	
Base and adhesive tape thickness	t	0.6																± 0.3	
Deviation of body alignment	△ h	0																± 2.0	
Deviation of body alignment	△ h ₁	0																± 1.0	



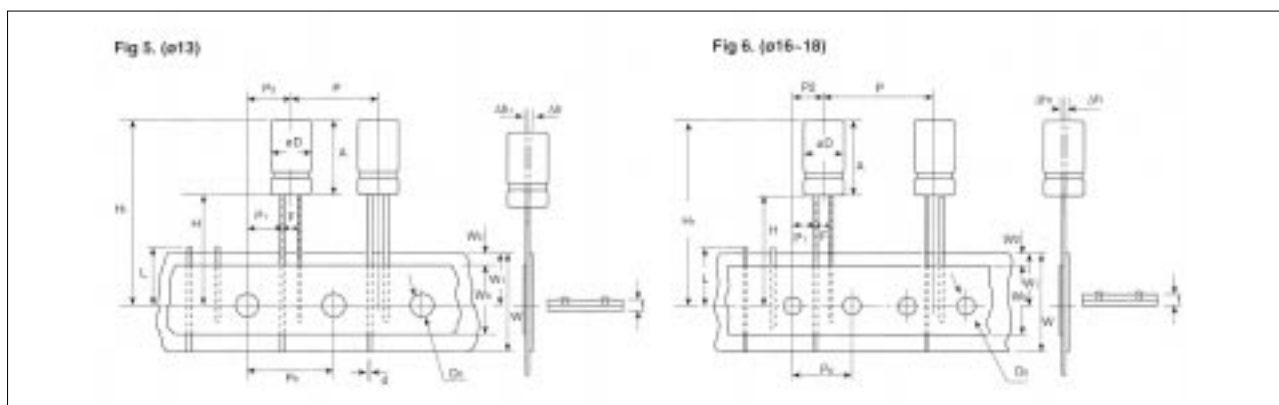


■ DIMENSIONS(φ13~φ18)

(mm)

Item	Symbol	Case Size							Tolerance	Remark
		13× 21	13× 26	13× 31	16× 25	16× 32	16× 35	18× 35		
Lead wire diameter	d	0.6			0.8				± 0.05	
Body height	A	23.0	28.0	33.0	27.0	34.0	37.0	37.0	max.	
Intervals of bodies	P	15.0			30.0				± 1.0	Fig 5. Fig 6
Intervals of punched holes	P ₀	15.0							± 0.2	
Distance between holes and lead wire	P ₁	5.0			3.75				± 0.7	
Distance between holes and bodies	P ₂	7.5							± 1.0	
Distance between lead and lead	F	5.0			7.5				+0.8 -0.2	
Base tape width	W	18.0							± 0.5	
Adhesive tape width	W ₀	15.0							min	
Deviation between holes and base tape	W ₁	9.0							± 0.5	
Deviation between adhesive and base tape	W ₂	1.5							max	
Distance between body bottom and tape center	H	16.5			18.5				± 0.5	Fig 5. Fig 6.
Distance between body top and tape center	H ₁	40.5	45.5	50.5	46.5	53.5	56.5	56.5	max	
Punched hole diameter	D ₀	4.0							± 0.3	
Length of not good lead slit	L	11.0							max	
Base and adhesive tape thickness	t	0.6							± 0.3	
Deviation of body alignment	△ h	0							± 2.0	
Deviation of body alignment	△ h ₁	0							± 1.0	

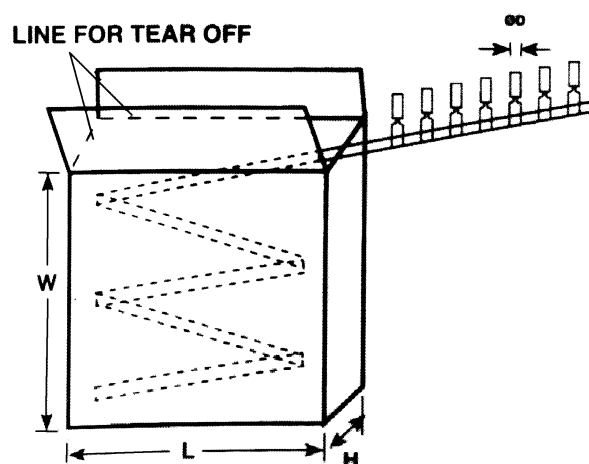
LEAD STYLE & TAPING AVAILABILITY

JAMICON®


PACKING (SYMBOL: P)

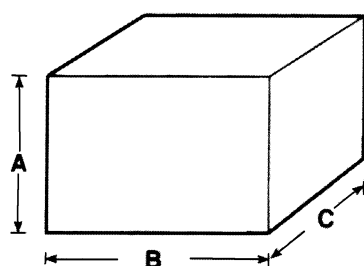
Available for various automatic equipment. Choosing the ordinal the polarity of capacitor's lead depends on customer's request.

INNER BOX :



∅ D(mm)	W ± 5(mm)	L ± 5(mm)	H ± 5(mm)	Quantity(Pcs)
4	175	335	45	2,000
5	235	335	50	2,000
6.3	280	335	50	2,000
8	235	335	50	1,000
10(L ≤ 16)	295	320	50	800
10(L ≤ 21)	295	320	55	800
13(L ≤ 21)	295	320	55	500
13(L ≤ 26)	295	320	60	500
13(L ≤ 31)	295	320	70	500
16(L ≤ 25)	295	320	60	300
16(L ≤ 32)	295	320	70	300
16(L ≤ 35)	300	320	70	300
18(L ≤ 35)	300	320	70	243

PACKING CARTON :



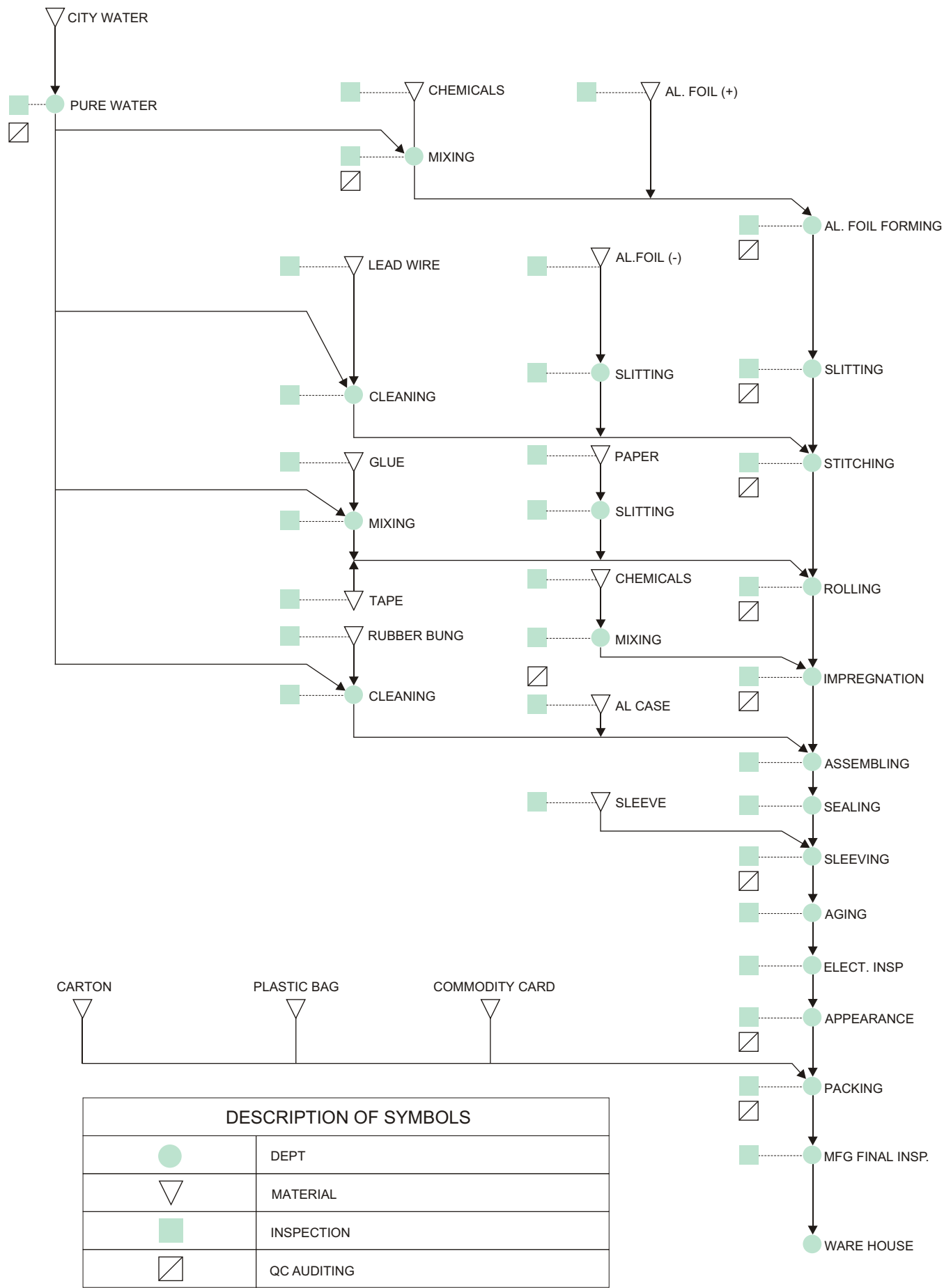
∅(mm)	A ± 5(mm)	B ± 5(mm)	C ± 5(mm)	Inner Box	Quantity(Pcs)
4	240	355	185	5	10,000
5	270	355	250	5	10,000
6.3	270	355	300	5	10,000
8	270	355	250	5	5,000
10(L ≤ 16)	290	345	320	5	4,000
10(L ≤ 21)	315	345	320	5	4,000
13(L ≤ 21)	315	345	320	4	2,000
13(L ≤ 26)	340	345	320	4	2,000
13(L ≤ 31)	370	345	320	4	2,000
16(L ≤ 25)	340	345	320	4	1,200
16(L ≤ 32)	370	345	320	4	1,200
16(L ≤ 35)	385	345	320	4	1,200
18(L ≤ 35)	385	345	320	4	972

USAGE CONDITIONS

1. Electrolytic capacitors for D.C. application requires polarity confirming before using. If they are used in reversed polarity, the circuit life may be shorten and the capacitor or other components may be damaged. To avoid capacitors exploding abnormally, we have developed the "case vent" (diameter: 6mm and over) and the "rubber vent"(for KPS and RPS).
2. Use electrolytic capacitors according to specified operating temperature range. Don't apply voltage exceeding the rated working voltage .
3. Capacitor tolerance and D.F. should be tested at 120 Hz 25 °C. The value of leakage current should be measured at 25 oC with rated working voltage applied in specified time.
4. To avoid inner damage of capacitors, methods of measuring the strength of lead wires and terminals should follow the specified value of JISC5102 and IEC384.
5. Do not place a soldering iron near or on the body of a capacitor to avoid sleeve deforming and cracking.
6. Do not use halogenated hydrocarbon solvent whenever soldering capacitors and clean the circuit board to avoid inner damage of capacitors.
7. Be careful of temperature and time when soldering. Dipping must be performed at the soldering temperature (less than 260 oC and within 10seconds) otherwise the capacitor may be damaged.
8. Capacitors should be stored at low temperature and low humidity for longer storage time.
9. Satisfy the customer's demand if they required the anti-solvent parts.
10. Specifications of capacitors are according to the JIS-C5141 (characteristic: W)and IEC384. For methods of processing and testing are according to the JIS-C5102 and IEC 384.

Safe	Unsafe
Xylene	1,1,2-Trichloro-1,1,2-Trifluoroethane
Ethyl alcohol	Carbon tetrachloride
Buthyl alcohol	Chloroform
Methyl alcohol	Trichloroethane
Propyl alcohol	Trichloroethylene
Calgonito (detergent)	Methylene chloride

ELECTROLYTIC CAPACITOR FLOW CHART



Features

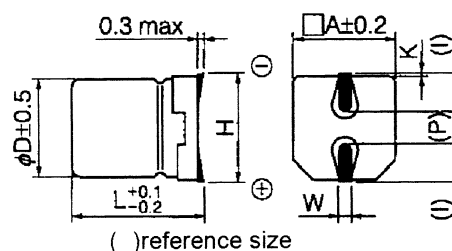
- Height : 5.5 mm
- Load life : 85°C 2000 hours

● SPECIFICATION

Item	Characteristic							
Operation Temperature Renge	-40 ~ +85°C							
Rated Working Voltage	4 ~ 50VDC							
Capcitanace Tolerance (120Hz 25°C)	±20%(M)							
Leakage Current (25°C)	1≦0.01CV or 3 (μA)				I : Leakage Current (μA) C : Rated Capacitance (μF) V : Working Voltage (V)			
	*Select the maximum value after 2 minutes							
Surge Voltage (25°C)	W.V.	4	6.3	10	16	25	35	50
	S.V.	5	8	13	20	32	44	63
Dissipation Factor (tan δ) (120Hz 25°C)	W.V.	4	6.3	10	16	25	35	50
	tan δ	0.35	0.25	0.20	0.16	0.14	0.12	0.12
Low Temperature Stability	Impedance ratio at 120Hz							
	Rated Voltage (V)		4	6.3	10	16	25	35 ~ 50
	-25°C / +25°C		7	4	3	2	2	2
	-40°C / +25°C		15	8	6	4	4	3
Load Life	At +85°C, capacitors will be conformed to the following limits after having been applied to W.V. for 2000 hours.							
	Capacitance Change	≦±20% of initial value (4~6.3W:1000±30%)						
	Dissipation Factor	≦±200% of initial specified value						
	Leakage current	≦initial specified value						
Shelf Life	After 1000 hours (without application of voltage at +85°C), capacitrors are still conformed to the limits of load life characteristics by aging treatment (reference JIS 5102,4.4).							

● DIMENSIONS (mm)

D	L	A	H	I	W	P	K
4.0	5.4	4.3	5.5MAX	1.8	0.65±0.1	1.0	0.35 ^{+0.15} _{-0.20}
5.0	5.4	5.3	6.5MAX	2.2	0.65±0.1	1.5	0.35 ^{+0.15} _{-0.20}
6.3	5.4	6.6	7.8MAX	2.6	0.65±0.1	2.1	0.35 ^{+0.15} _{-0.20}



Case size : D x L (mm)
Max ripple current : mA (rms)
(R.C.) : 85°C 120KHz

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Features

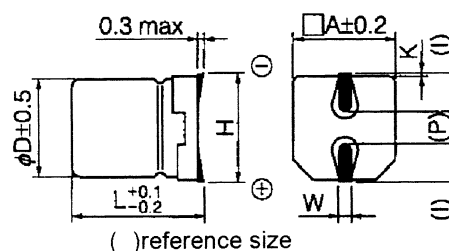
- 105°C 1000hours
- For high density mounting

● SPECIFICATION

Item	Characteristic						
Operation Temperature Renge	-55 ~ +105°C						
Rated Working Voltage	6.3 ~ 50VDC						
Capcitanace Tolerance (120Hz 25°C)	±20%(M)						
Leakage Current (25°C)	1≤0.01CV or 3 (μA) *Select the maximum value after 2 minutes				I : Leakage Current (μA) C : Rated Capacitance (μF) V : Working Voltage (V)		
Surge Voltage (25°C)	W.V.	6.3	10	16	25	35	50
	S.V.	8	13	20	32	44	63
Dissipation Factor (tan δ) (120Hz 25°C)	W.V.	6.3	10	16	25	35	50
	tan δ	0.30	0.22	0.16	0.14	0.12	0.12
Low Temperature Stability	Impedance ratio at 120Hz						
	Rated Voltage (V)	6.3	10	16	25	35	50
	-25°C / +25°C	4	3	2	2	2	2
	-40°C / +25°C	8	6	4	4	3	3
Load Life	At +105°C, capacitors will be conformed to the following limits after having been applied to W.V. for 1000 hours.						
	Capacitance Change	≤±30% of initial value for 6.3W.V., ≤±25% of initial value for 10~50W.V.					
	Dissipation Factor	≤±200% of initial specified value					
	Leakage current	≤initial specified value					
Shelf Life	After 1000 hours (without application of voltage at +105°C), capacitrors are still conformed to the limits of load life characteristics by aging treatment (reference JIS 5102,4.4).						

● DIMENSIONS (mm)

D	L	A	H	I	W	P	K
4.0	5.4	4.3	5.5MAX	1.8	0.65±0.1	1.0	0.35 ^{+0.15} _{-0.20}
5.0	5.4	5.3	6.5MAX	2.2	0.65±0.1	1.5	0.35 ^{+0.15} _{-0.20}
6.3	5.4	6.6	7.8MAX	2.6	0.65±0.1	2.1	0.35 ^{+0.15} _{-0.20}



● CASE SIZE & MAX RIPPLE CURRENT

Case size : D x L (mm)
 Max ripple current : mA (rms)
 (R.C.) : 105°C 120KHz

μF	V(Code) Code	6.3 (0J)		10 (1A)		16 (1C)		25 (1E)		35 (1V)		50 (1H)	
		DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.
0.1	0R1											4x5.4	2
0.22	R22											4x5.4	4
0.33	R33											4x5.4	5
0.47	R47											4x5.4	5
1.0	010											4x5.4	8
2.2	2R2											4x5.4	11
3.3	3R3											4x5.4	14
4.7	4R7							4x5.4	14	4x5.4	15	5x5.4	19
10	100					4x5.4	19	5x5.4	23	5x5.4	25	6.3x5.4	31
22	220	4x5.4	23	5x5.4	29	5x5.4	32	6.3x5.4	39	6.3x5.4	42		
33	330	4x5.4	32	5x5.4	35	6.3x5.4	45	6.3x5.4	48				
47	470	5x5.4	38	6.3x5.4	40	6.3x5.4	55						
100	101	6.3x5.4	65	6.3x5.4	70								

Features

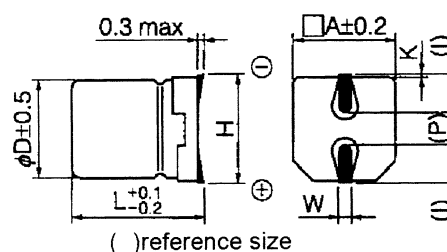
- Load Life : 105°C 1000hours
- For high density mounting
- Low impedance at 100kHz

● SPECIFICATION

Item	Characteristic						
Operation Temperature Renge	-55 ~ +105°C						
Rated Working Voltage	6.3 ~ 50VDC						
Capcitanace Tolerance (120Hz 25°C)	±20%(M)						
Leakage Current (25°C)	1≦0.01CV or 3 (μA) *Select the maximum value after 2 minutes				I : Leakage Current (μA) C : Rated Capacitance (μF) V : Working Voltage (V)		
Surge Voltage (25°C)	W.V.	6.3	10	16	25	35	50
	S.V.	8	13	20	32	44	63
Dissipation Factor (tan δ) (120Hz 25°C)	W.V.	6.3	10	16	25	35	50
	tan δ	0.22	0.19	0.16	0.14	0.12	0.12
Low Temperature Stability	Impedance ratio at 120Hz						
	Rated Voltage (V)	6.3	10	16	25	35	50
	-25°C / +25°C	2	2	2	2	2	2
	-40°C / +25°C	5	4	4	3	3	3
Load Life	At +105°C, capacitors will be conformed to the following limits after having been applied to W.V. for 1000 hours.						
	Capacitance Change	≦±30% of initial value for 6.3W.V., ≦±20% of initial value for 10~50W.V.					
	Dissipation Factor	≦±200% of initial specified value					
	Leakage current	≦initial specified value					
Shelf Life	After 1000 hours (without application of voltage at +105°C), capacitrors are still conformed to the limits of load life characteristics by aging treatment (reference JIS 5102,4.4).						

● DIMENSIONS (mm)

D	L	A	H	I	W	P	K
4.0	5.4	4.3	5.5MAX	1.8	0.65 ± 0.1	1.0	$0.35^{+0.15}_{-0.20}$
5.0	5.4	5.3	6.5MAX	2.2	0.65 ± 0.1	1.5	$0.35^{+0.15}_{-0.20}$
6.3	5.4	6.6	7.8MAX	2.6	0.65 ± 0.1	2.1	$0.35^{+0.15}_{-0.20}$



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MINIATURE SIZE

SV

Series

5mmL 85°C , Ultra-Miniature

JAMICON®

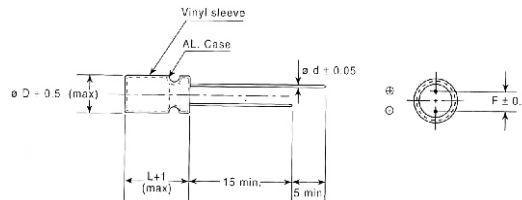
- For general purposes series with 5mm height .

SPECIFICATION

Item	Characteristic							
Operation Temperature Range	-40 ~ +85°C							
Rated working Voltage	4 ~ 50VDC							
Capacitance Tderance (120Hz 25°C)	±20%(M)							
Leakage Current (25°C)	I ≤ 0.01 CV or 3 (μ A)							

DIMENSIONS (mm)

ϕD	4	5	6.3	8
F	1.5	2.0	2.5	2.5
d	0.45	0.45	0.45	0.45



CASE SIZE & MAX RIPPLE CURRENT

Case size : DxL (mm)
 Max ripple current : mA (rms)
 (R.C.) : 85°C 120Hz

V(Code) Item Code		4 (0G)		6.3 (0J)		10 (1A)		16 (1C)		25 (1E)		35 (1V)		50 (1H)	
μF		D x L	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.
0.1	0R1											→		4x5	3
0.15	R15											→		4x5	4
0.22	R22											→		4x5	4
0.33	R33											→		4x5	5
0.47	R47											→		4x5	6
0.68	R68											→		4x5	8
1.0	010											→		4x5	9
1.5	1R5											→		4x5	12
2.2	2R2									→		4x5	13	4x5	14
3.3	3R3							→	4x5	14	4x5	16	4x5	17	
4.7	4R7							→	4x5	16	4x5	17	4x5	19	20
6.8	6R8				→	4x5	17	4x5	19	4x5	21	5x5	26	6.3x5	32
10	100		→	4x5	19	4x5	21	4x5	24	4x5	25	5x5	31	6.3x5	39
15	150		→	4x5	24	4x5	26	5x5	33	5x5	35	6.3x5	44	6.3x5	48
22	220	4x5	24	4x5	29	4x5(5x5)	31(36)	5x5	40	5x5(6.3x5)	43(49)	6.3x5	55	6.3x5(8x5)	60(70)
33	330	4x5	29	4x5(5x5)	35(40)	4x5(5x5)	38(40)	5x5(6.3x5)	49(55)	6.3x5	60	6.3x5(8x5)	65(75)	8x5	85
47	470	4x5	35	5x5	48	5x5(6.3x5)	50(60)	6.3x5	65	6.3x5(8x5)	70(85)	8x5	90		
68	680	5x5	47	6.3x5	65	6.3x5	70	6.3x5	80	8x5	100				
100	101	6.3x5	65	6.3x5	80	6.3x5(8x5)	90(100)	6.3x5(8x5)	100(110)	8x5	120				
220	221	6.3x5	100	8x5	140	8x5	150								
330	331	8x5	140	8x5	170										

All blank voltage on sleeve marking is the same voltage as " → " point to.

