

LIST OF PRODUCTS

■ CONDUCTIVE POLYMER ALUMINUM SOLID CAPACITORS

Series		Applications	Load life Time (Hrs)	Miniature	Standard type	Low impedance	Long life	Solvent-proof	Terminal type	Rated voltage range (V _{DC})	Capacitance range (μF)	Page
Conductive Polymer Aluminum Solid Capacitors (relcap TM)	Surface mount	APV	Vertical type, 125°C, Low ESR	125°C 2,000hrs		●		●	SMD	10~35	8.2~82	17
		ARV	Vertical type, Stable Leakage Current at SV(after Reflow)	105°C 2,000hrs		●		●	SMD	16~20	22~330	19
		AXV	Vertical type, 105°C, Super Low ESR	105°C 2,000hrs		●		●	SMD	2.5~16	68~2,700	21
		ASV	Vertical type, 105°C, Low ESR	105°C 2,000hrs		●		●	SMD	2.5~25	6.8~1,500	23
	Radial	AXA	Radial type, 105°C, Super Low ESR	105°C 2,000hrs		●		●	Radial	2.5~16	68~2,700	25
		ASA	Radial type, 105°C, Low ESR	105°C 2,000hrs		●		●	Radial	2.5~35	6.8~1,500	27

■ SURFACE MOUNT ALUMINUM ELECTROLYTIC CAPACITORS

Series		Applications	Load life Time (Hrs)	Miniature	Standard type	Low impedance	Long life	Solvent-proof	Terminal type	Rated voltage range (V _{DC})	Capacitance range (μF)	Page	
Surface mount	General Purpose	MVG	5.5~22.0mm max. height, downsized	85°C 1,000~2,000hrs	●			●	SMD	4~450	0.1~10,000	43	
		BDS(MVK)	5.5~22.0mm max. height	105°C 1,000~2,000hrs	●			●	SMD	6.3~450	0.1~6,800	45	
		BXA	5.6~10.5mm max. height, Low Imp	105°C 1,000~2,000hrs		●		●	SMD	6.3~50	2.2~1,500	47	
		BXE	5.6~10.5mm max. height, Ultra Low Imp	105°C 1,000~2,000hrs		●		●	SMD	6.3~35	4.7~1,500	49	
		BXJ	5.6~10.5mm max. height, Low Imp, Long Life	105°C 2,000~5,000hrs		●	●	●	SMD	6.3~35	4.7~1,500	51	
		BDA	5.5~6.0mm max. height, Long life	105°C 2,000hrs				●	●	SMD	4~50	0.1~100	53
		BLA	5.5~10.5mm max. height, Long life	105°C 5,000hrs				●	●	SMD	4~50	0.1~470	55
		BLH	10.5mm max. height, Long life	105°C 10,000hrs				●	●	SMD	10~50	33~470	57
		CLZ	5.5~22.0mm max. height, Wide temp. Low ESR	125°C 1,000~5,000hrs		●	●	●	●	SMD	10~400	10~4,700	59
		CLX	10.5~14.0mm max. height, Wide temp. Ultra low ESR	125°C 2,000~4,000hrs		●	●	●	●	SMD	10~50	33~1,000	61
	VDA	10.5~14.0mm max. height, Wide temp.	150°C 1,000hrs				●	●	SMD	10~50	47~1,000	63	
	Bi-Polar	MVG(MV)-BP	5.5mm max. height, Bi-polar	85°C 2,000hrs					●	SMD	4~50	0.1~47	65
		BDS(MK)-BP	5.5mm max. height, Bi-polar	105°C 1,000hrs					●	SMD	6.3~50	0.1~47	65

■ MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

Series		Applications	Load life Time (Hrs)	Miniature	Standard type	Low impedance	Long life	Solvent-proof	Terminal type	Rated voltage range (V _{DC})	Capacitance range (μF)	Page	
Miniature	Low Profile	DSA / DZA	5mm height, Downsized / Reflow Application	85°C 2,000hrs		●			Radial	4~50	0.1~330	68	
		GSA / GZA	7mm height, Downsized / Reflow Application	85°C 2,000hrs	●				Radial	6.3~63	0.1~470	70	
		EMA	5mm height, Wide temp. Long Life	105°C 2,000hrs				●		Radial	4~50	0.1~100	72
		HMA	7mm height, Wide temp. Long Life	105°C 2,000hrs				●		Radial	6.3~50	0.1~150	73
	General Purpose	MHA	High capacitance, Downsized	85°C 2,000hrs	●					Radial	4~500	0.1~15,000	74
		NHA	High capacitance, Downsized	105°C 1,000~2,000hrs	●					Radial	6.3~500	0.1~15,000	76
	Low Leakage	GSA(SRA)-LL/LL	Height 7mm / General	85°C 2,000hrs		●				Radial	6.3~100	0.1~4,700	78
	Bi-polar	DSA(SRE)-BP	5mm height	85°C 1,000hrs		●				Radial	4~50	0.1~47	80
		GSA-BP	7mm height	85°C 2,000hrs		●				Radial	6.3~50	0.1~47	81
		MHA-BP	General	85°C 2,000hrs		●				Radial	6.3~250	3.3~6,800	82
		NHA-BP	General, Wide temp.	105°C 1,000hrs		●		●		Radial	6.3~250	3.3~6,800	84
		SSP	Speaker network	85°C 2,000hrs		●				Radial	25~63	1~100	86
		KSA	Horizontal deflection, Wide temp	105°C 1,000hrs		●			●	Radial	25, 50	2.2~10	88