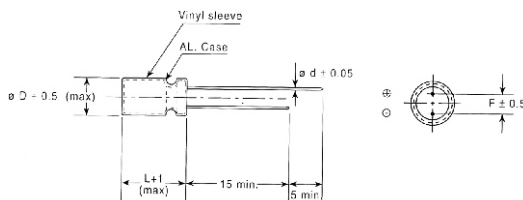
- Wide temperature range series with 5mm height .

SPECIFICATION

Item	Characteristic							
Operation Temperature Range	-55~+105°C							
Rated working Voltage	4~50VDC							
Capacitance Tolerance (120Hz 25°C)	±20%(M)							
Leakage Current (25°C)	I ≤ 0.01 CV or 3 (μ A)							

DIMENSIONS (mm)

ϕ D	4	5	6.3
F	1.5	2.0	2.5
d	0.45	0.45	0.45



CASE SIZE & MAX RIPPLE CURRENT

Case size : DxL (mm)
 Max ripple current : mA (rms)
 (R.C.) : 105°C 120Hz

μF	V(Code) Item Code	4 (0G)		6.3 (0J)		10 (1A)		16 (1C)		25 (1E)		35 (1V)		50 (1H)	
		DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.
0.1	0R1											→	4x5	2	
0.22	R22											→	4x5	4	
0.33	R33											→	4x5	4	
0.47	R47											→	4x5	5	
1.0	010											→	4x5	8	
2.2	2R2									→	4x5	10	4x5	11	
3.3	3R3									→	4x5	13	4x5	14	
4.7	4R7							→	4x5	14	4x5	15	5x5	19	
10	100					→	4x5	19	5x5	23	5x5	25	6.3x5	31	
22	220	4x5	19	4x5	23	5x5	29	5x5	32	6.3x5	39	6.3x5	42		
33	330	5x5	26	5x5	32	5x5	35	6.3x5	45	6.3x5	48				
47	470	5x5	32	5x5	38	6.3x5	48	6.3x5	55						
100	101	6.3x5	55	6.3x5	65										

All blank voltage on sleeve marking is the same voltage as " → " point to.

MINIATURE SIZE

NT

Series

5mmL 85°C , Non Polarity

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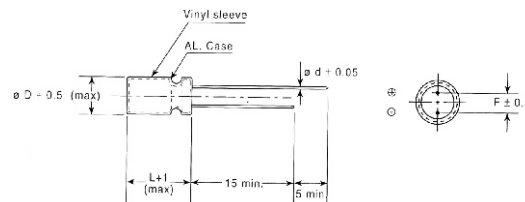
- Non polarity series with 5mm height .

SPECIFICATION

Item	Characteristic																				
Operation Temperature Range	-40～+85℃																				
Rated working Voltage	6.3～50VDC																				
Capacitance Tolerance (120Hz 25℃)	±20%(M)																				
Leakage Current (25℃)	I ≤ 0.05 CV or 10 (μ A) I: Leakage Current (μ A) C: Rated Capacitance(μ F) V : Working Voltage (V) Whichever is greater after 2 minutes																				
Surge Voltage (25℃)	<table><tr><td>W.V.</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td></tr><tr><td>S.V.</td><td>8</td><td>13</td><td>20</td><td>32</td><td>44</td><td>63</td></tr></table>							W.V.	6.3	10	16	25	35	50	S.V.	8	13	20	32	44	63
W.V.	6.3	10	16	25	35	50															
S.V.	8	13	20	32	44	63															
Dissipation Factor (tan δ) (120Hz 25℃)	<table><tr><td>W.V.</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td></tr><tr><td>tan δ</td><td>0.24</td><td>0.20</td><td>0.17</td><td>0.17</td><td>0.15</td><td>0.15</td></tr></table>							W.V.	6.3	10	16	25	35	50	tan δ	0.24	0.20	0.17	0.17	0.15	0.15
W.V.	6.3	10	16	25	35	50															
tan δ	0.24	0.20	0.17	0.17	0.15	0.15															
Low Temperature Stability	Impedance ratio at 120Hz																				
	Rated Voltage (V)		6.3	10	16	25	35	50													
	-25℃/+25℃		4	3	2	2	2	2													
	-40℃/+25℃		10	8	6	4	3	3													
Load Life	After 1000 hours application of WV at +85℃, the capacitor shall meet the following limits. (The polarity needs to exchange every 250 hours)																				
	Capacitance Change		≤ ±20% of initial value																		
	Dissipation Factor		≤ 200% of initial specified value																		
	Leakage current		≤ initial specified value																		
Shelf Life	At +85℃ no voltage application after 500 hours and then through the aging treatment (reference JIS C 5102 4.4) , the capacitor shall meet the limits for load life characteristics .																				
Reference Standard	JIS C 5102																				

DIMENSIONS (mm)

ϕD	4	5	6.3
F	1.5	2.0	2.5
d	0.45	0.45	0.45



CASE SIZE & MAX RIPPLE CURRENT

Case size : DxL (mm)
 Max ripple current : mA (rms)
 (R.C.) : 85°C 120Hz

μF	V(Code) Item Code	6.3 (0J)		10 (1A)		16 (1C)		25 (1E)		35 (1V)		50 (1H)	
		DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.
0.1	0R1											4x5	1
0.22	R22											4x5	2
0.33	R33											4x5	2.8
0.47	R47											4x5	4
1.0	010											4x5	8.4
2.2	2R2									4x5	8.4	5x5	13
3.3	3R3							5x5	12	5x5	16	5x5	17
4.7	4R7					4x5	12	5x5	16	5x5	18	6.3x5	20
10	100	4x5	14	4x5	17	5x5	23	6.3x5	27	6.3x5	29		
22	220	5x5	28	6.3x5	33	6.3x5	37						
33	330	6.3x5	37	6.3x5	41	6.3x5	49						
47	470	6.3x5	45										

All blank voltage on sleeve marking is the same voltage as " → " point to.

MINIATURE SIZE

SS Series

7mmL 85°C , Standard

[Back](#)

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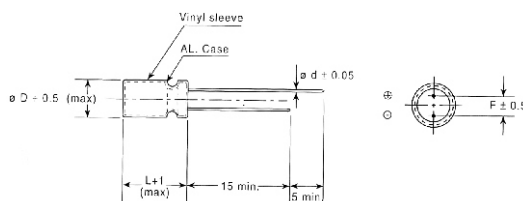
- For general purposes series with 7mm height .

SPECIFICATION

Item	Characteristic								
Operation Temperature Range	-40~+85°C								
Rated working Voltage	4~63VDC								
Capacitance Tolerance (120Hz 25°C)	±20%(M)								
Leakage Current (25°C)	I ≤ 0.01 CV or 3 (μ A)								

DIMENSIONS (mm)

ϕ D	4	5	6.3	8
F	1.5	2.0	2.5	3.5
d	0.45	0.45	0.45	0.50



CASE SIZE & MAX RIPPLE CURRENT

Case size : DxL (mm)
 Max ripple current : mA (rms)
 (R.C.) : 85°C 120Hz

V(Code) Item Code		4 (0G)		6.3 (0J)		10 (1A)		16 (1C)		25 (1E)		35 (1V)		50 (1H)		63 (1J)	
μF		DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.
0.1	0R1												→	4x7	3	4x7	3
0.22	R22												→	4x7	5	4x7	5
0.33	R33												→	4x7	6	4x7	6
0.47	R47												→	4x7	7	4x7	7
1.0	010												→	4x7	11	4x7	11
2.2	2R2												→	4x7	16	4x7	16
3.3	3R3												→	4x7	18	4x7	20
4.7	4R7												→	4x7	22	4x7	24
10	100												→	4x7	20	4x7	24
22	220		→	4x7	33	4x7	36	4x7	39	5x7	49	6.3x7	60	8x7	75		
33	330	4x7	33	4x7	40	4x7	44	5x7	55	6.3x7	70	8x7	85	8x7	95		
47	470	4x7	40	5x7	55	5x7	60	5x7	65	8x7	95	8x7	100				
100	101	5x7	65	6.3x7	90	6.3x7	100	6.3x7	110	8x7	140						
220	221	6.3x7	110	8x7	160	8x7	170	8x7	190								
330	331	8x7	160	8x7	190												

All blank voltage on sleeve marking is the same voltage as " → " point to.

MINIATURE SIZE

SH

Series

7mmL 105°C , Wide Temperature Range

JAMICON®

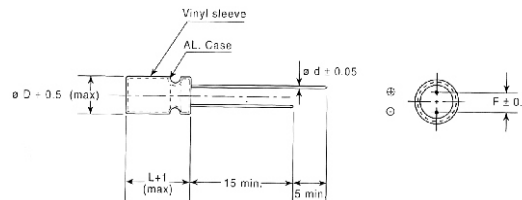
- Wide temperature range series with 7mm height .

SPECIFICATION

Item	Characteristic						
Operation Temperature Range	-55~+105°C						
Rated working Voltage	6.3~50VDC						
Capacitance Tolerance (120Hz 25°C)	±20%(M)						
Leakage Current (25°C)	I ≤ 0.01 CV or 3 (μ A)						

DIMENSIONS (mm)

ϕD	4	5	6.3	8
F	1.5	2.0	2.5	3.5
d	0.45	0.45	0.45	0.50



CASE SIZE & MAX RIPPLE CURRENT

Case size : DxL (mm)
 Max ripple current : mA (rms)
 (R.C.) : 105°C 120Hz

V(Code) Item Code		6.3 (0J)		10 (1A)		16 (1C)		25 (1E)		35 (1V)		50 (1H)	
μF		DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.
0.1	0R1									→		4x7	1
0.22	R22									→		4x7	2.3
0.33	R33									→		4x7	3.5
0.47	R47									→		4x7	5
1.0	010									→		4x7	10
2.2	2R2									→		4x7	19
3.3	3R3									→		4x7	24
4.7	4R7							→		4x7	24	5x7	29
10	100			→		4x7	29	5x7	33	5x7	36	6.3x7	44
22	220	4x7	34	5x7	38	5x7	44	6.3x7	51	6.3x7	60	8x7	65
33	330	5x7	42	5x7	47	6.3x7	60	6.3x7	65	8x7	72		
47	470	5x7	50	6.3x7	65	6.3x7	70	8x7	78				
100	101	6.3x7	77	6.3x7	87	6.3x7	90						
220	221	8x7	130	8x7	140								

All blank voltage on sleeve marking is the same voltage as " → " point to.

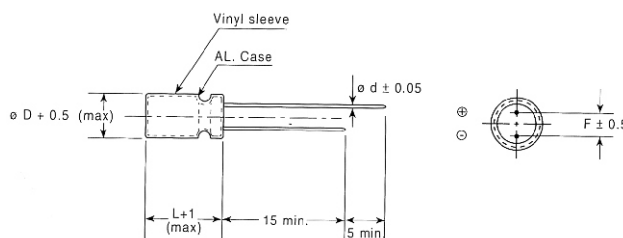
- High ripple current , low impedance series with 7mm height .

SPECIFICATION

Item	Characteristic																																		
Operation Temperature Range	-55~+105℃																																		
Rated working Voltage	6.3~50VDC																																		
Capacitance Tolerance (120Hz 25℃)	±20%(M)																																		
Leakage Current (25℃)	I ≤ 0.01 CV or 3 (μ A) Whichever is greater after 3 minutes I: Leakage Current (μ A) C: Rated Capacitance(μ F) V : Working Voltage (V)																																		
Surge Voltage (25℃)	<table><tr><td>W.V.</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td></tr><tr><td>S.V.</td><td>8</td><td>13</td><td>20</td><td>32</td><td>44</td><td>63</td></tr></table>							W.V.	6.3	10	16	25	35	50	S.V.	8	13	20	32	44	63														
W.V.	6.3	10	16	25	35	50																													
S.V.	8	13	20	32	44	63																													
Dissipation Factor (tan δ) (120Hz 25℃)	<table><tr><td>W.V.</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td></tr><tr><td>tan δ</td><td>0.22</td><td>0.19</td><td>0.16</td><td>0.14</td><td>0.12</td><td>0.1</td></tr></table>							W.V.	6.3	10	16	25	35	50	tan δ	0.22	0.19	0.16	0.14	0.12	0.1														
W.V.	6.3	10	16	25	35	50																													
tan δ	0.22	0.19	0.16	0.14	0.12	0.1																													
Low Temperature Stability	<table><tr><td colspan="7">Impedance ratio at 120Hz</td></tr><tr><td>Rated Voltage (V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td></tr><tr><td>-25℃/+25℃</td><td>3</td><td>3</td><td>3</td><td>2</td><td>2</td><td>2</td></tr><tr><td>-55℃/+25℃</td><td>6</td><td>6</td><td>6</td><td>4</td><td>4</td><td>4</td></tr></table>							Impedance ratio at 120Hz							Rated Voltage (V)	6.3	10	16	25	35	50	-25℃/+25℃	3	3	3	2	2	2	-55℃/+25℃	6	6	6	4	4	4
Impedance ratio at 120Hz																																			
Rated Voltage (V)	6.3	10	16	25	35	50																													
-25℃/+25℃	3	3	3	2	2	2																													
-55℃/+25℃	6	6	6	4	4	4																													
Load Life	After 1000 hours application of WV at +105℃, the capacitor shall meet the following limits.																																		
	Capacitance Change		≤ ±20% of initial value																																
	Dissipation Factor		≤200% of initial specified value																																
	Leakage current		≤initial specified value																																
Shelf Life	At +105℃ no voltage application after 1000 hours and then through the aging treatment (reference JIS C 5102 4.4) , the capacitor shall meet the limits for load life characteristics .																																		
Reference Standard	JIS C 5102																																		

DIMENSIONS (mm)

ϕD	4	5	6.3	8
F	1.5	2.0	2.5	3.5
d	0.45	0.45	0.45	0.50



RIPPLE CURRENT COEFFICIENTS

Temperature(°C)	65	75	85	95	105
Multiplier	2.12	1.92	1.69	1.50	1.00

Frequency(Hz)	60	120	400	1K	10K	100K
W.V.	Multiplier					
6.3~16 V	0.45	0.60	0.83	0.94	0.98	1.00
25~35 V	0.38	0.50	0.75	0.90	0.97	1.00
50 V	0.36	0.46	0.70	0.88	0.94	1.00

Case size : D x L (mm)
 Max impedance : Ω 100KHz
 Max ripple current : mA (rms)
 (R.C.) : 105°C 100KHz

● CASE SIZE & MAX RIPPLE CURRENT

μF / V(Code) Code / Item		6.3 (0J)				10 (1A)			
		DxL	IMP.		R.C.	DxL	IMP.		R.C.
			25°C	-10°C			25°C	-10°C	
12	150				→	4x7	1.592	4.775	80
22	220	4x7	1.191	3.572	80	4x7	1.184	3.552	95
27	270	4x7	1.051	3.153	90	4x7	1.045	3.136	100
33	330	4x7	0.926	2.778	100	4x7	0.921	2.763	110
39	390	4x7	0.839	2.518	110	5x7	0.835	2.505	140
47	470	5x7	0.629	1.886	130	5x7	0.568	1.705	160
56	560	5x7	0.561	1.682	150	5x7	0.507	1.521	170
68	680	5x7	0.489	1.467	160	6.3x7	0.442	1.326	210
82	820	6.3x7	0.450	1.351	200	6.3x7	0.407	1.222	230
100	101	6.3x7	0.406	1.219	220	6.3x7	0.367	1.102	260
120	121	6.3x7	0.346	1.039	250	6.3x7	0.313	0.939	280
150	151	6.3x7	0.283	0.850	280	8x7	0.256	0.768	370
180	181	8x7	0.246	0.739	350				
220	221	8x7	0.210	0.630	390				

μF / V(Code) Code / Item		16 (1C)				25 (1E)			
		DxL	IMP.		R.C.	DxL	IMP.		R.C.
			25°C	-10°C			25°C	-10°C	
10	100	4x7	1.416	4.249	75	4x7	1.332	3.995	95
15	150	4x7	1.039	3.116	90	4x7	0.977	2.930	110
18	180	4x7	0.897	2.692	100	5x7	0.851	2.552	140
22	220	4x7	0.772	2.317	100	5x7	0.726	2.179	150
27	270	5x7	0.682	2.046	130	6.3x7	0.641	1.923	190
33	330	5x7	0.601	1.802	140	6.3x7	0.565	1.695	210
39	390	6.3x7	0.545	1.634	180	6.3x7	0.512	1.537	220
47	470	6.3x7	0.482	1.446	190	6.3x7	0.453	1.360	250
56	560	6.3x7	0.430	1.290	210	8x7	0.404	1.213	310
68	680	6.3x7	0.375	1.125	230	8x7	0.352	1.057	340
82	820	6.3x7	0.345	1.036	260				
100	101	6.3x7	0.312	0.935	280				

μF / V(Code) Code / Item		35 (1V)				50 (1H)			
		DxL	IMP.		R.C.	DxL	IMP.		R.C.
			25°C	-10°C			25°C	-10°C	
4.7	4R7	4x7	2.760	8.280	70	4x7	2.758	8.274	90
6.8	6R7	4x7	2.385	7.154	80	5x7	2.383	7.149	110
10	100	5x7	0.998	2.994	110	6.3x7	0.499	1.496	150
15	151	5x7	0.732	2.195	140	6.3x7	0.366	1.097	180
18	181	6.3x7	0.638	1.913	170	6.3x7	0.319	0.956	200
22	220	6.3x7	0.544	1.633	180	8x7	0.272	0.816	240
27	270	6.3x7	0.480	1.441	200	8x7	0.240	0.720	270
33	330	8x7	0.423	1.270	250	8x7	0.212	0.635	290
39	390	8x7	0.384	1.151	270				
47	470	8x7	0.340	1.019	300				

All Blank voltage on sleeve marking is same voltage as "→"Point to.

MINIATURE SIZE

NS Series

7mmL 85°C , Non Polarity

JAMICON®

Back

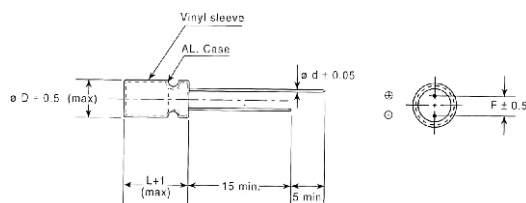
- Non polarity series with 7mm height .

SPECIFICATION

Item	Characteristic																																					
Operation Temperature Range	-40~+85°C																																					
Rated working Voltage	6.3~50VDC																																					
Capacitance Tolerance (120Hz 25°C)	±20%(M)																																					
Leakage Current (25°C)	I ≤ 0.05 CV or 10 (μ A) Whichever is greater after 2 minutes I: Leakage Current (μ A) C: Rated Capacitance(μ F) V : Working Voltage (V)																																					
Surge Voltage (25°C)	<table><tr><td>W.V.</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td></tr><tr><td>S.V.</td><td>8</td><td>13</td><td>20</td><td>32</td><td>44</td><td>63</td></tr></table>							W.V.	6.3	10	16	25	35	50	S.V.	8	13	20	32	44	63																	
W.V.	6.3	10	16	25	35	50																																
S.V.	8	13	20	32	44	63																																
Dissipation Factor (tan δ) (120Hz 25°C)	<table><tr><td>W.V.</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td></tr><tr><td>tan δ</td><td>0.24</td><td>0.20</td><td>0.17</td><td>0.15</td><td>0.12</td><td>0.12</td></tr></table>							W.V.	6.3	10	16	25	35	50	tan δ	0.24	0.20	0.17	0.15	0.12	0.12																	
W.V.	6.3	10	16	25	35	50																																
tan δ	0.24	0.20	0.17	0.15	0.12	0.12																																
Low Temperature Stability	<table><tr><td colspan="7">Impedance ratio at 120Hz</td></tr><tr><td colspan="2">Rated Voltage (V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td></tr><tr><td colspan="2">-25°C/+25°C</td><td>4</td><td>3</td><td>2</td><td>2</td><td>2</td><td>2</td></tr><tr><td colspan="2">-40°C/+25°C</td><td>10</td><td>8</td><td>6</td><td>4</td><td>3</td><td>3</td></tr></table>							Impedance ratio at 120Hz							Rated Voltage (V)		6.3	10	16	25	35	50	-25°C/+25°C		4	3	2	2	2	2	-40°C/+25°C		10	8	6	4	3	3
Impedance ratio at 120Hz																																						
Rated Voltage (V)		6.3	10	16	25	35	50																															
-25°C/+25°C		4	3	2	2	2	2																															
-40°C/+25°C		10	8	6	4	3	3																															
Load Life	After 1000 hours application of WV at +85°C, the capacitor shall meet the following limits. (The polarity needs to exchange every 250 hours)																																					
	Capacitance Change		≤ ±20% of initial value																																			
	Dissipation Factor		≤ 150% of initial specified value																																			
	Leakage current		≤ initial specified value																																			
Shelf Life	At +85°C no voltage application after 500 hours and then through the aging treatment (reference JIS C 5102 4.4) , the capacitor shall meet the following limits .																																					
	Capacitance Change		≤ ±20% of initial value																																			
	Dissipation Factor		≤ 200% of initial specified value																																			
	Leakage current		≤ 200% of initial specified value																																			
Reference Standard	JIS C 5102																																					

DIMENSIONS (mm)

ϕD	4	5	6.3	8
F	1.5	2.0	2.5	3.5
d	0.45	0.45	0.45	0.5



CASE SIZE & MAX RIPPLE CURRENT

Case size : DxL (mm)
 Max ripple current : mA (rms)
 (R.C.) : 85°C 120Hz

μF	V[Code] Item Code	6.3 (0J)		10 (1A)		16 (1C)		25 (1E)		35 (1V)		50 (1H)	
		DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.
0.1	0R1										→	4x7	3
0.22	R22										→	4x7	4
0.33	R33										→	4x7	5
0.47	R47										→	4x7	6
1.0	010										→	4x7	9
2.2	2R2								→	4x7	14	5x7	16
3.3	3R3						→	4x7	15	5x7	19	5x7	19
4.7	4R7				→	4x7	17	5x7	20	5x7	23	6.3x7	26
10	100		→	4x7	23	5x7	28	6.3x7	34	6.3x7	38	8x7	44
22	220	5x7	35	5x7	38	6.3x7	47	6.3x7	50	8x7	65	8x7	65
33	330	5x7	43	6.3x7	55	6.3x7	60	8x7	70	8x7	80		
47	470	6.3x7	60	6.3x7	65	6.3x7	70	8x7	85				
100	101	8x7	100	8x7	110	8x7	120						

All blank voltage on sleeve marking is the same voltage as " → " point to.

MINIATURE SIZE

SK

Series

Standard , For General Purposes

JAMICON®

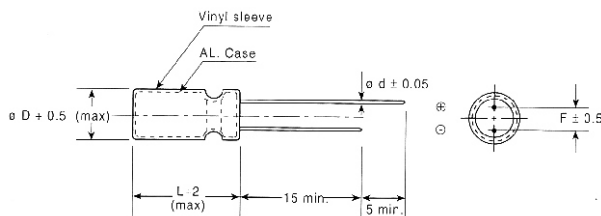
- SK series has high value of CV for general purposes .

● SPECIFICATION

Item	Characteristic														
Operation Temperature Range	-40~+85°C								-25~+85°C						
Rated working Voltage	6.3~400VDC								450VDC						
Capacitance Tolerance (120Hz 25°C)	±20%(M)														
Leakage Current (25°C)	6.3~100 VDC I≤0.01CV or 4 (μA)								160~450 VDV I≤0.03CV + 40 (μA) max						
	Whichever is greater after 3 minutes I: Leakage Current (μA) C: Rated Capacitance(μF) V : Working Voltage (V)														
Surge Voltage (25°C)	W.V.	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450
	S.V.	8	13	20	32	44	63	79	125	200	250	300	400	450	500
Dissipation Factor (tan δ) (120Hz 25°C)	Add 0.02 per 1000 μF for more than 1000 μF														
	W.V.	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450
	tan δ	0.22	0.19	0.16	0.14	0.12	0.10	0.10	0.08	0.15	0.15	0.15	0.20	0.20	0.20
Low Temperature Stability	Impedance ratio at 120Hz														
	Rated Voltage (V)			6.3	10	16	25	35~100	160~250	350~400	450				
	-25°C/+25°C			4	3	2	2	2	3	6	15				
	-40°C/+25°C			8	6	4	3	3	6	6	—				
Load Life	After 2000 hours application of WV at +85°C, the capacitor shall meet the following limits.														
	Capacitance Change			≤ ±20% of initial value											
	Dissipation Factor			≤ 150% of initial specified value											
	Leakage current			≤ initial specified value											
Shelf Life	At +85°C no voltage application after 1000 hours and then through the aging treatment (reference JIS C 5102 4.4) , the capacitor shall meet the following limits.														
	Capacitance Change			≤ ±20% of initial value											
	Dissipation Factor			≤ 200% of initial specified value											
	Leakage current			≤ 200% of initial specified value											
Reference Standard	JIS C 5102														

● DIMENSIONS (mm)

ϕD	5	6.3	8	10	13	16	18	22	25
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10.0	12.5
d	0.5	0.5	0.6	0.6	0.6	0.8	0.8	1.0	1.0



● RIPPLE CURRENT COEFFICIENTS

Temperature(°C)	65	75	85
Multiplier	1.25	1.14	1.00

Frequency(Hz)	60	120	1K	≥ 10K
W.V.	Multiplier			
6.3~25V	0.85	1.00	1.10	1.20
35~100V	0.80	1.00	1.15	1.25
160~250V	0.75	1.00	1.25	1.40
350~450V	0.70	1.00	1.30	1.50

CASE SIZE & MAX RIPPLE CURRENT

Case size : DxL (mm)
 Max ripple current : mA (rms)
 (R.C.) : 85°C 120Hz

μ F	V(Code) Code Item	6.3 (0J)		10 (1A)		16 (1C)	
		DxL	R.C.	DxL	R.C.	DxL	R.C.
47	470				→	5x11	110
100	101	5x11	140	5x11	150	6.3x11	180
220	221	6.3x11	230	6.3x11	250	8x11	310
330	331	6.3x11	290	8x11	350	8x11	380
470	471	8x11	390	8x11	420	10x13	500
1000	102	10x13	620	10x16	730	10x21	900
2200	222	10x21	1090	13x21	1270	13x21	1370
3300	332	13x21	1390	13x21	1480	13x26	1750
4700	472	13x26	1730	16x25	1770	16x32	2090
6800	682	16x25	1880	16x32	2200	18x35	2580
						22x30	2700
8200	822	16x32	2210	18x35	2560	18x42	2920
				22x30	2690	22x35	3010
10000	103	16x32	2310	18x35	2670	18x42	3020
				22x35	2990	22x40	3310
15000	153	18x35	2820	18x42	3150		
				22x40	3450	22x50	3930
22000	223			22x50	4040	25x50	4450

All blank voltage on sleeve marking is the same voltage as " → " point to.

μ F	V(Code) Code Item	25 (1E)		35 (1V)		50 (1H)	
		DxL	R.C.	DxL	R.C.	DxL	R.C.
0.47	R47				→	5x11	14
1	010				→	5x11	20
2.2	2R2				→	5x11	30
3.3	3R3				→	5x11	37
4.7	4R7				→	5x11	44
10	100	5x11	55	5x11	60	5x11	65
22	220	5x11	80	5x11	90	5x11	95
33	330	5x11	100	5x11	110	6.3x11	130
47	470	5x11	120	6.3x11	150	6.3x11	160
100	101	6.3x11	200	8x11	240	8x11	270
220	221	8x11	330	10x13	390	10x16	470
330	331	10x13	450	10x16	530	10x21	650
470	471	10x16	580	10x21	710	13x21	850
1000	102	13x21	1050	13x21	1130	16x25	1310
2200	222	13x26	1590	16x32	1830	18x35	2200
						22x30	2310
3300	332	16x32	1980	18x35	2330	18x42	2710
				22x30	2450	22x40	2960
4700	472	18x35	2430	18x42	2770		
		22x35	2720	22x35	2860	22x45	3380
6800	682	18x42	2910				
		22x40	3180	22x45	3490	25x50	4110
8200	822	22x45	3480	22x50	3780		
10000	103	22x50	3770	25x50	4170		
15000	153	25x50	4320				

μF V(Code) Code Item		63 (1J)		100 (2A)	
		DxL	R.C.	DxL	R.C.
0.47	R47		→	5x11	16
1	010		→	5x11	23
2.2	2R2		→	5x11	34
3.3	3R3		→	5x11	42
4.7	4R7		→	5x11	50
10	100	5x11	65	6.3x11	80
22	220	6.3x11	110	8x11	140
33	330	6.3x11	130	10x13	190
47	470	8x11	180	10x16	240
100	101	10x13	290	13x21	440
220	221	10x21	530	16x25	690
330	331	13x21	710	16x25	840
470	471	13x26	930	16x32	1120
1000	102	16x32	1460	18x42	1970
		22x30	1700	22x35	2030
2200	222	22x35	2460	25x50	3390
3300	332	22x50	3270		
4700	472	25x50	3800		

All blank voltage on sleeve marking is the same voltage as " → " point to.

μF V(Code) Code Item		160 (2C)		200 (2D)		250 (2E)	
		DxL	R.C.	DxL	R.C.	DxL	R.C.
0.47	R47	6.3x11	13	6.3x11	14	6.3x11	15
1	010	6.3x11	19	6.3x11	20	6.3x11	22
2.2	2R2	6.3x11	28	6.3x11	30	6.3x11	33
3.3	3R3	6.3x11	35	6.3x11	37	8x11	46
4.7	4R7	6.3x11	41	8x11	50	8x11	55
10	100	8x11	70	10x13	80	10x16	95
22	220	10x16	120	10x21	150	13x21	180
33	330	10x21	170	13x21	200	13x21	210
47	470	13x21	220	13x21	240	13x26	280
100	101	13x26	350	16x25	360	16x32	440
220	221	16x35	580	18x42	730		
		22x30	650	22x30	700	22x35	810
330	331	18x42	830				
		22x30	800	22x40	970	22x45	1110
470	471	22x40	1080	22x45	1220	25x45	1430
560	561	22x45	1240	22x50	1400	25x50	1630
680	681	22x50	1430	25x50	1650		
820	821	25x50	1690				

μF V(Code) Code Item		350 (2V)		400 (2G)		450 (2W)	
		DxL	R.C.	DxL	R.C.	DxL	R.C.
0.47	R47	8x11	15	8x11	15	8x11	15
1	010	8x11	22	8x11	23	8x11	22
2.2	2R2	8x11	32	8x11	33	10x13	35
3.3	3R3	10x13	43	10x13	45	10x16	47
4.7	4R7	10x13	50	10x16	60	10x18	60
10	100	10x21	95	13x21	110	13x21	100
22	220	13x21	150	13x26	170	16x25	160
33	330	13x26	200	16x25	200	16x32	220
47	470	16x25	230	16x32	270	18x35	290
				22x30	310		
100	101	18x35	420				
		22x35	470	22x40	520		
150	151	22x40	610	25x50	750		
220	221	22x50	820				

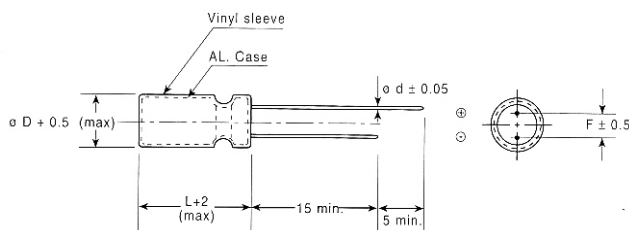
- One rank smaller case sizes than SK series .
- SM series has high value of CV for general purposes .

SPECIFICATION

Item	Characteristic								
Operation Temperature Range	-40~-+85°C								
Rated working Voltage	6.3~100VDC								
Capacitance Tolerance (120Hz 25°C)	±20%(M)								
Leakage Current (25°C)	I≤0.03CV or 4 (μA)								

DIMENSIONS (mm)

ϕD	5	6.3	8	10	13	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
d	0.5	0.5	0.6	0.6	0.6	0.8	0.8



RIPPLE CURRENT COEFFICIENTS

Temperature(°C)	65	75	85
Multiplier	1.25	1.14	1.00

Frequency(Hz)	60	120	1K	$\geq 10K$
W.V.	Multiplier			
6.3~25V	0.85	1.00	1.10	1.20
35~100V	0.80	1.00	1.15	1.25

CASE SIZE & MAX RIPPLE CURRENT

Case size : DxL (mm)
Max ripple current : mA (rms)
(R.C.) : 85°C 120Hz

V(Code) Item Code μ F		6.3 (0J)		10 (1A)		16 (1C)	
		Dx L	R.C.	Dx L	R.C.	Dx L	R.C.
100	101				→	5x11	150
220	221	5x11	180	5x11	200	6.3x11	240
330	331	6.3x11	250	6.3x11	270	8x11	340
470	471	6.3x11	300	6.3x11	330	8x11	410
1000	102	8x11	500	10x13	600	10x16	710
2200	222	10x21	970	10x21	1040	13x21	1240
3300	332	10x21	1150	13x21	1340	13x26	1590
4700	472	13x21	1430	13x26	1670	16x25	1730
6800	682	13x26	1770	16x25	1830	16x32	2170
10000	103	16x25	1940	16x35	2350	18x35	2640
15000	153	16x35	2490	18x35	2760		
22000	223	18x42	3220				

All blank voltage on sleeve marking is the same voltage as " → " point to.

V(Code) Item Code μ F		25 (1E)		35 (1V)		50 (1H)	
		Dx L	R.C.	Dx L	R.C.	Dx L	R.C.
22	220		→	5x11	80	5x11	90
33	330		→	5x11	100	5x11	110
47	470		→	5x11	120	6.3x11	150
100	101	6.3x11	180	6.3x11	200	8x11	240
220	221	8x11	310	8x11	330	10x13	390
330	331	8x11	380	10x13	450	10x16	530
470	471	10x13	500	10x16	580	10x21	710
1000	102	10x21	900	13x21	1050	13x26	1240
2200	222	13x26	1500	16x25	1540	16x35	1910
3300	332	16x25	1690	16x35	2060	18x35	2330
4700	472	16x32	2090	18x35	2430		
6800	682	18x35	2580				

V[Code] Item Code μF		63 (1J)		100 (2A)	
		Dx L	R.C.	Dx L	R.C.
10	100	5x11	65	6.3x11	80
22	220	5x11	95	6.3x11	120
33	330	6.3x11	130	8x11	170
47	470	6.3x11	160	10x13	220
100	101	10x13	290	10x21	400
220	221	10x16	470	13x26	710
330	331	10x21	650	13x26	870
470	471	13x21	850	16x25	1010
1000	102	16x25	1310	18x42	1970

MINIATURE SIZE

TK Series

Wide Temperature Range

JAMICON®

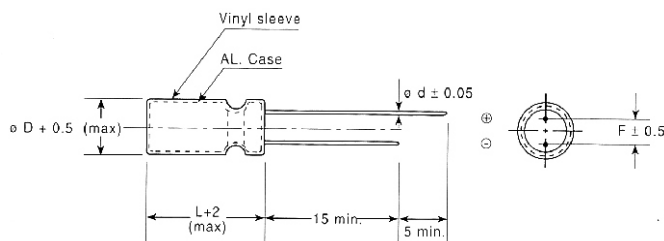
- High temperature 105°C and high reliability .

SPECIFICATION

Item	Characteristic														
Operation Temperature Range	-55~+105°C						-40~+105°C				-25~+105°C				
Rated working Voltage	6.3~100VDC						160~400VDC				450VDC				
Capacitance Tolerance (120Hz 25°C)	±20%(M)														
Leakage Current (25°C)	6.3~100VDC						160~450VDC								
	I≤0.01CV or 4 (μA)						I≤0.03CV + 40 (μA) max								
	Whichever is greater after 3 minutes I: Leakage Current (μA) C: Rated Capacitance(μF) V : Working Voltage (V)														
Surge Voltage (25°C)	W.V.	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450
	S.V.	8	13	20	32	44	63	79	125	200	250	300	400	450	500
Dissipation Factor (tan δ) (120Hz 25°C)	Add 0.02 per 1000 μ F for more than 1000 μ F														
	W.V.	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450
	tan δ	0.24	0.20	0.17	0.15	0.12	0.10	0.10	0.08	0.15	0.15	0.15	0.20	0.20	0.20
Low Temperature Stability	Impedance ratio at 120Hz														
	Rated Voltage (V)		6.3	10	16	25	35~100	160~250	350~400	450					
	-25°C/+25°C		4	3	2	2	2	3	6	15					
	-40°C/+25°C		10	8	6	4	3	4	10	—					
Load Life	After 2000 hours application of WV at +105°C , the capacitor shall meet the following limits. (≤ φ 8 : 1000Hr)														
	Capacitance Change		≤ ±25% of initial value for 6.3~16W.V. , ≤ ±20% of initial value for 25~450W.V.												
	Dissipation Factor		≤ 200% of initial specified value												
	Leakage current		≤ initial specified value												
Shelf Life	At +105°C no voltage application after 1000 hours and then through the aging treatment (reference JIS C 5102 4.4) , the capacitor shall meet the limits for load life characteristics .														
Reference Standard	JIS C 5102														

DIMENSIONS (mm)

φ D	5	6.3	8	10	13	16	18	22	25
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10.0	12.5
d	0.5	0.5	0.6	0.6	0.6	0.8	0.8	1.0	1.0



RIPPLE CURRENT COEFFICIENTS

Temperature(°C)	65	85	105
Multiplier	1.75	1.40	1.00

Frequency(Hz)	60	120	1K	≥10K
W.V.	Multiplier			
6.3~25V	0.85	1.00	1.10	1.20
35~100V	0.80	1.00	1.15	1.25
160~250V	0.75	1.00	1.25	1.40
350~450V	0.70	1.00	1.30	1.80

Case size : DxL (mm)
 Max ripple current : mA (rms)
 (R.C.) : 105°C 120Hz

● CASE SIZE & MAX RIPPLE CURRENT

μF	V(Code) Item Code	6.3(0J)		10(1A)		16(1C)	
		DxL	R.C.	DxL	R.C.	DxL	R.C.
47	470				→	5x11	75
100	101	5x11	95	5x11	100	5x11	110
220	221	5x11	140	5x11	150	6.3x11	190
330	331	6.3x11	200	6.3x11	210	8x11	270
470	471	6.3x11	230	6.3x11	260	8x11	320
1000	102	8x11	390	10x13	470	10x16	550
2200	222	10x16	660	10x21	810	13x21	950
3300	332	10x21	880	13x21	1040	13x26	1220
4700	472	13x21	1090	13x26	1280	16x25	1310
6800	682	13x26	1350	16x25	1390	16x32	1630
10000	103	16x25	1450	16x35	1760	18x35	1960
15000	153	16x35	1850	18x35	2050	20x40	2210
22000	223	18x42	2300	20x40	2460	22x50	2940
33000	333	22x50	2950	22x50	3020	25x50	3300

All blank voltage on sleeve marking is the same voltage as " → " point to.

μF	V(Code) Item Code	25 (1E)		35 (1V)		50 (1H)	
		Dx L	R.C.	Dx L	R.C.	Dx L	R.C.
0.1	0R1				→	5x11	5
0.22	R22				→	5x11	7
0.33	R33				→	5x11	8
0.47	R47				→	5x11	10
1	010				→	5x11	15
2.2	2R2				→	5x11	22
3.3	3R3				→	5x11	27
4.7	4R7				→	5x11	32
10	100	5x11	38	5x11	42	5x11	46
22	220	5x11	55	5x11	65	5x11	70
33	330	5x11	70	5x11	75	5x11	85
47	470	5x11	80	5x11	90	6.3x11	110
100	101	6.3x11	140	6.3x11	150	8x11	190
220	221	8x11	230	8x11	260	10x13	310
330	331	8x11	280	10x13	350	10x16	410
470	471	10x13	370	10x16	450	10x21	560
1000	102	10x21	660	13x21	810	13x26	970
2200	222	13x26	1100	16x25	1180	16x35	1470
3300	332	16x25	1240	16x35	1560	18x35	1780
4700	472	16x32	1530	18x35	1830		
6800	682	18x35	1880				
10000	103	20x40	2270				
15000	153	22x50	2840				
22000	223	25x50	3210				

μF	V(Code) Code Item	63 (1J)		100 (2A)	
		Dx L	R.C.	Dx L	R.C.
0.1	0R1		→	5x11	5
0.22	R22		→	5x11	8
0.33	R33		→	5x11	9
0.47	R47		→	5x11	11
1	010		→	5x11	16
2.2	2R2		→	5x11	24
3.3	3R3		→	5x11	30
4.7	4R7		→	5x11	35
10	100	5x11	46	6.3x11	55
22	220	5x11	70	6.3x11	85
33	330	6.3x11	95	8x11	120
47	470	6.3x11	110	10x13	160
100	101	10x13	210	10x21	290
220	221	10x16	340	13x26	510
330	331	10x21	470	13x26	620
470	471	13x21	610	16x25	720
1000	102	16x25	940	18x42	1410
2200	222			22x50	2260

All blank voltage on sleeve marking is the same voltage as " → " point to.

μF	V(Code) Code Item	160 (2C)		200 (2D)		250 (2E)	
		Dx L	R.C.	Dx L	R.C.	Dx L	R.C.
0.47	R47	6.3x11	9	6.3x11	10	6.3x11	11
1	010	6.3x11	14	6.3x11	15	6.3x11	16
2.2	2R2	6.3x11	20	6.3x11	22	6.3x11	24
3.3	3R3	6.3x11	25	6.3x11	26	8x11	33
4.7	4R7	6.3x11	29	8x11	36	8x11	39
10	100	8x11	49	10x13	60	10x16	70
22	220	10x16	85	10x21	110	13x21	130
33	330	10x21	120	13x21	140	13x21	150
47	470	13x21	160	13x21	170	13x26	200
100	101	13x26	250	16x25	260	16x32	320
220	221	16x35	420	18x42	520		
330	331	18x42	590				
470	471	22x40	770				
1000	102	25x50	1330				

μF	V(Code) Code Item	350 (2V)		400 (2G)		450 (2W)	
		Dx L	R.C.	Dx L	R.C.	Dx L	R.C.
0.47	R47	8x11	11	8x11	11	10x13	12
1	010	8x11	16	8x11	16	10x13	17
2.2	2R2	8x11	23	10x13	26	10x21	31
3.3	3R3	10x13	31	10x13	32	13x21	41
4.7	4R7	10x13	37	10x16	42	13x21	49
10	100	10x21	65	13x21	75	16x25	75
22	220	13x26	120	13x26	120	16x32	130
33	330	16x25	140	16x32	160	18x35	170
47	470	16x35	190	18x35	210		
100	101	18x42	330	20x40	350		
220	221	22x50	580				

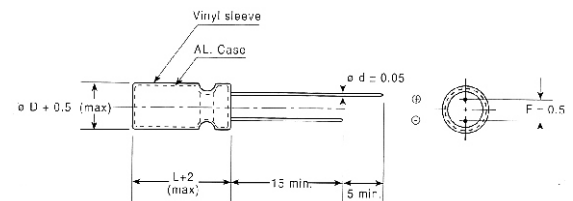
- High temperature 105°C and high reliability .
- Good reliability series for communication equipment and industrial measurement instruments .