LIST OF PRODUCTS

MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

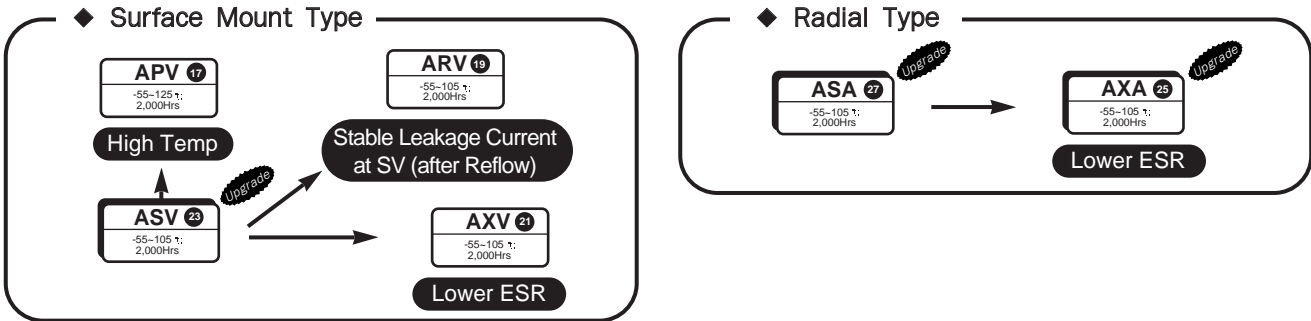
Series		Applications	Load life Time (Hrs)	Miniature Standard type	Low impedance	Long life Solvent-proof	Terminal type	Rated voltage range (Vdc)	Capacitance range (μF)	Page	
Miniature	ESR, Low Imp.	EXB	Height 5mm Ultra Low Imp.	105°C 2,000hrs		●●●	Radial	6.3~35	1~100	89	
		HXB	Height 7mm Ultra Low Imp.	105°C 2,000hrs		●●	Radial	6.3~50	10~330	90	
		HXL	Height 7mm Ultra Low Imp. Long life	105°C 3,000hrs		●●		Radial	6.3~50	10~330	91
		NXL(LXV)	Low Imp., Long life	105°C 2,000~5,000hrs		●●●		Radial	6.3~100	0.47~15,000	92
		NXP(LXZ)	Low Imp., Long life, Downsized	105°C 2,000~5,000hrs		●●●		Radial	6.3~35	33~18,000	95
		NXA	Low Imp., Long life	105°C 4,000~10,000hrs		●●		Radial	6.3~100	6.8~18,000	97
		NXB	Low Imp., Long life	105°C 2,000~5,000hrs		●●		Radial	6.3~100	3.3~8,200	100
		NXH	Low Imp., Long life	105°C 6,000~10,000hrs		●●		Radial	6.3~50	27~8,200	103
		NXF	Ultra Low ESR	105°C 2,000hrs		●		Radial	6.3~16	470~3,300	105
	High Reliability	NXE	Ultra Low ESR, Long life	105°C 3,000~4,000hrs		●●		Radial	6.3~35	150~3,300	107
		NZE	High ripple, Downsized	105°C 2,000hrs		●		Radial	160~450	8.2~390	109
		NFC	Long life, High ripple	105°C 5,000hrs		●●		Radial	160~450	3.3~330	111
		NFA	Long life, High ripple	105°C 8,000~10,000hrs		●●		Radial	160~450	3.3~330	113
		NFL	Long life, High ripple	105°C 10,000~12,000hrs		●●		Radial	160~450	10~470	115
		NLA	Long life	105°C 4,000~10,000hrs		●●		Radial	6.3~50	10~18,000	117
		NLC	Long life	105°C 10,000hrs		●●		Radial	6.3~50	10~680	119
		PXB	Wide temp., Imp. Long life	125°C 2,000~5,000hrs		●●●		Radial	10~450	4.7~4,700	121
		PXD	Wide temp., Ultra Low Imp. Long life	125°C 2,000~4,000hrs		●●●		Radial	10~50	10~4,700	123
	Special Application	PHA	Wide temp.	150°C 1,000hrs		●●		Radial	10~50	100~3,300	125
		AHS	Audio grade, Downsized	85°C 2,000hrs	●			Radial	10~100	0.1~10,000	127
		PHL	For photo flash	5~35°C 5,000Times				Radial	300~330	5~160	129
		NZD	Air bag	105°C 5,000hrs			●●	Radial	16~35	820~5,600	130