SPECIFICATION

Item	Characteristic																																												
Operation Temperature Range	-40 ~ +105°C										-25 ~ +105°C																																		
Rated working Voltage	6.3 ~ 100VDC										160 ~ 450VDC																																		
Capacitance Tolerance (120Hz 25°C)	±20%(M) $\begin{matrix} +50\% \\ -10\% \end{matrix}$ (T)																																												
Leakage Current (25°C)	I ≤ 0.01CV or 4 (μ A)										I ≤ 0.03CV + 40 (μ A) max																																		
	Whichever is greater after 3 minutes																																												
	I: Leakage Current (μ A) C: Rated Capacitance(μ F) V : Working Voltage (V)																																												
Surge Voltage (25°C)	<table><tr><td>W.V.</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td><td>160</td><td>200</td><td>250</td><td>350</td><td>400</td><td>450</td></tr><tr><td>S.V.</td><td>8</td><td>13</td><td>20</td><td>32</td><td>44</td><td>63</td><td>79</td><td>125</td><td>200</td><td>250</td><td>300</td><td>400</td><td>450</td><td>500</td></tr></table>															W.V.	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	S.V.	8	13	20	32	44	63	79	125	200	250	300	400	450	500
W.V.	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450																															
S.V.	8	13	20	32	44	63	79	125	200	250	300	400	450	500																															
Dissipation Factor (tan δ) (120Hz 25°C)	Add 0.02 per 1000 μ F for more than 1000 μ F <table><tr><td>W.V.</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td><td>160</td><td>200</td><td>250</td><td>350</td><td>400</td><td>450</td></tr><tr><td>tan δ</td><td>0.20</td><td>0.17</td><td>0.15</td><td>0.12</td><td>0.10</td><td>0.09</td><td>0.09</td><td>0.07</td><td>0.15</td><td>0.12</td><td>0.10</td><td>0.15</td><td>0.15</td><td>0.15</td></tr></table>															W.V.	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	tan δ	0.20	0.17	0.15	0.12	0.10	0.09	0.09	0.07	0.15	0.12	0.10	0.15	0.15	0.15
W.V.	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450																															
tan δ	0.20	0.17	0.15	0.12	0.10	0.09	0.09	0.07	0.15	0.12	0.10	0.15	0.15	0.15																															
Low Temperature Stability	Impedance ratio at 120Hz																																												
	Rated Voltage (V)		6.3	10~16	25~100	160~250	350~400	450																																					
	-25°C/+25°C		4	3	2	4	8	15																																					
	-40°C/+25°C		8	6	4	—	—	—																																					
Load Life	After 2000 hours application of WV at +105°C , the capacitor shall meet the following limits.																																												
	Capacitance Change		≤ ±25% of initial value for 6.3~16W.V. , ≤ ±20% of initial value for 25~450W.V.																																										
	Dissipation Factor		≤ 200% of initial specified value																																										
	Leakage current		≤ initial specified value																																										
Shelf Life	At +105°C no voltage application after 1000 hours and then through the aging treatment (reference JIS C 5102 4.4) , the capacitor shall meet the following limits.																																												
	Capacitance Change		≤ ±20% of initial value																																										
	Dissipation Factor		≤ 200% of initial specified value																																										
	Leakage current		≤ 200% of initial specified value																																										
Reference Standard	JIS C 5102																																												

DIMENSIONS (mm)

ϕ D	5	6.3	8	10	13	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
d	0.5	0.5	0.6	0.6	0.6	0.8	0.8



RIPPLE CURRENT COEFFICIENTS

Temperature(°C)	65	85	105
Multiplier	1.80	1.50	1.00

Frequency(Hz)	60	120	1K	$\geq 10K$
W.V.	Multiplier			
6.3~25 V	0.80	1.00	1.15	1.20
35~100 V	0.75	1.00	1.30	1.40
160~450 V	0.70	1.00	1.40	1.60

CASE SIZE & MAX RIPPLE CURRENT

Case size : DxL (mm)
Max ripple current : mA (rms)
(R.C.) : 105°C 120Hz

μF	V(Code) Item Code	6.3 (0J)		10 (1A)		16 (1C)	
		Dx L	R.C.	Dx L	R.C.	Dx L	R.C.
47	470				→	5x11	85
100	101	6.3x11	120	6.3x11	130	6.3x11	140
220	221	6.3x11	180	6.3x11	190	8x11	240
330	331	8x11	250	8x11	270	10x13	320
470	471	8x11	300	8x11	330	10x13	380
1000	102	10x13	480	10x16	570	10x21	680
2200	222	10x21	830	13x21	980	13x26	1130
3300	332	13x21	1060	13x26	1250	16x25	1270
4700	472	13x26	1310	16x25	1350	16x32	1570
6800	682	16x25	1430	16x32	1670	18x35	1930
10000	103	16x32	1740	18x35	2010	18x42	2250
15000	153	18x35	1920	18x42	2360		

All blank voltage on sleeve marking is the same voltage as " → " point to.

μ F V(Code) Item Code		25 (1E)		35 (1V)		50 (1H)	
		DxL	R.C.	DxL	R.C.	DxL	R.C.
0.47	R47				→	5x11	11
1	010				→	5x11	16
2.2	2R2				→	5x11	23
3.3	3R3				→	5x11	29
4.7	4R7				→	5x11	34
10	100	5x11	43	5x11	47	5x11	50
22	220	5x11	65	6.3x11	80	6.3x11	85
33	230	6.3x11	90	6.3x11	100	8x11	120
47	470	6.3x11	110	8x11	130	8x11	140
100	101	8x11	180	8x11	200	10x13	230
220	221	10x13	290	10x13	320	10x16	370
330	331	10x13	350	10x16	420	10x21	500
470	471	10x16	460	10x21	570	13x21	660
1000	102	13x21	830	13x26	1000	16x25	1020
2200	222	16x25	1210	16x32	1450	18x35	1690
3300	332	16x32	1540	18x35	1830	18x42	2060
4700	472	18x35	1870	18x42	2150		
6800	682	18x42	2220				

All blank voltage on sleeve marking is the same voltage as " → " point to.

μ F	V(Code)	63 (1J)		100 (2A)	
	Code	DxL	R.C.	DxL	R.C.
0.47	R47		→	5x11	12
1	010		→	5x11	18
2.2	2R2		→	5x11	27
3.3	3R3		→	5x11	33
4.7	4R7		→	5x11	39
10	100	5x11	50	6.3x11	65
22	220	6.3x11	85	8x11	110
33	330	8x11	120	10x13	150
47	470	10x13	150	10x16	190
100	101	10x16	250	13x21	340
220	221	10x21	410	16x25	540
330	331	13x21	550	16x25	660
470	471	13x26	720	16x32	880
1000	102	16x32	1130		

μ F	V(Code)	160 (2C)		200 (2D)		250 (2E)	
	Code	Item	DxL	R.C.	DxL	R.C.	DxL
0.47	R47	6.3x11	13	6.3x11	14	6.3x11	15
1	010	6.3x11	19	6.3x11	20	8x11	25
2.2	2R2	6.3x11	28	6.3x11	30	8x11	37
3.3	3R3	8x11	40	8x11	42	10x13	50
4.7	4R7	8x11	47	10x13	55	10x13	60
10	100	10x13	75	10x16	90	10x21	110
22	220	10x21	140	10x21	150	13x21	170
33	330	13x21	180	13x21	200	13x26	230
47	470	13x26	240	13x26	260	16x25	270
100	101	16x25	340	16x32	410	16x35	460
220	221	18x35	630	18x42	730		

V[Code] Item Code		350 (2V)		400 (2G)		450 (2W)	
		DxL	R.C.	DxL	R.C.	DxL	R.C.
1	010	10x13	20	10x13	20	10x18	20
2.2	2R2	10x16	32	10x18	35	13x21	35
3.3	3R3	10x21	44	13x21	50	13x26	47
4.7	4R7	13x21	55	13x21	60	16x25	55
10	100	13x26	90	13x26	95	16x32	90
22	220	16x32	150	16x32	150	16x35	140
33	330	18x35	200	18x35	210	18x42	190
47	470	18x42	260	18x42	270		

MINIATURE SIZE

NK Series Non Polarity

JAMICON®

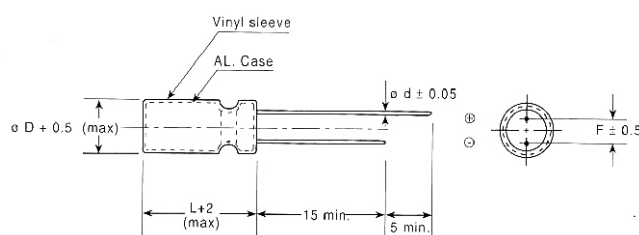
- Standard non polarity series for using in polarity reversal circuits .

SPECIFICATION

Item	Characteristic																										
Operation Temperature Range	-40 ~ +85 °C																										
Rated working Voltage	6.3 ~ 100VDC																										
Capacitance Tolerance (120Hz 25°C)	±20%(M)																										
Leakage Current (25°C)	I ≤ 0.04CV + 4(μ A) After 5 minutes I: Leakage Current (μ A) C: Rated Capacitance(μ F) V : Working Voltage (V)																										
Surge Voltage (25°C)	<table><tr><td>W.V.</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td></tr><tr><td>S.V.</td><td>8</td><td>13</td><td>20</td><td>32</td><td>44</td><td>63</td><td>79</td><td>125</td></tr></table>									W.V.	6.3	10	16	25	35	50	63	100	S.V.	8	13	20	32	44	63	79	125
W.V.	6.3	10	16	25	35	50	63	100																			
S.V.	8	13	20	32	44	63	79	125																			
Dissipation Factor (tan δ) (120Hz 25°C)	Add 0.02 per 1000 μ F for more than 1000 μ F <table><tr><td>W.V.</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td></tr><tr><td>tan δ</td><td>0.24</td><td>0.20</td><td>0.17</td><td>0.15</td><td>0.12</td><td>0.12</td><td>0.12</td><td>0.12</td></tr></table>									W.V.	6.3	10	16	25	35	50	63	100	tan δ	0.24	0.20	0.17	0.15	0.12	0.12	0.12	0.12
W.V.	6.3	10	16	25	35	50	63	100																			
tan δ	0.24	0.20	0.17	0.15	0.12	0.12	0.12	0.12																			
Low Temperature Stability	Impedance ratio at 120Hz <table><tr><td>Rated Voltage (V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35 ~ 100</td></tr><tr><td>-25°C/+25°C</td><td>4</td><td>3</td><td>2</td><td>2</td><td>2</td></tr><tr><td>-40°C/+25°C</td><td>10</td><td>8</td><td>6</td><td>4</td><td>3</td></tr></table>									Rated Voltage (V)	6.3	10	16	25	35 ~ 100	-25°C/+25°C	4	3	2	2	2	-40°C/+25°C	10	8	6	4	3
Rated Voltage (V)	6.3	10	16	25	35 ~ 100																						
-25°C/+25°C	4	3	2	2	2																						
-40°C/+25°C	10	8	6	4	3																						
Load Life	After 2000 hours application of WV at +85 °C, the capacitor shall meet the following limits. (The polarity needs to exchange every 250 hours) <table><tr><td>Capacitance Change</td><td>≤ ±20% of initial value</td></tr><tr><td>Dissipation Factor</td><td>≤ 150% of initial specified value</td></tr><tr><td>Leakage current</td><td>≤ initial specified value</td></tr></table>									Capacitance Change	≤ ±20% of initial value	Dissipation Factor	≤ 150% of initial specified value	Leakage current	≤ initial specified value												
Capacitance Change	≤ ±20% of initial value																										
Dissipation Factor	≤ 150% of initial specified value																										
Leakage current	≤ initial specified value																										
Shelf Life	At +85°C no voltage application after 500 hours and then through the aging treatment (reference JIS C 5102 4.4) , the capacitor shall meet the following limits. <table><tr><td>Capacitance Change</td><td>≤ ±20% of initial value</td></tr><tr><td>Dissipation Factor</td><td>≤ 200% of initial specified value</td></tr><tr><td>Leakage current</td><td>≤ 200% of initial specified value</td></tr></table>									Capacitance Change	≤ ±20% of initial value	Dissipation Factor	≤ 200% of initial specified value	Leakage current	≤ 200% of initial specified value												
Capacitance Change	≤ ±20% of initial value																										
Dissipation Factor	≤ 200% of initial specified value																										
Leakage current	≤ 200% of initial specified value																										
Reference Standard	JIS C 5102																										

DIMENSIONS (mm)

ϕD	5	6.3	8	10	13	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
d	0.5	0.5	0.6	0.6	0.6	0.8	0.8



CASE SIZE & MAX RIPPLE CURRENT

Case size : DxL (mm)
 Max ripple current : mA (rms)
 (R.C.) : 85°C 120Hz

V(Code) Code Item		6.3 (0J)		10 (1A)		16 (1C)	
μF		DxL	R.C.	DxL	R.C.	DxL	R.C.
10	100				→	5x11	47
22	220		→	5x11	65	6.3x11	80
33	330	5x11	70	6.3x11	90	8x11	110
47	470	6.3x11	100	6.3x11	110	8x11	130
100	101	8x11	160	8x11	180	10x16	230
220	221	10x13	260	10x16	310	10x21	380
330	331	10x16	350	10x21	430	13x21	480
470	471	10x21	470	13x21	530	13x26	630
1000	102	13x26	770	16x32	960	16x32	1040
2200	222	16x32	1250	16x35	1410	16x32	1460
3300	332	16x25	1540	16x32	1590	18x35	1890
4700	472	16x32	1670	18x35	1990		
6800	682	18x35	2020				

All blank voltage on sleeve marking is the same voltage as " → " point to.

V(Code) Code Item		25 (1E)		35 (1V)		50 (1H)	
μF		DxL	R.C.	DxL	R.C.	DxL	R.C.
0.47	R47				→	5x11	12
1	010				→	5x11	18
2.2	2R2				→	5x11	26
3.3	3R3				→	6.3x11	37
4.7	4R7	5x11	34	5x11	38	6.3x11	44
10	100	6.3x11	55	6.3x11	65	8x11	75
22	220	8x11	95	8x11	110	10x13	120
33	330	8x11	120	10x13	140	10x16	160
47	470	10x13	150	10x16	190	10x21	210
100	101	10x21	280	13x21	310	13x26	340
220	221	13x21	410	13x26	510	16x32	580
330	331	16x25	570	16x25	640	16x35	740
470	471	16x32	760	16x32	850	16x32	850
1000	102	16x32	1110	16x35	1290		
2200	222	18x35	1720				

V(Code) Code Item		63 (1J)		100 (2A)	
μF		DxL	R.C.	DxL	R.C.
0.47	R47		→	5x11	12
1	010		→	5x11	18
2.2	2R2	5x11	26	6.3x11	30
3.3	3R3	6.3x11	37	8x11	42
4.7	4R7	6.3x11	44	8x11	50
10	100	8x11	75	10x16	85
22	220	10x16	130	13x21	150
33	330	10x21	180	13x26	200
47	470	13x21	210	16x25	240
100	101	16x25	350	16x32	390
220	221	16x32	580	18x35	650
330	331	18x35	790	18x35	790
470	471	18x35	940	18x42	1030

MINIATURE SIZE

LK

Series

Low Leakage Current

JAMICON®

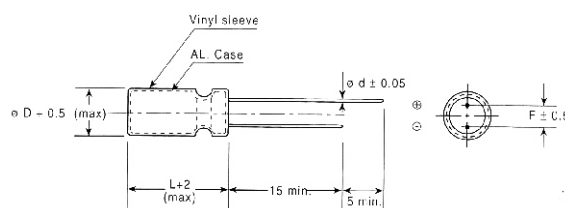
- Standard low leakage current series .
- Suitable for Hi-Fi pre-amplifiers and TV oscillation loop circuits .

● SPECIFICATION

Item	Characteristic						
Operation Temperature Range	-40~+85℃						
Rated working Voltage	10~63VDC						
Capacitance Tolerance (120Hz 25℃)	±20%(M) $\begin{matrix} +30\% \\ -10\% \end{matrix}$ (Q)						
Leakage Current (25℃)	I ≤0.004CV or 0.4(μA)						

● DIMENSIONS (mm)

ϕ D	5	6.3	8	10	13
F	2.0	2.5	3.5	5.0	5.0
d	0.5	0.5	0.6	0.6	0.6



Case size : DxL (mm)
 Max ripple current : mA (rms)
 (R.C.) : 85°C 120Hz

● CASE SIZE & MAX RIPPLE CURRENT

μF	V(Code) Item Code	10 (1A)		16 (1C)		25 (1E)	
		DxL	R.C.	DxL	R.C.	DxL	R.C.
4.7	4R7				→	5x11	36
10	100		→	5x11	48	6.3x11	60
22	220	5x11	65	6.3x11	80	8x11	100
33	330	6.3x11	90	6.3x11	100	8x11	120
47	470	6.3x11	110	8x11	140	10x13	160
100	101	8x11	180	10x13	220	10x16	250
220	221	10x16	310	10x21	400	13x21	430
330	331	10x21	430	13x21	490	13x26	580
470	471	13x21	530	13x21	590		
1000	102	13x26	840				

All blank voltage on sleeve marking is the same voltage as " → " point to.

μF	V(Code) Item Code	35 (1V)		50 (1H)		63 (1J)	
		DxL	R.C.	DxL	R.C.	DxL	R.C.
0.1	0R1		→	5x11	6	5x11	6
0.22	R22		→	5x11	9	5x11	9
0.33	R33		→	5x11	11	5x11	11
0.47	R47		→	5x11	13	5x11	13
1	010		→	5x11	19	5x11	19
2.2	2R2		→	5x11	29	5x11	29
3.3	3R3		→	5x11	35	5x11	35
4.7	4R7	5x11	38	6.3x11	48	6.3x11	48
10	100	6.3x11	65	8x11	80	8x11	80
22	220	8x11	110	10x13	130	10x16	140
33	330	10x13	140	10x16	170	10x16	170
47	470	10x13	170	10x16	210	10x21	230
100	101	10x21	310	13x21	340	13x26	380
220	221	13x26	510				

MINIATURE SIZE

WG

Series

Low Impedance , High Ripple Current

JAMICON®

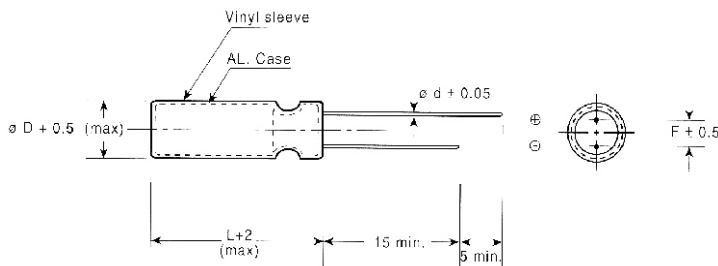
- High ripple current , low E.S.R. and long life .
- Suitable for output of switching power supplies .

SPECIFICATION

Item	Characteristic																
Operation Temperature Range	−55~+105℃																
Rated working Voltage	10~100VDC																
Capacitance Tolerance (120Hz 25℃)	±20%(M) $\begin{matrix} +50\% \\ -10\% \end{matrix}$ (T)																
Leakage Current (25℃)	I ≤ 0.01CV After 3 minutes I: Leakage Current (μA) C: Rated Capacitance(μF) V : Working Voltage (V)																
Surge Voltage (25℃)	<table><tr><td>W.V.</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td></tr><tr><td>S.V.</td><td>13</td><td>20</td><td>32</td><td>44</td><td>63</td><td>79</td><td>125</td></tr></table>	W.V.	10	16	25	35	50	63	100	S.V.	13	20	32	44	63	79	125
W.V.	10	16	25	35	50	63	100										
S.V.	13	20	32	44	63	79	125										
Dissipation Factor (tan δ) (120Hz 25℃)	Add 0.02 per 1000 μF for more than 1000 μF <table><tr><td>W.V.</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td></tr><tr><td>tan δ</td><td>0.12</td><td>0.10</td><td>0.09</td><td>0.08</td><td>0.07</td><td>0.06</td><td>0.06</td></tr></table>	W.V.	10	16	25	35	50	63	100	tan δ	0.12	0.10	0.09	0.08	0.07	0.06	0.06
W.V.	10	16	25	35	50	63	100										
tan δ	0.12	0.10	0.09	0.08	0.07	0.06	0.06										
Low Temperature Stability	Impedance ratio at 120Hz <table><tr><td>Rated Voltage (V)</td><td>10~16</td><td>25~100</td></tr><tr><td>−25℃/+25℃</td><td>3</td><td>2</td></tr><tr><td>−55℃/+25℃</td><td>6</td><td>4</td></tr></table>	Rated Voltage (V)	10~16	25~100	−25℃/+25℃	3	2	−55℃/+25℃	6	4							
Rated Voltage (V)	10~16	25~100															
−25℃/+25℃	3	2															
−55℃/+25℃	6	4															
Load Life	After hours (φ D ≤ 8mm 2000 hours , φ D ≥ 10mm 3000 hours) application of WV at +105℃ , the capacitor shall meet the following limits. Capacitance Change																

DIMENSIONS (mm)

φ D	8	10	13	16	18
F	3.5	5.0	5.0	7.5	7.5
d	0.6	0.6	0.6	0.8	0.8



RIPPLE CURRENT COEFFICIENTS

Temperature(°C)	65	75	85	95	105
Multiplier	2.12	1.92	1.69	1.50	1.00

Frequency(Hz)	60	120	400	1K	10K	100K
W.V.	Multiplier					
10~16 V	0.45	0.60	0.83	0.94	0.98	1.00
25~35 V	0.38	0.50	0.75	0.90	0.97	1.00
50~100 V	0.36	0.46	0.70	0.88	0.94	1.00

● CASE SIZE & MAX RIPPLE CURRENT

Case size : D x L (mm)
 Max impedance : Ω 25°C100KHz
 Max ripple current : A (rms)
 (R.C.) : 105°C 100KHz

μF	V(Code) Code Item	10 (1A)			16 (1C)			25 (1E)		
		DxL	IMP.	R.C.	DxL	IMP.	R.C.	DxL	IMP.	R.C.
100	101			→	8x11	0.348	0.26	8x11	0.330	0.33
220	221	8x11	0.190	0.36	8x14	0.180	0.43	10x16	0.170	0.59
330	331	8x14	0.152	0.48	10x16	0.144	0.57	10x18	0.136	0.76
470	471	10x16	0.124	0.62	10x18	0.118	0.71	10x21	0.112	0.97
680	681	10x18	0.098	0.78	10x21	0.093	0.92	13x21	0.088	1.27
1000	102	10x21	0.080	1.02	13x21	0.076	1.22	13x26	0.072	1.69
2200	222	13x26	0.046	1.67	13x31	0.043	1.96	13x41	0.041	2.79
3300	332	13x31	0.038	2.08	13x41	0.036	2.52	16x42	0.034	3.11
4700	472	13x41	0.032	2.58	16x42	0.031	2.70			

All blank voltage on sleeve marking is the same voltage as " → " point to.

μF	V(Code) Code Item	35 (1V)			50 (1H)		
		DxL	IMP.	R.C.	DxL	IMP.	R.C.
47	470			→	8x11	0.453	0.28
68	680	8x11	0.374	0.29	8x14	0.352	0.37
100	101	8x14	0.311	0.39	10x16	0.292	0.49
220	221	10x18	0.161	0.66	10x21	0.151	0.82
330	331	10x26	0.129	0.95	13x21	0.121	1.09
470	471	13x21	0.105	1.12	13x26	0.099	1.43
680	681	13x26	0.083	1.48	13x31	0.078	1.86
1000	102	13x31	0.068	1.94	13x41	0.064	2.56
2200	222	16x42	0.039	2.89			

μF	V(Code) Code Item	63 (1J)			100 (2A)		
		DxL	IMP.	R.C.	DxL	IMP.	R.C.
47	470	8x14	0.424	0.34	10x26	0.368	0.45
68	680	10x16	0.330	0.44	13x21	0.286	0.53
100	101	10x18	0.274	0.56	13x26	0.238	0.71
220	221	13x21	0.142	0.96	16x35	0.123	1.18
330	331	13x26	0.113	1.29	18x42	0.098	1.68
470	471	13x31	0.093	1.67			
680	681	16x35	0.073	2.08			

MINIATURE SIZE

WL Series

Low Impedance , Miniature Sized

JAMICON®

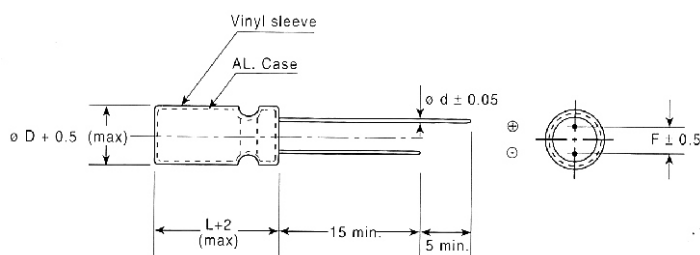
- Smaller case sizes than WG series .
- Lower impedance at high frequency and high ripple current .
- Suitable for output of Motherboard and Switching power supplies .

SPECIFICATION

Item	Characteristic																								
Operation Temperature Range	- 55 ~ + 105℃																								
Rated working Voltage	6.3~50VDC																								
Capacitance Tolerance (120Hz 25℃)	± 20%(M)																								
Leakage Current (25℃)	I ≤ 0.01 CV or 3 (μ A) I: Leakage Current (μ A) C: Rated Capacitance(μ F) V : Working Voltage (V) Whichever is greater after 3 minutes																								
Surge Voltage (25℃)	<table><tr><td>W.V.</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td></tr><tr><td>S.V.</td><td>8</td><td>13</td><td>20</td><td>32</td><td>44</td><td>63</td></tr></table>							W.V.	6.3	10	16	25	35	50	S.V.	8	13	20	32	44	63				
W.V.	6.3	10	16	25	35	50																			
S.V.	8	13	20	32	44	63																			
Dissipation Factor (tan δ) (120Hz 25℃)	Add 0.02 per 1000 μ F for more than 1000 μ F <table><tr><td>W.V.</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td></tr><tr><td>tan δ</td><td>0.22</td><td>0.19</td><td>0.16</td><td>0.14</td><td>0.12</td><td>0.10</td></tr></table>							W.V.	6.3	10	16	25	35	50	tan δ	0.22	0.19	0.16	0.14	0.12	0.10				
W.V.	6.3	10	16	25	35	50																			
tan δ	0.22	0.19	0.16	0.14	0.12	0.10																			
Low Temperature Stability	Impedance ratio at 120Hz <table><tr><td colspan="2">Rated Voltage (V)</td><td colspan="2">6.3 ~ 16</td><td colspan="2">25 ~ 50</td></tr><tr><td colspan="2">- 25℃ / + 25℃</td><td colspan="2">3</td><td colspan="2">2</td></tr><tr><td colspan="2">- 55℃ / + 25℃</td><td colspan="2">6</td><td colspan="2">4</td></tr></table>							Rated Voltage (V)		6.3 ~ 16		25 ~ 50		- 25℃ / + 25℃		3		2		- 55℃ / + 25℃		6		4	
Rated Voltage (V)		6.3 ~ 16		25 ~ 50																					
- 25℃ / + 25℃		3		2																					
- 55℃ / + 25℃		6		4																					
Load Life	After hours (φ D ≤ 8mm 1000 hours 、 φ D ≥ 10mm 2000 hours) application of WV at + 105℃ , the capacitor shall meet the following limits. <table><tr><td>Capacitance Change</td><td>≤ ± 20% of initial value</td></tr><tr><td>Dissipation Factor</td><td>≤ 200% of initial specified value</td></tr><tr><td>Leakage current</td><td>≤ initial specified value</td></tr></table>							Capacitance Change	≤ ± 20% of initial value	Dissipation Factor	≤ 200% of initial specified value	Leakage current	≤ initial specified value												
Capacitance Change	≤ ± 20% of initial value																								
Dissipation Factor	≤ 200% of initial specified value																								
Leakage current	≤ initial specified value																								
Shelf Life	At + 105℃ no voltage application after 1000 hours and then through the aging treatment (reference JIS C 5102 4.4) , the capacitor shall meet the limits for load life characteristics .																								
Reference Standard	JIS C 5102																								

DIMENSIONS (mm)

ϕD	5	6.3	8	10	13	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
d	0.5	0.5	0.6	0.6	0.6	0.8	0.8



RIPPLE CURRENT COEFFICIENTS

Temperature(°C)	65	75	85	95	105
Multiplier	2.12	1.92	1.69	1.50	1.00

Frequency(Hz)	60	120	400	1K	10K	100K
W.V.	Multiplier					
6.3~16 V	0.45	0.60	0.83	0.94	0.98	1.00
25~35 V	0.38	0.50	0.75	0.90	0.97	1.00
50 V	0.36	0.46	0.70	0.88	0.94	1.00

Case size : D x L (mm)
 Max impedance : Ω 100KHz
 Max ripple current : mA (rms)
 (R.C.) : 105°C 100KHz

● CASE SIZE & MAX RIPPLE CURRENT

μF	Code	V(Code) Item	6.3 (0J)				10 (1A)			
			DxL	IMP.		R.C.	DxL	IMP.		R.C.
				25°C	-10°C			25°C	-10°C	
100	101					→	5x11	0.312	0.937	230
120	121					→	5x11	0.266	0.798	250
150	151		5x11	0.219	0.656	250	5x11	0.218	0.653	280
180	181		5x11	0.190	0.571	270	5x15	0.189	0.568	360
						→	6.3x11	0.189	0.568	350
220	221		5x11	0.162	0.487	300	5x15	0.161	0.484	400
						→	6.3x11	0.161	0.484	390
270	271		5x15	0.148	0.444	380	5x15	0.147	0.442	440
			6.3x11	0.148	0.444	380	6.3x11	0.147	0.442	430
330	331		5x15	0.130	0.389	420	6.3x15	0.129	0.387	550
			6.3x11	0.130	0.389	420	8x11	0.129	0.387	550
390	391		6.3x15	0.117	0.351	520	6.3x15	0.116	0.349	600
			8x11	0.117	0.351	520	8x11	0.116	0.349	600
470	471		6.3x15	0.106	0.319	570	6.3x15	0.106	0.317	660
			8x11	0.106	0.319	570	8x11	0.106	0.317	660
560	561		6.3x15	0.094	0.283	620	6.3x15	0.094	0.281	720
			8x11	0.094	0.283	620	8x11	0.094	0.281	720
680	681		6.3x15	0.084	0.252	680	8x14	0.083	0.250	880
			8x11	0.084	0.252	680	10x13	0.083	0.250	960
820	821		8x14	0.077	0.230	830	8x16	0.076	0.228	1020
			10x13	0.077	0.230	920	10x13	0.076	0.228	1060
1000	102		8x14	0.069	0.206	920	8x20	0.068	0.204	1240
			10x13	0.069	0.206	1010	10x16	0.068	0.204	1280
1200	122		8x20	0.059	0.178	1180	10x21	0.059	0.177	1580
			10x16	0.059	0.178	1210	13x16	0.059	0.148	1560
1500	152		10x21	0.036	0.107	1480	10x24	0.035	0.106	1800
			13x16	0.036	0.089	1460	13x18	0.035	0.089	1760
1800	182		10x21	0.031	0.094	1620	10x26	0.031	0.094	2040
			13x16	0.031	0.078	1600	13x18	0.031	0.078	1930
2200	222		10x24	0.028	0.083	1850	10x28	0.027	0.082	2250
			13x18	0.028	0.069	1810	16x16	0.027	0.068	2020
2700	272		10x28	0.025	0.075	2140	13x21	0.025	0.062	2350
			16x16	0.025	0.063	1920	16x16	0.025	0.062	2160
3300	332		13x21	0.023	0.058	2250	13x26	0.023	0.057	2760
			16x16	0.023	0.058	2070	18x16	0.023	0.057	2360
3900	392		13x26	0.022	0.055	2620	13x31	0.022	0.055	3150
			18x16	0.022	0.055	2240	16x21	0.022	0.055	2720
4700	472		13x31	0.021	0.053	2970	13x36	0.021	0.053	3320
			16x21	0.021	0.053	2570	16x25	0.021	0.053	3050
5600	562		13x36	0.020	0.050	3160	13x41	0.020	0.049	3660
			16x25	0.020	0.050	2900	18x21	0.020	0.049	3000
6800	682		13x41	0.019	0.047	3560	16x32	0.019	0.047	3710
			18x21	0.019	0.047	2910	18x25	0.019	0.047	3390
8200	822		16x32	0.018	0.045	3570	16x35	0.018	0.044	3990
			18x25	0.018	0.045	3260	18x32	0.018	0.044	3900
10000	103		16x35	0.017	0.043	3850	16x40	0.017	0.042	4140
			18x32	0.017	0.043	3760	18x35	0.017	0.042	4170
12000	123		16x40	0.017	0.042	4030	16x48	0.017	0.041	4630
			18x35	0.017	0.042	4060	18x40	0.017	0.041	4320
15000	153		16x48	0.016	0.040	4550	18x42	0.016	0.040	4560
			18x35	0.016	0.040	4210				
18000	183		16x50	0.016	0.040	4760	18x48	0.016	0.040	4950
			18x40	0.016	0.040	4370				
22000	223		18x48	0.016	0.040	4870	18x50	0.016	0.039	5340
27000	273		18x50	0.015	0.038	5080				

All Blank voltage on sleeve marking is same voltage as "→"Point to.

Case size : D x L (mm)
 Max impedance : Ω 100KHz
 Max ripple current : mA (rms)
 (R.C.) : 105°C 100KHz

● CASE SIZE & MAX RIPPLE CURRENT

V(Code)		16 (1C)				25 (1E)			
μ F	Code	Item	DxL	IMP.		R.C.	DxL	IMP.	
				25°C	-10°C			25°C	-10°C
47	470					→	5x11	0.283	0.085
56	560		5x11	0.253	0.759	190	5x11	0.253	0.758
68	680		5x11	0.221	0.662	210	5x11	0.220	0.661
82	820		5x11	0.203	0.610	230	5x15	0.203	0.609
						→	6.3x11	0.203	0.609
100	101		5x11	0.183	0.055	260	5x15	0.183	0.549
						→	6.3x11	0.183	0.549
120	121		5x15	0.156	0.469	320	5x15	0.156	0.468
			6.3x11	0.156	0.469	320	6.3x11	0.156	0.468
150	151		5x15	0.128	0.383	360	6.3x15	0.128	0.383
			6.3x11	0.128	0.383	350	8x11	0.128	0.383
180	181		5x15	0.111	0.333	390	6.3x15	0.111	0.333
			6.3x11	0.111	0.333	390	8x11	0.111	0.333
220	221		5x15	0.095	0.284	430	6.3x15	0.095	0.284
			6.3x11	0.095	0.284	430	8x11	0.095	0.284
270	271		6.3x15	0.086	0.259	550	8x14	0.086	0.259
			8x11	0.086	0.259	540	10x13	0.086	0.259
330	331		6.3x15	0.076	0.227	600	8x16	0.076	0.227
			8x11	0.076	0.227	600	10x13	0.076	0.227
390	391		8x14	0.068	0.205	730	8x20	0.068	0.205
			10x13	0.068	0.205	800	10x16	0.068	0.205
470	471		8x16	0.062	0.186	850	8x20	0.062	0.186
			10x13	0.062	0.186	880	10x16	0.062	0.186
560	561		8x20	0.055	0.165	1020	8x20	0.055	0.165
			10x16	0.055	0.165	1050	10x16	0.055	0.165
680	681		8x20	0.049	0.147	1120	10x21	0.049	0.147
			10x16	0.049	0.147	1150	13x16	0.049	0.122
820	821		8x20	0.045	0.134	1230	10x24	0.045	0.134
			10x16	0.045	0.134	1270	13x18	0.045	0.112
1000	102		10x21	0.040	0.120	1580	10x28	0.040	0.120
			13x16	0.040	0.100	1560	16x16	0.040	0.100
1200	122		10x24	0.035	0.104	1830	13x21	0.035	0.104
			13x18	0.035	0.087	1790	16x16	0.035	0.087
1500	152		10x28	0.029	0.088	2100	13x26	0.029	0.074
			16x16	0.029	0.074	1880	18x16	0.029	0.074
1800	182		13x21	0.026	0.065	2240	13x31	0.026	0.065
			16x16	0.026	0.065	2060	16x21	0.026	0.065
2200	222		13x26	0.023	0.057	2600	13x36	0.023	0.057
			18x16	0.023	0.057	2230	16x25	0.023	0.057
2700	272		13x31	0.021	0.052	2990	13x41	0.021	0.052
			16x21	0.021	0.052	2590	18x21	0.021	0.052
3300	332		13x36	0.019	0.048	3240	16x32	0.019	0.047
			16x25	0.019	0.048	2970	18x25	0.019	0.047
3900	392		13x24	0.018	0.046	3620	16x35	0.018	0.046
			18x21	0.018	0.046	2960	18x32	0.018	0.046
4700	472		16x32	0.016	0.040	3590	16x40	0.016	0.040
			18x25	0.016	0.040	3280	18x35	0.016	0.040
5600	562		16x35	0.015	0.038	3860	16x48	0.015	0.038
			18x32	0.015	0.038	3770	18x40	0.015	0.038
6800	682		16x40	0.014	0.036	4080	18x42	0.014	0.036
			18x35	0.014	0.036	4110			
8200	822		16x40	0.014	0.034	4190	18x48	0.014	0.034
			18x35	0.014	0.034	4220			
10000	103		16x48	0.013	0.032	4660			
			18x40	0.013	0.033	4070			
1200	123		18x42	0.013	0.032	4560			
15000	153		18x50	0.012	0.030	5060			

All Blank voltage on sleeve marking is same voltage as "→"Point to.

Case size : D x L (mm)
 Max impedance : Ω 100KHz
 Max ripple current : mA (rms)
 (R.C.) : 105°C 100KHz

● CASE SIZE & MAX RIPPLE CURRENT

μF	V(Code)	Item	35 (1V)				50 (1H)			
			DxL	IMP.		R.C.	DxL	IMP.		R.C.
				25°C	-10°C			25°C	-10°C	
0.47	R47					→	5x11	3.006	9.017	27
1	010					→	5x11	2.825	8.476	40
2.2	2R2					→	5x11	1.511	4.533	60
3.3	3R3					→	5x11	1.259	3.777	70
4.7	4R7		5x11	1.062	3.185	75	5x11	1.061	3.182	85
6.8	6R8		5x11	0.917	2.752	90	5x11	0.916	2.749	100
10	100		5x11	0.832	2.495	110	5x11	0.831	2.493	130
15	150		5x11	0.610	1.829	130	5x11	0.609	1.828	150
18	180		5x11	0.531	1.594	150	5x11	0.531	1.593	170
22	220		5x11	0.454	1.361	160	5x11	0.453	1.360	190
27	270		5x11	0.400	1.201	180	5x11	0.400	1.200	210
33	330		5x11	0.353	1.058	200	5x11	0.353	1.058	230
39	390		5x11	0.320	0.096	210	5x15	0.320	0.959	290
47	470						6.3x11	0.320	0.959	280
			5x11	0.283	0.849	230	5x15	0.283	0.849	310
56	560						6.3x11	0.283	0.849	310
			5x15	0.252	0.757	290	5x15	0.252	0.757	340
68	680		6.3x11	0.252	0.757	290	6.3x11	0.252	0.757	340
			5x15	0.220	0.660	320	6.3x15	0.220	0.660	430
82	820		6.3x11	0.220	0.660	320	8x11	0.220	0.660	430
			5x15	0.203	0.608	360	6.3x15	0.203	0.608	470
100	101		6.3x11	0.203	0.608	350	8x11	0.203	0.608	470
			6.3x15	0.183	0.549	450	8x14	0.183	0.548	570
120	121		8x11	0.183	0.549	450	10x13	0.183	0.548	630
			6.3x15	0.109	0.327	490	8x16	0.109	0.327	670
150	151		8x11	0.109	0.327	490	10x13	0.109	0.327	690
			6.3x15	0.089	0.268	550	8x20	0.089	0.268	820
180	181		8x11	0.089	0.268	540	10x16	0.089	0.268	840
			8x14	0.078	0.233	660	8x20	0.078	0.233	900
220	221		10x13	0.078	0.233	730	10x16	0.078	0.233	920
			8x16	0.066	0.198	780	8x20	0.066	0.198	1000
270	271		10x13	0.066	0.198	810	10x16	0.066	0.198	1020
			8x20	0.060	0.181	950	10x21	0.060	0.181	1280
330	331		10x16	0.060	0.181	970	13x16	0.060	0.151	1260
			8x20	0.053	0.159	1050	10x24	0.053	0.159	1500
390	391		10x16	0.053	0.159	1080	13x18	0.053	0.132	1470
			10x21	0.048	0.143	1320	10x26	0.048	0.143	1690
470	471		13x16	0.048	0.119	1310	13x18	0.048	0.119	1590
			10x21	0.043	0.130	1450	13x21	0.043	0.108	1870
560	561		13x16	0.043	0.108	1430	16x16	0.043	0.108	1720
			10x24	0.038	0.115	1680	13x26	0.038	0.096	2240
680	681		13x18	0.038	0.096	1640	18x16	0.038	0.096	1920
			10x28	0.034	0.103	1990	13x31	0.034	0.086	2670
820	821		16x16	0.034	0.086	1780	16x21	0.034	0.086	2310
			10x30	0.031	0.094	2250	13x36	0.031	0.078	2980
1000	102		16x16	0.031	0.078	1950	16x25	0.031	0.078	2730
			13x26	0.028	0.070	2580	13x41	0.028	0.070	3500
1200	122		18x16	0.028	0.070	2210	18x21	0.028	0.070	2860
			13x31	0.024	0.061	3050	16x32	0.024	0.061	3680
1500	152		16x21	0.024	0.061	2640	18x25	0.024	0.061	3370
			13x36	0.021	0.051	3270	16x35	0.021	0.051	4010
1800	182		16x25	0.021	0.051	3000	18x32	0.021	0.051	3920
			13x41	0.018	0.045	3810	16x40	0.018	0.045	4430
2200	222		18x21	0.018	0.045	3110	18x35	0.018	0.045	4470
			16x32	0.016	0.040	3840	16x40	0.016	0.040	4620
2700	272		18x25	0.016	0.040	3510	18x35	0.016	0.040	4660
			16x35	0.014	0.036	4220	16x48	0.014	0.036	5280
3300	332		18x32	0.014	0.036	4130	18x40	0.014	0.036	4930
			16x40	0.013	0.033	4510	18x48	0.013	0.033	5650
3900	392		18x35	0.013	0.033	4540				
			16x48	0.013	0.032	5120	18x50	0.013	0.032	5990
4700	472		18x40	0.013	0.032	4870				
			18x42	0.011	0.028	5370				
5800	562		18x50	0.010	0.026	6340				

All Blank voltage on sleeve marking is same voltage as " → "Point to.

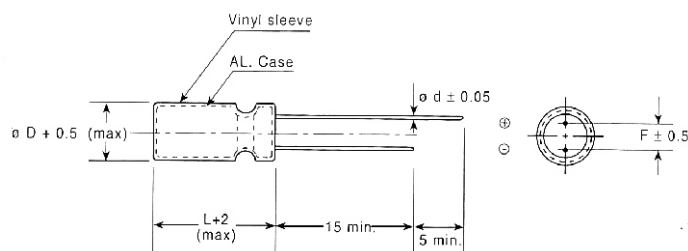
- High ripple current, low E.S.R. and long life
- Suitable for electronic ballast, adaptor and switching power

SPECIFICATION

Item	Characteristic						
Operation Temperature Renge	-40 ~ +105°C					-25 ~ +105°C	
Rated Working Voltage	160 ~ 400VDC					450VDC	
Capcitanace Tolerance (120Hz 25°C)	±20%(M)						
Leakage Current (25°C)	1≤ 0.06CV + 10 μA Whichever is greater after 2 minutes					I : Leakage Current (μA) C : Rated Capacitance (μF) V : Working Voltage (V)	
Surge Voltage (25°C)	W.V.	160	200	250	400	450	
	S.V.	200	250	300	450	500	
Dissipation Factor (tan δ) (120Hz 25°C)	W.V.	160	200	250	400	450	
	tan δ	0.15	0.15	0.15	0.24	0.24	
Low Temperature Stability	Impedance ratio at 120Hz						
	Rated Voltage (V)	160 ~ 250			400	450	
	-25°C / +25°C	3			6	6	
	-40°C / +25°C	4			6	—	
Load Life	After 2000 hours application of WV at +105°C the capacitor shall meet the following limits.						
	Capacitance Change	≤±20% of initial value					
	Dissipation Factor	≤±200% of initial specified value					
	Leakage current	≤initial specified value					
Shelf Life	At + 105°C no voltage application after 1000 hours and then though the aging treatment (reference JIS C 5102,4.4), the capacitor shall meet the limits for load life characteristics.						
Reference Standard	JIS C 5102						

DIMENSIONS (mm)

ϕD	10	13	16	18
F	5.0	5.0	7.5	7.5
d	0.6	0.6	0.8	0.8



Case size : D x L (mm)
 Max impedance : Ω 25°C 100KHz
 Max ripple current : mA (rms)
 (R.C.) : 105°C 100KHz

CASE SIZE & MAX RIPPLE CURRENT

μ F	V(Code) Code	Item	160 (2C)			200 (2D)			260 (2E)		
			DxL	IMP.	R.C.	DxL	IMP.	R.C.	DxL	IMP.	R.C.
4.7	4R7								10x16	3.45	150
10	100		10x16	1.47	220	10x16	1.47	220	10x21	2.70	240
22	220		10x21	0.80	360	10x21	0.80	360	13x21	1.47	390
33	330		10x21	0.62	440	13x21	0.62	480	13x26	1.15	530
47	470		13x21	0.50	580	13x26	0.50	630	16x25	0.92	610
68	680		13x21	0.39	691	13x26	0.39	760	16x32	0.71	820
100	101		16x25	0.32	890	16x32	0.32	990	18x35	0.59	1100
220	221		16x35	0.17	1530	18x35	0.17	1630	18x40	0.31	1730

μ F	V(Code) Code	Item	400 (2G)			450 (2W)		
			DxL	IMP.	R.C.	DxL	IMP.	R.C.
2.2	2R2					10x16	4.94	110
3.3	3R3		10x21	2.60	170	10x21	4.11	150
4.7	4R7		10x26	2.20	220	13x21	3.47	200
10	100		13x26	1.72	350	13x26	2.72	320
22	220		16x25	0.94	510	16x32	1.48	510
33	330		16x32	0.73	690	16x32	1.15	620
47	470		16x32	0.59	830	18x32	0.92	790
68	680		16x32	0.46	1000			
100	101		18x32	0.38	1290			
120	121		18x35	0.32	1470			
150	151		18x40	0.26	1740			
180	181		18x40	0.23	1910			

Ripple Current Coefficients

Temperature(°C)	65	75	85	90	105
Multiplier	1.8	1.65	1.50	1.25	1.00

Frequency (Hz)		120	1K	10K	100K
W.V.		Multiplier			
160~450	ϕ D=10mm	0.25	0.61	0.88	1.0
	ϕ D>10mm	0.35	0.66	0.89	1.0

MINIATURE SIZE

TL Series

Long Life , Low Impedance , High Reliability

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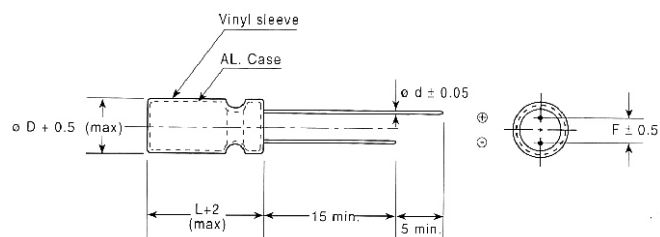
- Low Impedance and long life withstanding 5000 hours load life .
- Suitable for output of switching power supplies .