LARGE SIZED ALUMINUM ELECTROLYTIC CAPACITORS

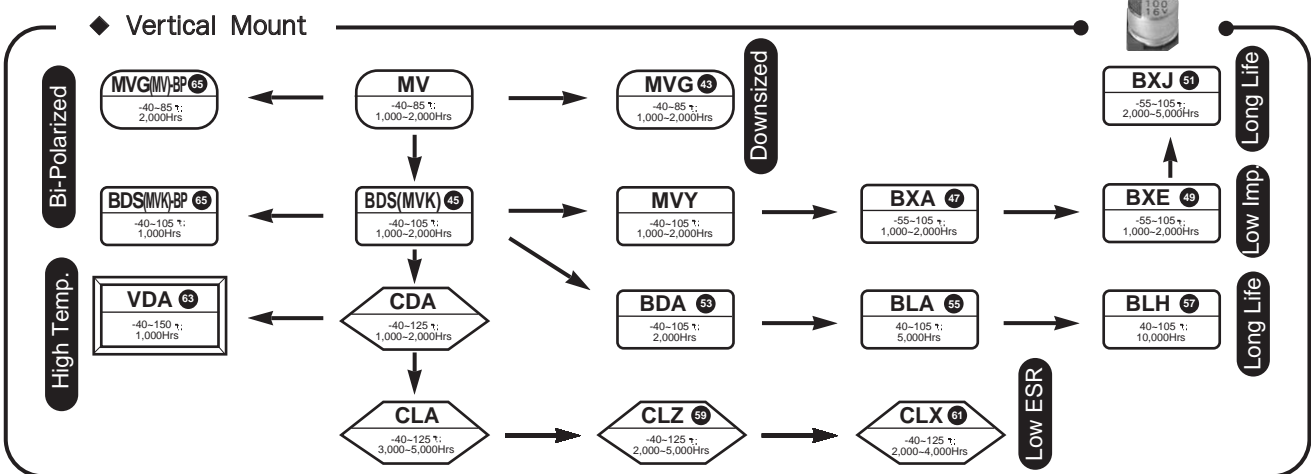
Series		Applications	Load life Time (Hrs)	Miniature Standard type	Low impedance	Long life Solvent-proof	Terminal type	Rated voltage range (Vdc)	Capacitance range (μF)	Page	
PCB Terminal Type	General Purpose	RDC	More Downsized	85°C 2,000hrs	●			Pin	16~500	68~56,000	132
		TDA	Miniature	105°C 2,000hrs	●			Pin	16~450	47~47,000	136
		TDC	More Downsized	105°C 2,000hrs	●			Pin	160~450	68~1,200	140
		TEA	15mm height	105°C 2,000hrs	●			Pin	160~400	39~390	143
	High Reliability	TLA	Downsized, Long life, Wide temp.	105°C 3,000hrs			●	Pin	160~450	56~2,200	145
		TLS	Downsized, Long life, Wide temp. High ripple	105°C 3,000hrs			●	Pin	160~450	100~3,300	148
		UDA	Wide Temp.	125°C 1,000hrs			●	Pin	16~250	100~10,000	150
		TLC(LXG)	Miniature, Long life	105°C 5,000hrs			●	Pin	10~400	56~47,000	153
	Special Application	TLB	Miniature, Long life	105°C 7,000hrs	●		●	Pin	160~450	47~2,200	157
		RVA	No spark with DC overvoltage	85°C 2,000hrs				Pin	200~450	68~2,200	159
		TVA	No spark with DC overvoltage	105°C 2,000hrs				Pin	200~450	68~2,200	161
		DL	General Audio	85°C 2,000hrs		●		Pin	50~100	3,300~22,000	163
Screw-Bolt Terminal Type	General Purpose	AHS	Hi-Fi Audio Miniature	85°C 2,000hrs	●			Pin	50~100	3,300~22,000	164
		TGA(KMH)	General, Wide temp.	105°C 2,000hrs		●		Screw	10~400	180~680,000	166
	For Inverter	RFC(RWF)	High ripple, Long life	85°C 5,000hrs			●	Screw	350~450	2,700~15,000	169
		RGA	High ripple, High voltage	85°C 2,000hrs				Screw	500~600	100~3,900	171
		RFA	High ripple, Long life	85°C 20,000hrs			●	Screw	350~500	2,200~12,000	173
		TFA	High ripple, Long life	105°C 5,000hrs			●	Screw	350~450	2,200~10,000	175
	Special Application	PH	For photo flash	5~35°C 5,000Times				Pin/ Screw	330	165~2,000	177
		DH	For Welding	40°C 1,000,000Times					315, 475	100~330	178