SPECIFICATION

Item	Characteristic																					
Operation Temperature Range	- 55 ~ + 105°C																					
Rated working Voltage	6.3 ~ 50VDC																					
Capacitance Tolerance (120Hz 25 °C)	± 20%(M)																					
Leakage Current (25°C)	I ≤ 0.01CV or 3 (μ A) I: Leakage Current (μ A) C: Rated Capacitance(μ F) V : Working Voltage (V) Whichever is greater after 2 minutes																					
Surge Voltage (25°C)	<table><tr><td>W.V.</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td></tr><tr><td>S.V.</td><td>8</td><td>13</td><td>20</td><td>32</td><td>44</td><td>63</td></tr></table>							W.V.	6.3	10	16	25	35	50	S.V.	8	13	20	32	44	63	
W.V.	6.3	10	16	25	35	50																
S.V.	8	13	20	32	44	63																
Dissipation Factor (tan δ) (120Hz 25°C)	Add 0.02 per 1000 μ F for more than 1000 μ F <table><tr><td>W.V.</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td></tr><tr><td>tan δ</td><td>0.22</td><td>0.19</td><td>0.16</td><td>0.14</td><td>0.12</td><td>0.10</td></tr></table>							W.V.	6.3	10	16	25	35	50	tan δ	0.22	0.19	0.16	0.14	0.12	0.10	
W.V.	6.3	10	16	25	35	50																
tan δ	0.22	0.19	0.16	0.14	0.12	0.10																
Low Temperature Stability	Impedance ratio at 120Hz <table><tr><td>Rated Voltage (V)</td><td>6.3</td><td>10</td><td>16 ~ 35</td><td>50</td></tr><tr><td>- 25°C / + 25°C</td><td>2</td><td>2</td><td>2</td><td>2</td></tr><tr><td>- 55°C / + 25°C</td><td>3</td><td>3</td><td>3</td><td>2</td></tr></table>							Rated Voltage (V)	6.3	10	16 ~ 35	50	- 25°C / + 25°C	2	2	2	2	- 55°C / + 25°C	3	3	3	2
Rated Voltage (V)	6.3	10	16 ~ 35	50																		
- 25°C / + 25°C	2	2	2	2																		
- 55°C / + 25°C	3	3	3	2																		
Load Life	After hours (φ 5 ~ 6.3mm 2000 hours , φ 8mm 3000 hours , φ D ≥ 10mm 5000 hours) application of WV at + 105°C , the capacitor shall meet the following limits.																					
	Capacitance Change		≤ ± 20% of initial value																			
	Dissipation Factor		≤ 200% of initial specified value																			
	Leakage current		≤ initial specified value																			
Shelf Life	At + 105°C no voltage application after 1000 hours and then through the aging treatment (reference JIS C 5102 4.4) , the capacitor shall meet the following limits.																					
	Capacitance Change		≤ ± 20% of initial value																			
	Dissipation Factor		≤ 150% of initial specified value																			
	Leakage current		≤ 200% of initial specified value																			
Reference Standard	JIS C 5102																					

DIMENSIONS (mm)

ϕ D	5	6.3	8	10	13	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
d	0.5	0.5	0.6	0.6	0.6	0.8	0.8



● CASE SIZE & MAX RIPPLE CURRENT

Case size : D x L (mm)

Max impedance : Ω 25°C100KHz

Max ripple current : A (rms)

(R.C.) : 105°C 100KHz

μ F V(Code) Code Item		6.3 (0J)			10 (1A)			16 (1C)		
		DxL	IMP.	R.C.	DxL	IMP.	R.C.	DxL	IMP.	R.C.
47	470						→	5x11	0.568	0.15
68	680						→	5x11	0.500	0.18
100	101			→	5x11	0.500	0.21	6.3x11	0.367	0.25
220	221	6.3x11	0.308	0.34	6.3x11	0.249	0.35	8x11	0.190	0.42
330	331	6.3x11	0.246	0.42	8x11	0.169	0.50	10x13	0.114	0.56
470	471	8x11	0.178	0.57	8x11	0.139	0.59	10x13	0.093	0.67
680	681	10x13	0.081	0.75	10x13	0.077	0.78	10x16	0.074	0.88
1000	102	8x20	0.066	1.08	10x16	0.063	1.03	10x20	0.060	1.18
1200	122	10x16	0.058	1.09	10x20	0.055	1.24	10x26	0.052	1.46
1500	152	10x20	0.049	1.30	10x26	0.047	1.51	13x20	0.044	1.52
2200	222	10x26	0.038	1.71	13x20	0.036	1.71	13x25	0.034	1.95
3300	332	13x20	0.032	1.91	13x25	0.030	2.17	16x25	0.029	2.20
4700	472	13x31	0.027	2.57	16x25	0.025	2.35	16x32	0.024	2.68
6800	682	16x25	0.024	2.53	16x32	0.023	2.87	18x35	0.022	3.26
10000	103	16x32	0.022	3.02	18x35	0.021	3.41	18x42	0.019	3.76
15000	153	18x35	0.020	3.58	18x42	0.019	3.93			

All blank voltage on sleeve marking is the same voltage as " → " point to.

μ F V(Code) Code Item		25 (1E)			35 (1V)			50 (1H)		
		DxL	IMP.	R.C.	DxL	IMP.	R.C.	DxL	IMP.	R.C.
4.7	4R7			→	5x11	1.912	0.07	5x11	1.699	0.08
10	100			→	5x11	1.498	0.10	5x11	1.331	0.11
22	220			→	5x11	0.817	0.14	5x11	0.726	0.16
33	330			→	5x11	0.636	0.17	6.3x11	0.564	0.23
47	470	5x11	0.539	0.19	6.3x11	0.510	0.24	6.3x11	0.453	0.27
68	680	6.3x11	0.419	0.26	6.3x11	0.397	0.28	8x11	0.352	0.37
100	101	6.3x11	0.349	0.31	8x11	0.330	0.39	8x20	0.220	0.59
220	221	8x11	0.180	0.53	10x13	0.128	0.64	10x16	0.113	0.80
330	331	10x13	0.108	0.71	10x16	0.102	0.85	10x20	0.091	1.08
470	471	10x16	0.088	0.92	10x20	0.084	1.12	13x20	0.074	1.41
680	681	10x20	0.070	1.22	13x20	0.066	1.47	13x25	0.059	1.87
1000	102	13x20	0.057	1.62	13x25	0.054	1.97	16x25	0.048	2.23
1200	122	13x20	0.050	1.77	13x31	0.047	2.38	16x32	0.042	2.73
1500	152	13x25	0.042	2.09	16x25	0.040	2.25	16x35	0.035	2.99
2200	222	16x25	0.032	2.39	16x32	0.031	2.90	18x35	0.027	3.67
3300	332	16x32	0.027	3.04	18x35	0.026	3.63	18x42	0.023	4.45
4700	472	18x35	0.023	3.68						

All blank voltage on sleeve marking is the same voltage as " → " point to.

● RIPPLE CURRENT COEFFICIENTS

Temperature(°C)	65	75	85	95	105
Multiplier	2.12	1.92	1.69	1.50	1.00

Frequency(Hz)	60	120	400	1K	10K	100K
W.V.	Multiplier					
6.3~16 V	0.45	0.60	0.83	0.94	0.98	1.00
25~35 V	0.38	0.50	0.75	0.90	0.97	1.00
50 V	0.36	0.46	0.70	0.88	0.94	1.00

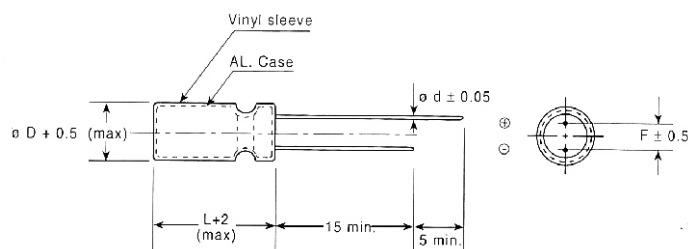
- High ripple current, low E.S.R. and long life
- Suitable for electronic ballast, adaptor and switching power

SPECIFICATION

Item	Characteristic						
Operation Temperature Renge	-40 ~ +105°C				-25 ~ +105°C		
Rated Working Voltage	160 ~ 400VDC				450VDC		
Capcitanace Tolerance (120Hz 25°C)	±20%(M)						
Leakage Current (25°C)	1≤ 0.06CV + 10 μA Whichecker is greater after 2 minutes				I : Leakage Current (μA) C : Rated Capacitance (μF) V : Working Voltage (V)		
Surge Voltage (25°C)	W.V.	160	200	250	350	400	450
	S.V.	200	250	300	400	450	500
Dissipation Factor (tan δ) (120Hz 25°C)	W.V.	160	200	250	350	400	450
	tan δ	0.15	0.15	0.15	0.24	0.24	0.24
Low Temperature Stability	Impedance ratio at 120Hz						
	Rated Voltage (V)	160 ~ 250			400	450	
	-25°C / +25°C	3			6	6	
	-40°C / +25°C	4			6	—	
Load Life	After 5000 hours application of WV at +105°C the capacitor shall meet the following limits.						
	Capacitance Change	≤±20% of initial value					
	Dissipation Factor	≤±200% of initial specified value					
	Leakage current	≤initial specified value					
Shelf Life	At + 105°C no voltage application after 1000 hours. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes, at least 24 hrs and not more then 48 hrs before measurement. Cap & DF shall meet the limits for load life characteristics, Leakage current ≤500% of the initial spesified value						

DIMENSIONS (mm)

φ D	10	13	16	18
F	5.0	5.0	7.5	7.5
d	0.6	0.6	0.8	0.8



Case size : D x L (mm)
 Max impedance : Ω 25°C 100KHz
 Max ripple current : mA (rms)
 (R.C.) : 105°C 100KHz

CASE SIZE & MAX RIPPLE CURRENT

μ F	V(Code) Code	Item	160 (2C)			200 (2D)			250 (2E)		
			DxL	IMP.	R.C.	DxL	IMP.	R.C.	DxL	IMP.	R.C.
10	100								10x21	3.18	200
22	220		10x21	1.47	300	10x21	1.47	300	13x21	1.74	340
33	330		10x21	1.15	360	13x21	1.15	420	13x26	1.35	460
47	470		13x21	0.92	500	13x21	0.92	500	13x26	1.08	550
68	680		13x26	0.71	660	13x26	0.71	660	16x25	0.84	730
100	101		16x25	0.59	890	16x25	0.59	890	16x32	0.70	990
150	151		16x32	0.41	1210	16x32	0.41	1210	18x32	0.49	1300
220	221		16x32	0.31	1470	18x35	0.31	1630	18x40	0.36	1730
330	331		18x35	0.25	2000						

μ F	V(Code) Code	Item	350 (2V)			400 (2G)			450 (2W)		
			DxL	IMP.	R.C.	DxL	IMP.	R.C.	DxL	IMP.	R.C.
3.3	3R3								10x21	4.47	130
4.7	4R7								13x21	3.77	170
10	100		10x21	2.94	180	10x21	2.94	180	13x26	2.95	280
22	220		13x21	1.60	310	13x26	1.60	310	16x25	1.61	510
33	330		13x26	1.25	420	13x26	1.25	420	16x32	1.25	620
47	470		16x25	1.00	560	16x25	1.00	560	18x32	1.01	790
68	680		16x32	0.78	750	16x32	0.78	750	18x35	0.78	990
100	101		18x35	0.65	1010	18x35	0.65	1010			

RIPPLE CURRENT COEFFICIENTS

Temperature(°C)	65	75	85	95	105
Multiplier	1.8	1.65	1.50	1.25	1.00

Frequency (Hz)		120	1K	10K	100K
W.V.		Multiplier			
160~450	ϕ D=10mm	0.25	0.61	0.88	1.00
	ϕ D>10mm	0.35	0.66	0.89	1.00

MINIATURE SIZE

WB Series

High Temperature , For 125°C

JAMICON®

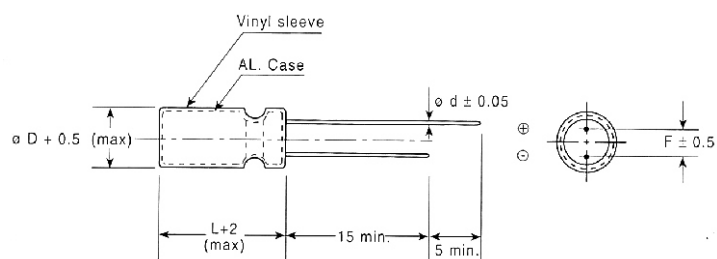
- High reliability withstanding 1000 hours load life at 125°C

SPECIFICATION

Item	Characteristic						
Operation Temperature Range	-25~+125℃						
Rated working Voltage	10~63VDC						
Capacitance Tolerance (120Hz 25℃)	±20%(M)						
Leakage Current (25℃)	I≤0.002CV or 2 (μ A)						

DIMENSIONS (mm)

ϕD	8	10	13
F	3.5	5.0	5.0
d	0.6	0.6	0.6



● CASE SIZE & MAX RIPPLE CURRENT

Case size : DxL (mm)
 Max ripple current : mA (rms)
 (R.C.) : 125°C 120Hz

V(Code) Item Code μ F F		10 (1A)		16 (1C)		25 (1E)	
		DxL	R.C.	DxL	R.C.	DxL	R.C.
33	330				→	8X11	110
47	470		→	8X11	117	8X11	117
100	101	8X11	123	10X13	158	10X16	203
220	221	10X16	214	10X21	275	10X21	279
330	331	10X16	224	13X21	360	13X26	425
470	471	10X21	292	13X26	462		
1000	102	13X21	474				

V(Code) Item Code μ F F		35 (1V)		50 (1H)		63 (1J)	
		DxL	R.C.	DxL	R.C.	DxL	R.C.
0.47	R47		→	8X11	5		
1	010		→	8X11	10		
2.2	2R2		→	8X11	23		
3.3	3R3		→	8X11	35	8X11	44
4.7	4R7		→	8X11	50	8X11	66
10	100		→	8X11	87	8X11	87
22	220	8X11	101	10X13	121	10X13	121
33	330	10X13	138	10X13	138	10X16	169
47	470	10X13	149	10X16	188	10X21	218
100	101	10X21	268	13X21	311	13X26	379

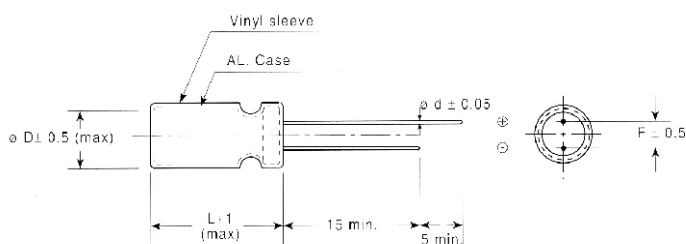
All blank voltage on sleeve marking is the same voltage as " → " point to.

- Have low leakage current , charge and discharge characteristics .
- Suitable for flasher and flash of camera .

SPECIFICATION

Item	Characteristic	
Operation Temperature Range	-20~+55℃	
Rated working Voltage	330VDC	
Capacitance Tolerance (120Hz 25℃)	+20% -10% (V)	
Leakage Current (25℃)	I ≤ 1 x C (μ A) After 5 minutes I: Leakage Current (μ A) C: Rated Capacitance(μ F)	
Dissipation Factor (tan δ) (120Hz 25℃)	tan δ ≤ 0.06	
Charge and Discharge test	Test Condition	Charge and discharge at rated voltage at -5~35℃ with a switch sequence of 30 seconds for 5000 times via xer flash tube with discharge resistance of 0.7~1.0 Ω .
	Capacitance Change	≤ ±10% of initial value
	Dissipation Factor	≤ 150% of initial specified value
	Leakage current	≤ 150% of initial specified value
Shelf Life	Test Condition	At +55℃ no voltage application after 1000 hours and then through the aging treatment (reference JIS C 5102 4.4) , the capacitor shall meet the following limits.
	Capacitance Change	≤ ±10% of initial value
	Dissipation Factor	≤ 150% of initial specified value
	Leakage current	≤ 150% of initial specified value
Reference Standard	JIS C 5102	

 DIMENSIONS (mm)

[illegible]

FSR

Case Size : DxL(mm)

[illegible]

MINIATURE SIZE

UK Series

For Horizontal Deflection Equalization ,
Bi-Polarized

JAMICON®

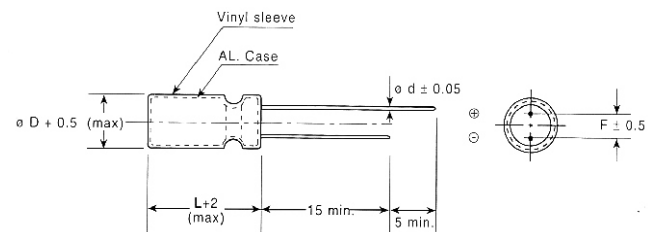
- Have high frequency and high ripple current characteristics .
- Suitable for equalizing of horizontal deflection of TV sets and terminals .

SPECIFICATION

Item	Characteristic												
Operation Temperature Range	-40 ~ +85℃												
Rated working Voltage	25 ~ 50VDC												
Capacitance Tderance (120Hz 25℃)	±20%(M) ±10%(K)												
Leakage Current (25℃)	100 (μ A) After 5 minutes in both directions . I: Leakage Current (μ A) C: Rated Capacitance(μ F) V : Working Voltage (V)												
Surge Voltage (25℃)	<table><tr><td>W.V.</td><td>25</td><td>35</td><td>50</td></tr><tr><td>S.V.</td><td>32</td><td>44</td><td>63</td></tr></table>					W.V.	25	35	50	S.V.	32	44	63
W.V.	25	35	50										
S.V.	32	44	63										
Dissipation Factor (tan δ) (120Hz 25℃)	tan δ ≤ 0.05												
Temperature Characteristics	Capacitance change shall be within ±10% of the value at 25℃ over operation temperature range.												
Load Life	After 2000 hours application of WV at +85℃ , the capacitor shall meet the following limits. (The polarity needs to exchange every 250 hours)												
	Capacitance Change		≤ ±15% of initial value										
	Dissipation Factor		≤200% of initial specified value										
	Leakage current		≤initial specified value										
Reference Standard	JIS C 5102												

DIMENSIONS (mm)

ϕ D	10	13	16	18	22
F	5.0	5.0	7.5	7.5	10.0
d	0.6	0.6	0.8	0.8	1.0



CASE SIZE & MAX RIPPLE CURRENT

Case size : D x L (mm)
E.S.R. : Ω 25°C 120Hz
Max ripple current : A (P-P)
(R.C.) : 85°C 15.75KHz

μ F	V(Code) Code	Item	25 (1E)			35 (1V)			50 (1H)		
			DxL	E.S.R.	R.C.	DxL	E.S.R.	R.C.	DxL	E.S.R.	R.C.
2.2		2R2	10x21	30.14	2.80	13x26	30.14	3.50	13x26	30.14	3.50
3.3		3R3	13x26	20.10	4.50	16x25	20.10	4.80	16x25	20.10	4.80
4.7		4R7	13x26	14.11	5.50	16x32	14.11	6.50	16x32	14.11	6.50
6.8		6R8	16x32	9.75	7.50	16x35	9.75	8.00	16x35	9.75	8.00
8.2		8R2	16x32	8.09	8.50	18x35	8.09	9.50	18x35	8.09	9.50
10		100	16x35	6.63	10.00	18x35	6.63	10.50	18x35	6.63	10.50
12		120	18x35	5.53	11.50	22x40	5.53	12.00	22x40	5.53	12.00
18		180	22x40	3.68	13.00						

MINIATURE SIZE

NC Series

Non Polarity , For Twinkling Light of Automobile

JAMICON®

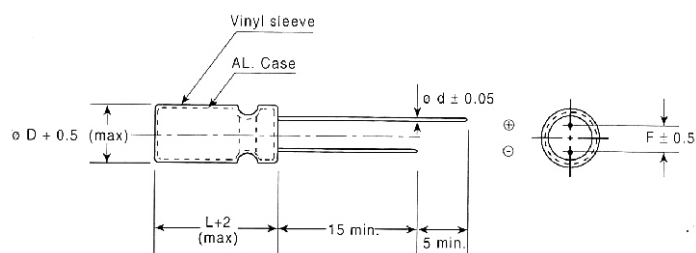
- Suitable for the direction light of automobile and motorcycle .

SPECIFICATION

Item	Characteristic
Operation Temperature Range	-40 ~ +85°C
Rated working Voltage	13VDC
Capacitance Tolerance (120Hz 25°C)	±10%(K) ±20%(M) $\begin{matrix} +20\% \\ -10\% \end{matrix}$ (V)
Leakage Current (25°C)	$I \leq 1000 (\mu A)$ Under 100Ω resistor series and rated voltage applied whichever after 3 minutes. I: Leakage Current (μA) C: Rated Capacitance(μF) V : Working Voltage (V)
Dissipation Factor (tan δ) (120Hz 25°C)	$\tan \delta \leq 0.50$
Reference Standard	JIS C 5102

DIMENSIONS (mm)

ϕD	10	13
F	5.0	5.0
d	0.6	0.6



CASE SIZE & MAX RIPPLE CURRENT

Case size: DXL(mm)

μF	V(Code)	13 (1P)
Code	Item	DXL
1500	152	10X26
1700	172	13X21
2200	222	13X26

LARGE CAN SIZE

LP

Series

Snap-in Terminal Type , Standard

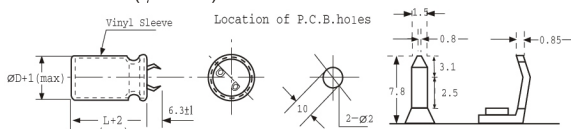
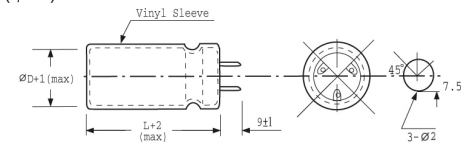
JAMICON®

- Three kinds of terminal are available for your use .
- Withstanding 2000 hours application of high ripple current at 85°C .

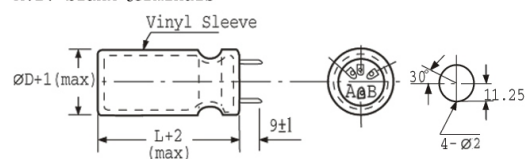
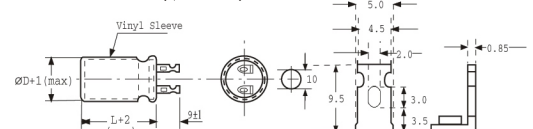
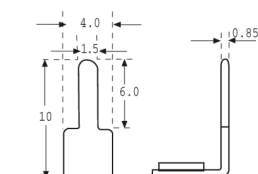
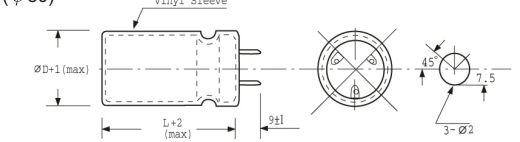
SPECIFICATION

Item	Characteristic												
Operation Temperature Range	-40~+85℃							-25~+85℃					
Rated working Voltage	10~100VDC							160~450VDC					
Capacitance Tolerance (120Hz 25℃)	±20%(M)												
Leakage Current (25℃)	I ≤ 0.03 CV or 3 (mA)												

TERMINAL TYPE

 ▲ P.C.B. TERMINAL (SNAP IN)
 SYMBOL:W(φ 22~35)

 ▲ P.C.B. TERMINAL
 SYMBOL:V(φ 25~35)
(φ 25)(φ 35)

A.B. blank terminals


 ▲ LUG TERMINAL
 SYMBOL:G(φ 22~35)
(φ 30)

RIPPLE CURRENT COEFFICIENTS

Temperature(°C)	45	60	70	85
Multiplier	1.55	1.30	1.20	1.00

Frequency(Hz)	60	120	1K	10K	100K
W. V.	Multiplier				
10 ~ 35 V	0.90	1.00	1.05	1.10	1.10
50 ~ 100 V	0.90	1.00	1.15	1.20	1.20
160 ~ 250 V	0.80	1.00	1.35	1.45	1.50
350 ~ 450 V	0.90	1.00	1.30	1.40	1.45

CASE SIZE & MAX RIPPLE CURRENT

Case size : DxL (mm)
 Max ripple current : A (rms)
 (R.C.) : 85°C 120Hz

μF	V(Code) Item Code	10 (1A)		16 (1C)		25 (1E)		35 (1V)	
		DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.
3300	332					22x25	2.03	22x25	2.04
						25x25	2.09	25x25	2.10
4700	472			22x25	1.81	22x30	2.49	22x30	2.41
				25x25	2.21	25x25	2.31	30x25	2.44
6800	682			22x25	2.40	22x35	2.87	22x40	2.98
				25x25	2.47	30x25	2.72	30x30	2.86
8200	822	22x25	2.39	22x30	2.70	22x40	3.16	22x45	3.25
		25x25	2.46	30x25	2.73	30x30	3.03	35x30	3.42
10000	103	22x30	2.69	22x35	3.00	22x45	3.45	25x45	3.41
		25x25	2.57	30x25	2.84	30x30	3.14	35x30	3.51
12000	123	22x30	2.81	22x40	3.30	22x50	3.74	25x50	3.68
		30x25	2.84	30x30	3.16	35x30	3.75	35x35	3.84
15000	153	22x35	3.14	22x45	3.62	25x45	3.78	30x45	4.08
		30x25	2.97	35x25	3.55	35x30	3.89	35x40	4.47
22000	223	22x45	3.79	25x45	4.25	30x50	4.94	35x45	5.68
		30x30	3.45	35x30	4.37	35x40	5.17		
33000	333	25x45	4.99	30x45	5.48	35x50	6.95	35x70	8.42
		35x30	4.89	35x40	6.01				
47000	473	30x45	5.97	35x45	7.53	35x60	8.97		
		35x40	6.54						
68000	683	35x50	8.64	35x60	10.24				

μF	V(Code) Item Code	50 (1H)		63 (1J)		100 (2A)	
		DxL	R.C.	DxL	R.C.	DxL	R.C.
820	821					22x30	1.55
						25x25	1.54
1000	102			22x25	1.42	22x30	1.71
				25x25	1.46	30x25	2.20
1500	152			22x25	1.74	22x40	2.38
				30x25	1.81	35x30	2.54
2200	222	22x25	1.92	22x30	2.08	25x45	2.77
		25x25	1.98	30x25	2.10	35x30	2.85
3300	332	22x35	2.51	22x45	2.81	30x45	3.27
		30x25	2.38	35x25	2.76	35x35	3.39
4700	472	22x40	2.89	25x45	3.11	35x45	4.01
		35x25	2.99	35x30	3.20		
6800	682	25x45	3.37	30x45	3.54	35x60	4.85
		35x30	3.46	35x35	3.68		
8200	822	25x50	3.62	30x50	3.81	35x70	5.30
		35x35	3.79	35x40	3.99		
10000	103	30x45	3.72	35x50	4.48	35x70	5.49
		35x35	3.86				
12000	123	35x45	4.53	35x60	5.13		
15000	153	35x50	5.30				

Case size : DxL (mm)
 Max ripple current : mA (rms)
 (R.C.) : 85°C 120Hz

μ F V(Code) Item Code		160 (2C)		200 (2D)		250 (2E)	
		Dx L	R.C.	DxL	R.C.	DxL	R.C.
220	221			22x25	0.97	22x30	1.14
				25x25	1.00	25x25	1.09
330	331	22x25	1.11	22x30	1.29	22x40	1.58
		25x25	1.14	25x25	1.23	30x25	1.42
470	471	22x35	1.53	22x40	1.74	22x50	2.09
		30x25	1.45	30x25	1.55	30x35	1.93
560	561	22x35	1.67	22x45	2.00	25x45	2.29
		30x25	1.58	30x30	1.82	35x30	2.22
680	681	22x40	1.95	25x40	2.14	30x40	2.46
		30x30	1.87	30x35	2.14	35x35	2.68
820	821	22x50	2.36	25x50	2.59	30x45	2.83
		30x30	2.05	35x30	2.55	35x40	3.11
1000	102	25x45	2.55	30x45	2.87	35x45	3.60
		35x30	2.62	35x35	2.99		
1500	152	30x45	3.28	35x50	4.24		

μ F V(Code) Item Code		350 (2V)		400 (2G)		450 (2W)	
		Dx L	R.C.	DxL	R.C.	DxL	R.C.
47	470			22x25	0.43	22x25	0.36
				25x25	0.45	25x25	0.37
100	101	22x30	0.66	22x30	0.68	22x35	0.61
		25x25	0.63	25x25	0.65	25x30	0.59
150	151	22x35	0.86	22x40	0.95	22x50	0.88
		30x25	0.82	30x25	0.85	30x30	0.76
220	221	22x45	1.17	22x50	1.27	25x50	1.08
		30x30	1.06	25x40	1.17	35x35	1.13
330	331	25x50	1.53	30x45	1.59	35x45	1.53
		35x35	1.60	35x35	1.65		
470	471	30x50	1.92	35x45	2.19		
		35x40	2.01				
560	561	35x45	2.31				

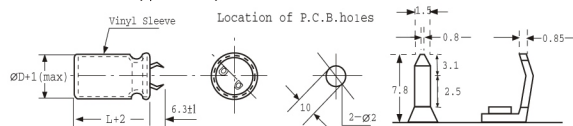
- Three kinds of terminal are available for your use .
- High temperature 105°C, high ripple current and high reliability .

SPECIFICATION

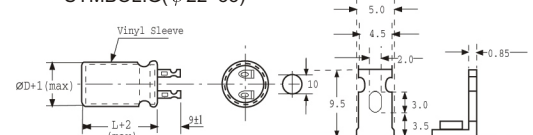
Item	Characteristic											
Operation Temperature Range	-40 ~ +105°C								-25 ~ +105°C			
Rated working Voltage	16 ~ 100VDC								160 ~ 400VDC			
Capacitance Tolerance (120Hz 25°C)	±20%(M)											
Leakage Current (25°C)	I ≤ 0.02 CV or 3 (mA)											

TERMINAL TYPE

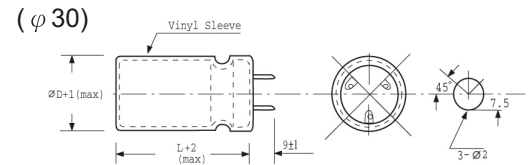
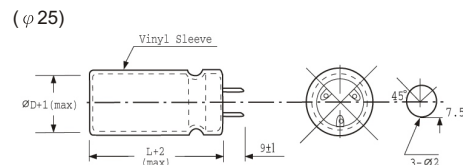
▲ P.C.B. TERMINAL (SNAP IN) SYMBOL:W(φ 22~35)



▲ LUG TERMINAL SYMBOL:G(φ 22~35)

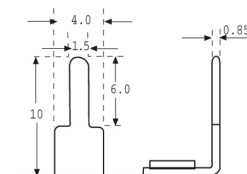
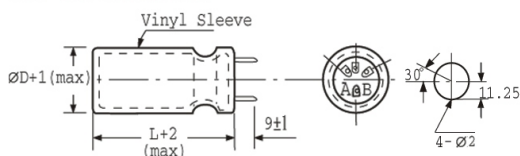


▲ P.C.B. TERMINAL SYMBOL:V(φ 25~35)



(φ 35)

A.B. blank terminals



RIPPLE CURRENT COEFFICIENTS

Temperature(°C)	45	65	85	105
Multiplier	2.55	2.25	1.65	1.00

Frequency(Hz)	60	120	300	1K	10K	100K
W. V.	Multiplier					
16~50 V	0.90	1.00	1.03	1.05	1.10	1.10
63~100 V	0.85	1.00	1.07	1.13	1.19	1.20
160~400 V	0.80	1.00	1.15	1.25	1.35	1.40

Case size : D x L (mm)
 E.S.R. : Ω 25°C 120Hz
 Max ripple current : A (rms)
 (R.C.) : 105°C 120Hz

CASE SIZE & MAX RIPPLE CURRENT

μ F V(Code) Code Item		16 (1C)			25 (1E)			35 (1V)		
		DXL	E.S.R.	R.C.	DXL	E.S.R.	R.C.	DXL	E.S.R.	R.C.
1000	102							22X25	0.497	0.86
1500	152							22X25	0.332	1.01
2200	222				22X25	0.264	1.17	22X35	0.226	1.34
3300	332	22X25	0.226	1.23	22X35	0.176	1.54	22X45	0.151	1.70
4700	472	22X30	0.159	1.47	22X40	0.123	1.79	25X45	0.106	1.88
6800	682	22X40	0.110	1.84	25X45	0.085	2.11	25X50	0.073	2.14
8200	822	22X45	0.091	2.02	25X45	0.071	2.18			
10000	103	25X45	0.075	2.14	25X50	0.058	2.35			
12000	123	25X50	0.062	2.32						
15000	153	25X50	0.050	2.40						

μ F V(Code) Code Item		50 (1H)			63 (1J)		
		DXL	E.S.R.	R.C.	DXL	E.S.R.	R.C.
470	471						
560	561						
680	681				22X25	0.610	0.75
820	821				22X25	0.505	0.82
1000	102	22X25	0.414	0.91	22X30	0.414	0.98
1500	152	22X30	0.276	1.14	22X35	0.276	1.22
2200	222	22X40	0.188	1.49	25X40	0.188	1.52
3300	332	25X45	0.126	1.81	25X50	0.126	1.89
4700	472	25X50	0.088	2.04			

μ F V(Code) Code Item		100 (2A)			160 (2C)			200 (2D)		
		DXL	E.S.R.	R.C.	DXL	E.S.R.	R.C.	DXL	E.S.R.	R.C.
150	151							22X30	1.658	0.60
220	221				22X30	1.130	0.66	22X35	1.130	0.78
330	331				22X35	0.754	0.87	22X40	0.754	1.01
470	471	22X30	0.705	0.76	22X40	0.529	1.10	25X40	0.529	1.23
560	561	22X35	0.592	0.89	22X45	0.444	1.26	25X45	0.444	1.41
680	681	22X40	0.488	1.04	25X40	0.366	1.35	30X40	0.366	1.56
820	821	22X45	0.404	1.20	25X50	0.303	1.64	30X45	0.303	1.80
1000	102	25X45	0.332	1.35	30X45	0.249	1.82	30X50	0.249	2.08
1500	152	25X50	0.221	1.63						
2200	222	30X40	0.151	1.78						

μ F V(Code) Code Item		250 (2E)			350 (2V)			400 (2G)		
		DXL	E.S.R.	R.C.	DXL	E.S.R.	R.C.	DXL	E.S.R.	R.C.
47	470							22X25	7.055	0.30
100	101	22X25	2.487	0.51	22X35	3.316	0.48	22X40	3.316	0.53
150	151	22X35	1.658	0.72	22X45	2.210	0.65	22X50	2.210	0.72
220	221	22X45	1.130	0.97	25X40	1.507	0.77	25X50	1.507	0.89
330	331	25X45	0.754	1.21	30X45	1.005	1.09	30X50	1.005	1.14
470	471	25X50	0.529	1.52						
560	561	30X45	0.444	1.66						
680	681	30X50	0.366	1.92						

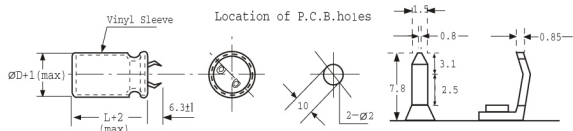
- Smaller case sized than LP series .
- Withstanding 2000 hours application of high ripple current at 85°C

SPECIFICATION

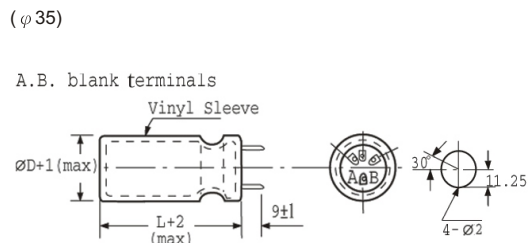
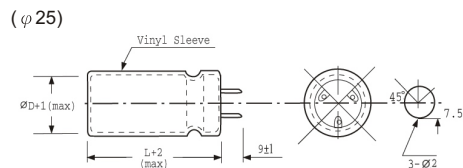
Item	Characteristic														
Operation Temperature Range	−40~ +85℃														
Rated working Voltage	16~450VDC														
Capacitance Tdlerance (120Hz 25℃)	±20%(M)														
Leakage Current (25℃)	I ≤ 0.02 CV or 3 (mA)														

TERMINAL TYPE

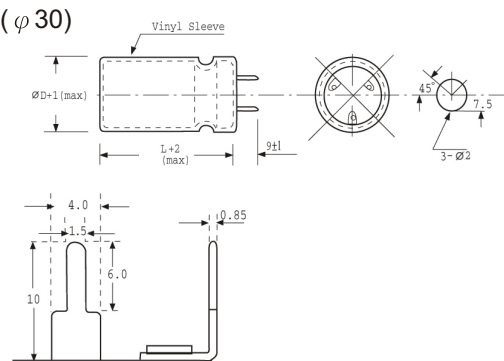
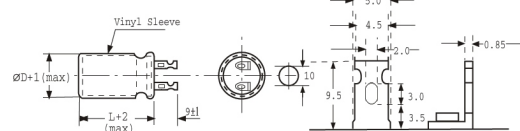
▲ P . C . B . TERMINAL (SNAP IN)
SYMBOL:W(φ 22~35)



▲ P . C . B . TERMINAL
SYMBOL:V(φ 25~35)



▲ LUG TERMINAL
SYMBOL:G(φ 22~35)



RIPPLE CURRENT COEFFICIENTS

Temperature(°C)	40	60	70	85
Multiplier	1.80	1.40	1.20	1.00

Frequency(Hz)	60	120	400	1K	10K
W.V.	Multiplier				
$\leq 100V$	0.80	1.00	1.10	1.20	1.20
$\geq 160V$	0.80	1.00	1.10	1.30	1.40

CASE SIZE & MAX RIPPLE CURRENT

Case size : DxL (mm)
 Max ripple current : A (rms)
 (R.C.) : 85°C 120Hz

μF ϕ D V(Code) Code		16 (1C)				25 (1E)				35 (1V)			
		22	25	30	35	22	25	30	35	22	25	30	35
3300	332									25			
										1.38			
4700	472					25				30	25		
						1.48				1.63	1.63		
6800	682	25				30	25			35	30	25	
		1.76				1.77	1.77			1.90	1.92	1.99	
10000	103	30	25			35	30	25		45	35	30	25
		2.06	2.06			2.04	2.05	2.13		2.25	2.17	2.27	2.32
15000	153	40	30	25		45	35	30	25		50	35	30
		2.52	2.39	2.48		2.53	2.44	2.55	2.61		2.87	2.74	2.82
22000	223		45	30	25		45	35	30			45	40
			3.27	3.06	3.24		3.29	3.28	3.38			3.68	3.83
33000	333			45	35			50	40			L (mm)	50
				4.44	4.38			4.67	4.65			R.C.	5.15

μF ϕ D V(Code) Code		50 (1H)				63 (1J)				80 (1K)				100 (2A)			
		22	25	30	35	22	25	30	35	22	25	30	35	22	25	30	35
1000	102									25				30	25		
										0.89				0.95	0.95		
1200	122													35	30		
														1.11	1.12		
1500	152					25				30	25			35	30	25	
						1.05				1.12	1.12			1.17	1.18	1.23	
1800	182													45	35	30	
														1.44	1.38	1.45	
2200	222	25				30	25			40	30	25		50	40	30	25
		1.22				1.32	1.32			1.46	1.39	1.44		1.58	1.54	1.52	1.55
3300	332	30	25			35	30	25		50	40	30	25		50	40	30
		1.49	1.49			1.60	1.61	1.67		1.82	1.77	1.75	1.79		1.90	1.91	1.86
4700	472	35	30	25		45	35	30	25		50	40	30			50	40
		1.73	1.74	1.81		1.93	1.86	1.94	1.99		2.10	2.11	2.06			2.24	2.23
6800	682	50	40	30	25		50	35	30			50	40				50
		2.19	2.13	2.10	2.15		2.35	2.23	2.31			2.50	2.49				2.61
10000	103		50	35	30			45	40								
			2.47	2.35	2.42			2.61	2.72								
15000	153			50	40				50								L (mm)
				3.00	2.98				3.27								R.C.

Case size : DxL (mm)
 Max ripple current : A (rms)
 (R.C.) : 85°C 120Hz

V(Code) Code μF ϕD		160 (2C)				180 (2M)				200 (2D)				250 (2E)			
		22	25	30	35	22	25	30	35	22	25	30	35	22	25	30	35
220	221									25				25			
										1.25				1.31			
270	271									25				30	25		
										1.67				1.57	1.57		
330	331					25				30	25			35	30		
						1.31				1.66	1.66			1.85	1.87		
390	391	25				30	25			30	25			35	30	25	
		1.44				1.54	1.54			1.80	1.80			2.01	2.03	2.10	
470	471	30	25			30	25			35	30	25		40	35	25	25
		1.70	1.70			1.69	1.69			2.11	2.13	2.21		2.34	2.38	2.31	2.54
560	561	35	30			35	30	25		40	35	25		50	40	30	25
		1.99	2.23			1.97	1.99	2.06		2.44	2.48	2.41		2.82	2.74	2.71	2.78
680	681	40	30	25		40	35	25		45	35	30	25		45	35	30
		2.32	2.21	2.29		2.30	2.34	2.27		2.83	2.73	2.85	2.92		3.19	3.18	3.28
820	821	45	35	30		45	40	30	25		40	30	25		50	40	30
		2.68	2.58	2.70		2.67	2.72	2.68	2.75		3.17	3.13	3.21		3.67	3.69	3.60
1000	102	50	40	30	25		45	35	25		50	35	30			45	35
		3.11	3.02	2.98	3.05		3.16	3.15	3.04		3.87	3.68	3.80			4.28	4.22
1200	122		45	35	30		50	40	30			40	35			50	40
			3.49	3.48	3.59		3.63	3.65	3.56			4.26	4.42			4.91	4.88
1500	152			40	35			45	35				40				50
				4.11	4.26			4.15	4.09				5.02				5.74
1800	182			45	35				40				50				L (mm)
				4.73	4.67				4.73				6.04				R.C.

V(Code) Code μF ϕD		350 (2V)				400 (2G)				450 (2W)			
		22	25	30	35	22	25	30	35	22	25	30	35
82	820					25				30	25		
						0.76				0.83	0.83		
100	101	25				30	25			35	30	25	
		0.73				0.91	0.91			0.97	0.98	1.02	
120	121	30	25			30	25			40	30	25	
		0.86	0.86			1.00	1.00			1.13	1.08	1.12	
150	151	30	25			35	30	25		45	35	30	
		0.96	0.96			1.19	1.20	1.25		1.33	1.28	1.34	
180	181	35	30	25		40	35	25		50	40	30	25
		1.13	1.14	1.18		1.38	1.40	1.37		1.53	1.49	1.47	1.50
220	221	40	35	25		50	40	30	25		45	35	30
		1.32	1.34	1.30		1.69	1.64	1.62	1.66		1.73	1.72	1.78
270	271	50	40	30	25		45	35	30			40	35
		1.61	1.57	1.55	1.59		1.92	1.91	1.97			2.02	2.10
330	331		45	35	30		50	40	30			45	35
			1.82	1.82	1.88		2.22	2.23	2.18			2.35	2.32
390	391		50	40	30			45	35				40
			2.08	2.10	2.04			2.55	2.52				2.66
470	471			40	35				40				45
				2.30	2.38				2.92				3.07
560	561			50	40				45				
				2.76	2.75				3.34				
680	681				45				50				L (mm)
					3.18				3.85				R.C.

LARGE CAN SIZE

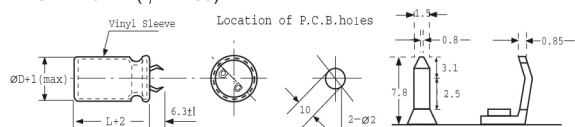
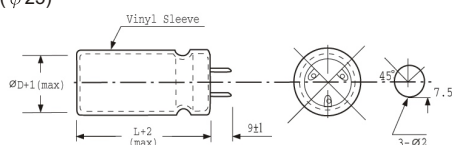
HS SeriesWide Temperature Range , Miniature
Sized**JAMICON**®

- Smaller case sized than HP series .
- Withstanding 2000 hours application of high ripple current at 105°C .

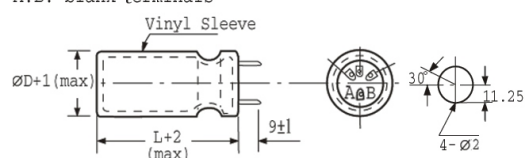
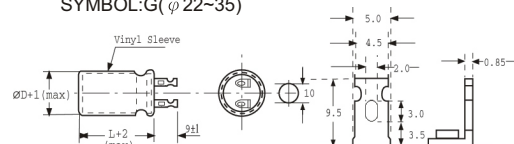
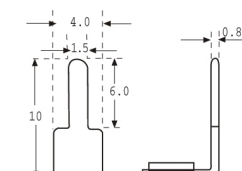
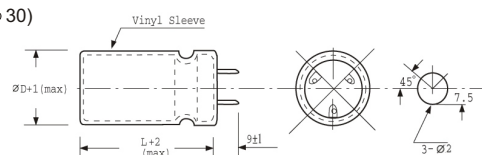
SPECIFICATION

Item	Characteristic																																																
Operation Temperature Range	−40 ~ +105°C																																																
Rated working Voltage	16 ~ 450VDC																																																
Capacitance Tderance (120Hz 25°C)	±20%(M)																																																
Leakage Current (25°C)	I ≤ 0.02 CV or 3 (mA) Whichever is smaller after 5 minutes I: Leakage Current (μA) C: Rated Capacitance(μF) V : Working Voltage (V)																																																
Surge Voltage (25°C)	<table><tr><td>W.V.</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>80</td><td>100</td><td>160</td><td>180</td><td>200</td><td>250</td><td>350</td><td>400</td><td>450</td></tr><tr><td>S.V.</td><td>20</td><td>32</td><td>44</td><td>63</td><td>79</td><td>100</td><td>125</td><td>200</td><td>225</td><td>250</td><td>300</td><td>400</td><td>450</td><td>500</td></tr></table>														W.V.	16	25	35	50	63	80	100	160	180	200	250	350	400	450	S.V.	20	32	44	63	79	100	125	200	225	250	300	400	450	500					
W.V.	16	25	35	50	63	80	100	160	180	200	250	350	400	450																																			
S.V.	20	32	44	63	79	100	125	200	225	250	300	400	450	500																																			
Dissipation Factor (tan δ) (120Hz 25°C)	<table><tr><td>Rated Voltage (V)</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>80</td><td>100</td><td>≥160</td></tr><tr><td>Capacitance</td><td>—</td><td>—</td><td>—</td><td>≤6,800</td><td>≥10,000</td><td>≤6,800</td><td>≥10,000</td><td>≤3,300</td><td>≥4,700</td><td>≤3,300</td><td>≥4,700</td><td>—</td></tr><tr><td>tan δ</td><td>0.50</td><td>0.40</td><td>0.35</td><td>0.30</td><td>0.35</td><td>0.25</td><td>0.35</td><td>0.20</td><td>0.25</td><td>0.20</td><td>0.25</td><td>0.15</td></tr></table>														Rated Voltage (V)	16	25	35	50	63	80	100	≥160	Capacitance	—	—	—	≤6,800	≥10,000	≤6,800	≥10,000	≤3,300	≥4,700	≤3,300	≥4,700	—	tan δ	0.50	0.40	0.35	0.30	0.35	0.25	0.35	0.20	0.25	0.20	0.25	0.15
Rated Voltage (V)	16	25	35	50	63	80	100	≥160																																									
Capacitance	—	—	—	≤6,800	≥10,000	≤6,800	≥10,000	≤3,300	≥4,700	≤3,300	≥4,700	—																																					
tan δ	0.50	0.40	0.35	0.30	0.35	0.25	0.35	0.20	0.25	0.20	0.25	0.15																																					
Load Life	After 2000 hours application of WV at +105°C , the capacitor shall meet the following limits. <table><tr><td>Capacitance Change</td><td>≤ ±20% of initial value</td></tr><tr><td>Dissipation Factor</td><td>≤ 175% of initial specified value</td></tr><tr><td>Leakage current</td><td>≤ initial specified value</td></tr></table>														Capacitance Change	≤ ±20% of initial value	Dissipation Factor	≤ 175% of initial specified value	Leakage current	≤ initial specified value																													
Capacitance Change	≤ ±20% of initial value																																																
Dissipation Factor	≤ 175% of initial specified value																																																
Leakage current	≤ initial specified value																																																
Shelf Life	At +105°C no voltage application after 1000 hours and then through the aging treatment (reference JIS C 5102 4.4) , the capacitor shall meet the limits for load life characteristics .																																																
Reference Standard	JIS C 5102																																																

TERMINAL TYPE

▲ P . C . B . TERMINAL (SNAP IN)
SYMBOL:W(ϕ 22~35)▲ P . C . B . TERMINAL
SYMBOL:V(ϕ 25~35)(ϕ 25)(ϕ 35)

A.B. blank terminals

▲ LUG TERMINAL
SYMBOL:G(ϕ 22~35)(ϕ 30)

RIPPLE CURRENT COEFFICIENTS

Temperature(°C)	40	60	70	85	105
Multiplier	2.50	2.20	2.00	1.80	1.00

Frequency(Hz)	60	120	400	1K	10K
W.V.	Multiplier				
$\leq 100V$	0.80	1.00	1.10	1.20	1.20
$\geq 160V$	0.80	1.00	1.10	1.30	1.40

CASE SIZE & MAX RIPPLE CURRENT

Case size : DxL (mm)

Max ripple current : A (rms)

(R.C.) : 105°C 120Hz

μ F		V(Code) ψ D		16 (1C)				25 (1E)				35 (1V)				50 (1H)			
				22	25	30	35	22	25	30	35	22	25	30	35	22	25	30	35
1500	152														25				
															0.66				
2200	222									25					30	25			
										0.75					0.82	0.82			
3300	332					25				30	25				35	30	25		
						0.83				0.92	0.92				1.00	1.01	1.04		
4700	472	25				30	25			35	30	25			45	35	30	25	
		0.92				0.99	0.99			1.08	1.09	1.13			1.21	1.16	1.21	1.24	
6800	682	35	30			35	30	25		50	40	30	25			50	35	30	
		1.18	1.19			1.17	1.18	1.22		1.38	1.34	1.32	1.36			1.47	1.40	1.44	
10000	103	45	35	25		45	35	30	25		50	35	30				45	40	
		1.43	1.37	1.34		1.40	1.35	1.41	1.45		1.57	1.50	1.55				1.63	1.70	
15000	153		45	35	30		45	35	30			50	40					50	
			1.66	1.66	1.71		1.68	1.67	1.73			1.98	1.97					2.04	
22000	223			45	35			45	40										
				2.11	2.08			2.25	2.34										
33000	333				50				50									L (mm)	
					2.96				3.15									R.C.	

[illegible]

Case size : DxL (mm)
 Max ripple current : A (rms)
 (R.C.) : 105°C 120Hz

μF ϕD V(Code) Code		180 (2Z)				200 (2D)				250 (2E)			
		22	25	30	35	22	25	30	35	22	25	30	35
220	221					25				30	25		
						0.85				0.91	0.91		
270	271	25				25				35	25		
		0.80				0.94				1.07	1.01		
330	331	30	25			30	25			35	30	25	
		0.95	0.95			1.12	1.12			1.19	1.20	1.24	
390	391	30	25			35	25			40	35	25	
		1.03	1.04			1.31	1.22			1.37	1.39	1.35	
470	471	35	30	25		40	30	25		50	40	30	25
		1.21	1.22	1.27		1.52	1.45	1.50		1.66	1.61	1.59	1.63
560	561	40	30	25		45	35	30			45	35	25
		1.40	1.34	1.39		1.75	1.68	1.76			1.85	1.85	1.78
680	681	45	35	30	25	50	40	30	25		50	35	30
		1.63	1.57	1.64	1.68	2.02	1.96	1.94	1.98		2.14	2.04	2.10
820	821	50	40	30	25		45	35	30			45	35
		1.88	1.83	1.80	1.85		2.27	2.26	2.33			2.49	2.45
1000	102		45	35	30		50	40	30				40
			2.12	2.12	2.18		2.63	2.64	2.58				2.86
1200	122			40	30			45	35				45
				2.45	2.39			3.04	3.00				3.29
1500	152			50	35				45				50
				2.91	2.74				3.58				3.68
1800	182				40				50				L (mm)
					3.17				4.10				R.C.

μF ϕD V(Code) Code		350 (2V)				400 (2G)				450 (2W)			
		22	25	30	35	22	25	30	35	22	25	30	35
47	470									25			
										0.39			
68	680					25				30	25		
						0.47				0.50	0.50		
82	820	25				30	25			35	30		
		0.43				0.56	0.56			0.59	0.60		
100	101	30	25			30	25			40	35	25	
		0.51	0.51			0.61	0.61			0.69	0.70	0.68	
120	121	30	25			35	30	25		45	35	30	25
		0.55	0.55			0.72	0.73	0.75		0.80	0.77	0.80	0.82
150	151	35	30	25		40	35	30			45	35	30
		0.66	0.67	0.69		0.85	0.86	0.90			0.96	0.96	0.99
180	181	40	35	30		45	40	30	25		50	35	30
		0.77	0.78	0.82		0.98	1.00	0.99	1.01		1.10	1.05	1.08
220	221	50	40	30	25		45	35	30			40	35
		0.94	0.91	0.90	0.92		1.17	1.16	1.20			1.22	1.27
270	271		45	35	30		50	40	30			50	40
			1.07	1.06	1.10		1.35	1.36	1.33			1.49	1.48
330	331		50	40	30			45	35				45
			1.23	1.24	1.21			1.58	1.56				1.72
390	391			45	35				40				50
				1.42	1.40				1.79				1.96
470	471				40				45				
					1.62				2.07				
560	561				45				50				L (mm)
					1.86				2.36				R.C.

- High ripple current characteristic .
- Long life for 2000 hours at 85°C .

SPECIFICATION

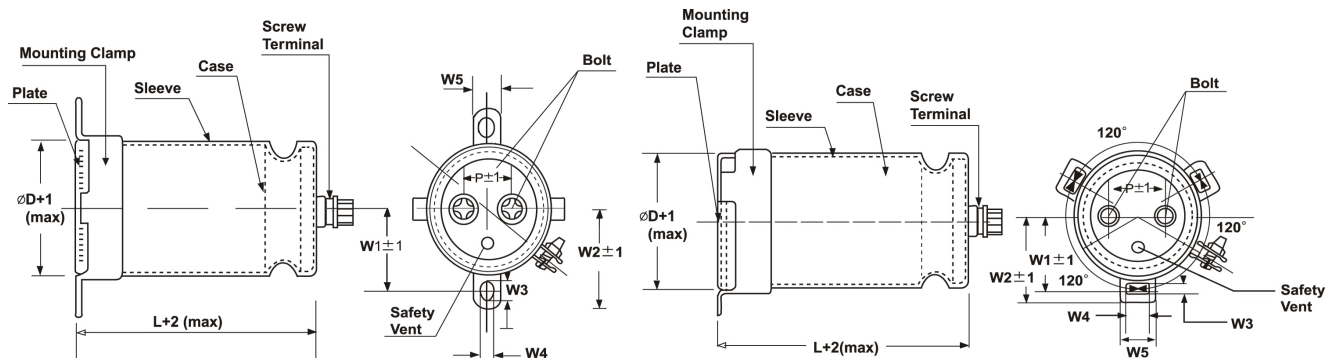
Item	Characteristic																																																								
Operation Temperature Range	- 40 ~ + 85℃								-25 ~ + 85℃																																																
Rated working Voltage	10 ~ 100VDC								160 ~ 450VDC																																																
Capacitance Tolerance (120Hz 25℃)	±20%(M)																																																								
Leakage Current (25℃)	I ≤ 0.02 CV or 5 (mA) I: Leakage Current (μA) C: Rated Capacitance(μF) V : Working Voltage (V) Whichever is smaller after 5 minutes																																																								
Surge Voltage (25℃)	<table><tr><td>W.V.</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td><td>160</td><td>200</td><td>250</td><td>350</td><td>400</td><td>450</td></tr><tr><td>S.V.</td><td>13</td><td>20</td><td>32</td><td>44</td><td>63</td><td>79</td><td>125</td><td>200</td><td>250</td><td>300</td><td>400</td><td>450</td><td>500</td></tr></table>														W.V.	10	16	25	35	50	63	100	160	200	250	350	400	450	S.V.	13	20	32	44	63	79	125	200	250	300	400	450	500															
W.V.	10	16	25	35	50	63	100	160	200	250	350	400	450																																												
S.V.	13	20	32	44	63	79	125	200	250	300	400	450	500																																												
Dissipation Factor (tan δ) (120Hz 25℃)	<table><tr><td>W.V.</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td><td>160</td><td>200</td><td>250</td><td>350</td><td>400</td><td>450</td></tr><tr><td rowspan="2">tan δ</td><td>φ 35</td><td>0.80</td><td>0.70</td><td>0.45</td><td>0.40</td><td>0.30</td><td>0.25</td><td>0.15</td><td>0.20</td><td>0.20</td><td>0.20</td><td>0.25</td><td>0.25</td><td>0.25</td></tr><tr><td>φ 51</td><td>1.00</td><td>0.90</td><td>0.60</td><td>0.50</td><td>0.40</td><td>0.35</td><td>0.20</td><td>0.20</td><td>0.20</td><td>0.20</td><td>0.25</td><td>0.25</td><td>0.25</td></tr></table>														W.V.	10	16	25	35	50	63	100	160	200	250	350	400	450	tan δ	φ 35	0.80	0.70	0.45	0.40	0.30	0.25	0.15	0.20	0.20	0.20	0.25	0.25	0.25	φ 51	1.00	0.90	0.60	0.50	0.40	0.35	0.20	0.20	0.20	0.20	0.25	0.25	0.25
W.V.	10	16	25	35	50	63	100	160	200	250	350	400	450																																												
tan δ	φ 35	0.80	0.70	0.45	0.40	0.30	0.25	0.15	0.20	0.20	0.20	0.25	0.25	0.25																																											
	φ 51	1.00	0.90	0.60	0.50	0.40	0.35	0.20	0.20	0.20	0.20	0.25	0.25	0.25																																											
Load Life	After 2000 hours application of WV at +85C, the capacitor shall meet the following limits.																																																								
	Capacitance Change			≤ ±15% of initial value																																																					
	Dissipation Factor			≤ 175% of initial specified value																																																					
	Leakage current			≤ initial specified value																																																					
Shelf Life	At +85C no voltage application after 1000 hours and then through the aging treatment (reference JIS C 5102 4.4) , the capacitor shall meet the limits for load life characteristics .																																																								
Reference Standard	JIS C 5102																																																								

TERMINAL TYPE

φ D	W1	W2	W3	W4	W5	P
35	24.0	30.0	7.0	3.5	10.0	12.7
51	32.5	37.5	4.5	7.0	13.0	21.8

(▲ φ 35)

(▲ φ 51)



RIPPLE CURRENT COEFFICIENTS

Temperature(°C)	45	60	70	85
Multiplier	1.55	1.30	1.20	1.00

Frequency(Hz)	60	120	1K	10K	100K
W.V.	Multiplier				
10 ~ 35 V	0.90	1.00	1.05	1.10	1.10
50 ~ 100 V	0.90	1.00	1.10	1.15	1.15
160 ~ 450 V	0.80	1.00	1.20	1.30	1.35

Case size : DxL (mm)
Max ripple current : A (rms)
(R.C.) : 85°C120Hz

V(Code) Item Code μF		10 (1A)		16 (1C)		25 (1E)	
		DXL	R.C.	DXL	R.C.	DXL	R.C.
22000	223					35X50	3.93
33000	333			35X50	4.17	35X60	5.20
47000	473	35X50	4.31	35X60	5.38	35X80	7.06
56000	563	35X60	5.09	35X70	6.28	35X90	8.13
68000	683	35X70	6.00	35X80	7.35	51X70	8.28
100000	104	35X80	7.72	51X70	8.50	51X90	11.19
150000	154	51X70	9.31	51X90	11.60		
220000	224	51X90	12.56				

V(Code) Item Code μ F		35 (1V)		50 (1H)	
		DX L	R.C.	DXL	R.C.
8200	822			35X50	3.28
10000	103			35X60	3.63
15000	153	35X50	3.44	35X70	4.60
22000	223	35X70	4.82	35X90	6.24
33000	333	35X90	6.62	51X70	7.07
47000	473	51X70	7.54	51X90	9.40
56000	563	51X80	8.72		
68000	683	51X90	10.11		

V(Code) Item Code μ F		63 (1J)		100 (2A)	
		DXL	R.C.	DXL	R.C.
5600	562			35X60	3.71
6800	682	35X50	3.20	35X70	4.38
8200	822	35X60	3.55	35X80	5.11
10000	103	35X70	4.11	35X90	5.95
15000	153	35X90	5.64	51X80	7.30
22000	223	51X70	6.31		
33000	333	51X90	8.61		

V(Code) μ F Code Item		160 (2C)		200 (2D)		250 (2E)	
		DXL	R.C.	DXL	R.C.	DXL	R.C.
1000	102	35X50	2.26	35X60	2.62	35X70	3.05
1500	152	35X60	2.99	35X70	3.44	35X80	3.97
2200	222	35X70	3.64	35X90	4.34	51X70	4.42
3300	332	35X90	4.72	51X70	4.73	51X90	5.61
4700	472	51X70	5.20	51X90	5.60		
5600	562	51X80	6.01				
6800	682	51X90	6.97				

$\mu\mathbf{F}$	V(Code)	350 (2V)		400 (2G)		450 (2W)	
	Code	DXL	R.C.	DXL	R.C.	DXL	R.C.
330	331			35X60	1.76	35X70	1.58
470	471	35X60	2.03	35X80	2.39	35X90	2.11
680	681	35X80	2.78	35X90	3.03	51X70	2.47
1000	102	51X70	3.46	51X80	3.80	51X90	3.34
1500	152	51X90	4.73	51X90	4.89		

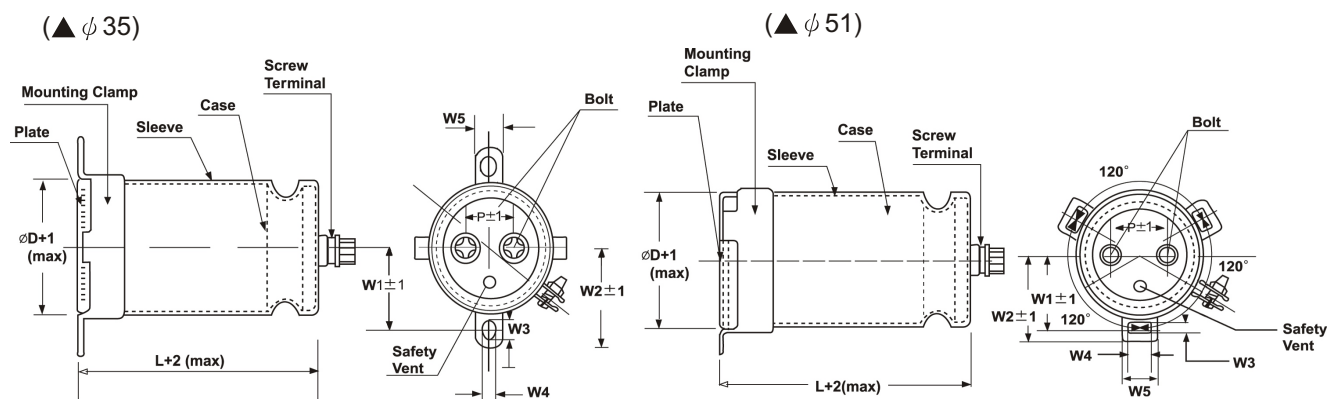
- High temperature 105°C, high ripple current and high reliability .
- Long life for 2000 hours .

● SPECIFICATION

Item	Characteristic										
Operation Temperature Range	-40~-+105℃										-25~-+105℃
Rated working Voltage	10~100VDC										160~250VDC
Capacitance Tolerance (120Hz 25℃)	±20%(M)										
Leakage Current (25℃)	I ≤ 0.02 CV or 5 (mA)										

● TERMINAL TYPE

ϕD	W1	W2	W3	W4	W5	P
35	24.0	30.0	7.0	3.5	10.0	12.7
51	32.5	37.5	4.5	7.0	13.0	21.8



● RIPPLE CURRENT COEFFICIENTS

Temperature(°C)	45	65	85	105
Multiplier	2.40	2.10	1.60	1.00

Frequency(Hz)	60	120	1K	10K	100K
W.V.	Multiplier				
10 ~ 35 V	0.90	1.00	1.05	1.10	1.10
50 ~ 100 V	0.90	1.00	1.10	1.15	1.15
160 ~ 250 V	0.80	1.00	1.20	1.30	1.35

CASE SIZE & MAX RIPPLE CURRENT

Case size : DxL (mm)
 Max ripple current : A (rms)
 (R.C.) : 105°C 120Hz

V(Code) Item Code		10 (1A)		16 (1C)		25 (1E)	
μF		DXL	R.C.	DXL	R.C.	DXL	R.C.
22000	223			35X50	2.13	35X60	2.66
33000	333	35X50	2.26	35X60	2.82	35X80	3.70
47000	473	35X60	2.91	35X80	3.82	35X90	4.65
56000	563	35X70	3.40	35X90	4.40	51X70	4.70
68000	683	35X80	3.98	51X70	4.38	51X90	5.77
100000	104	51X70	4.75	51X90	5.92		
150000	154	51X90	6.48				

V(Code) Item Code		35 (1V)		50 (1H)	
μF		DX L	R.C.	DXL	R.C.
8200	822			35X60	2.22
10000	103			35X70	2.43
15000	153	35X60	2.32	35X80	3.05
22000	223	35X80	3.20	51X70	3.61
33000	333	51X70	3.95	51X90	4.42
47000	473	51X80	4.99		
56000	563	51X90	5.73		

V(Code) Item Code		63 (1J)		100 (2A)	
μF		DXL	R.C.	DXL	R.C.
5600	562			35X90	2.78
6800	682	35X70	2.31	51X70	2.90
8200	822	35X80	2.52	51X80	3.37
10000	103	35X90	2.88	51X90	3.92
15000	153	51X70	3.26		
22000	223	51X90	4.40		

V(Code) Item Code		160 (2C)		200 (2D)		250 (2E)	
μF		DXL	R.C.	DXL	R.C.	DXL	R.C.
1000	102	35X50	1.41	35X60	1.64	35X70	1.91
1500	152	35X60	1.87	35X70	2.15	35X90	2.48
2200	222	35X70	2.28	35X90	2.71	51X70	2.76
3300	332	35X90	2.95	51X80	3.13	51X90	3.51
4700	472	51X80	3.44	51X90	3.62		
5600	562	51X90	3.96				