SERIES GROUP CHART

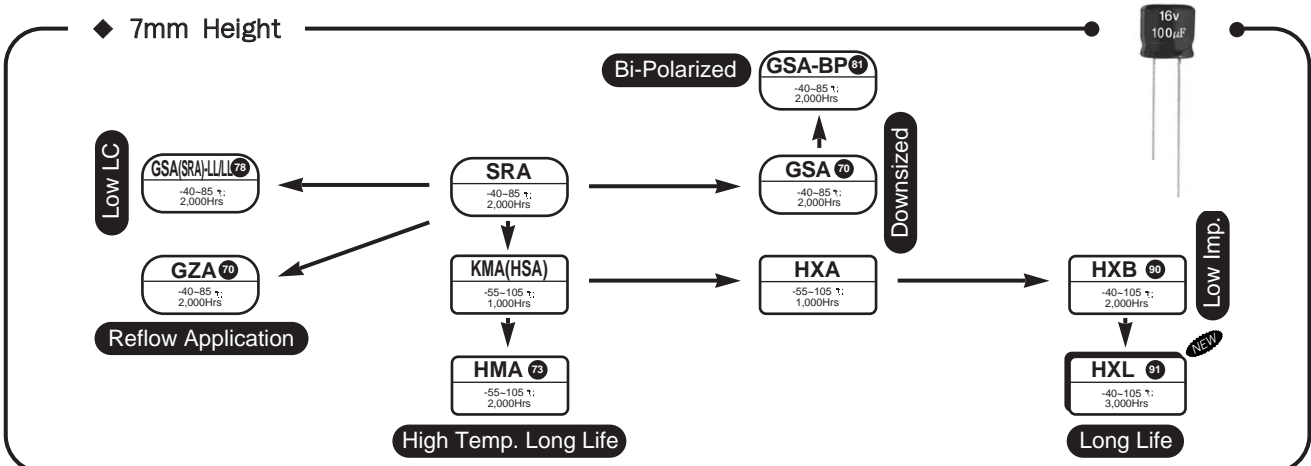
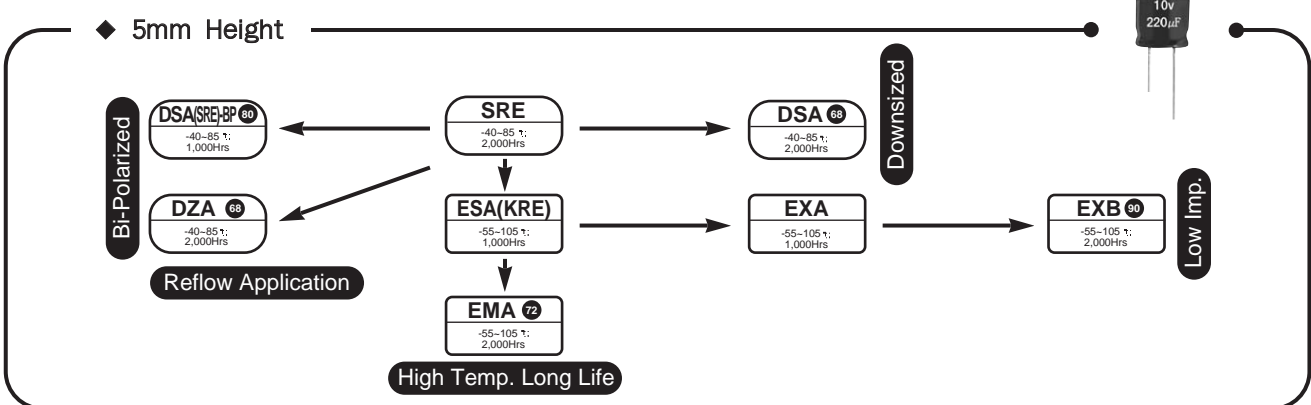
● Conductive Polymer Aluminum Solid Capacitors (reALcap™)



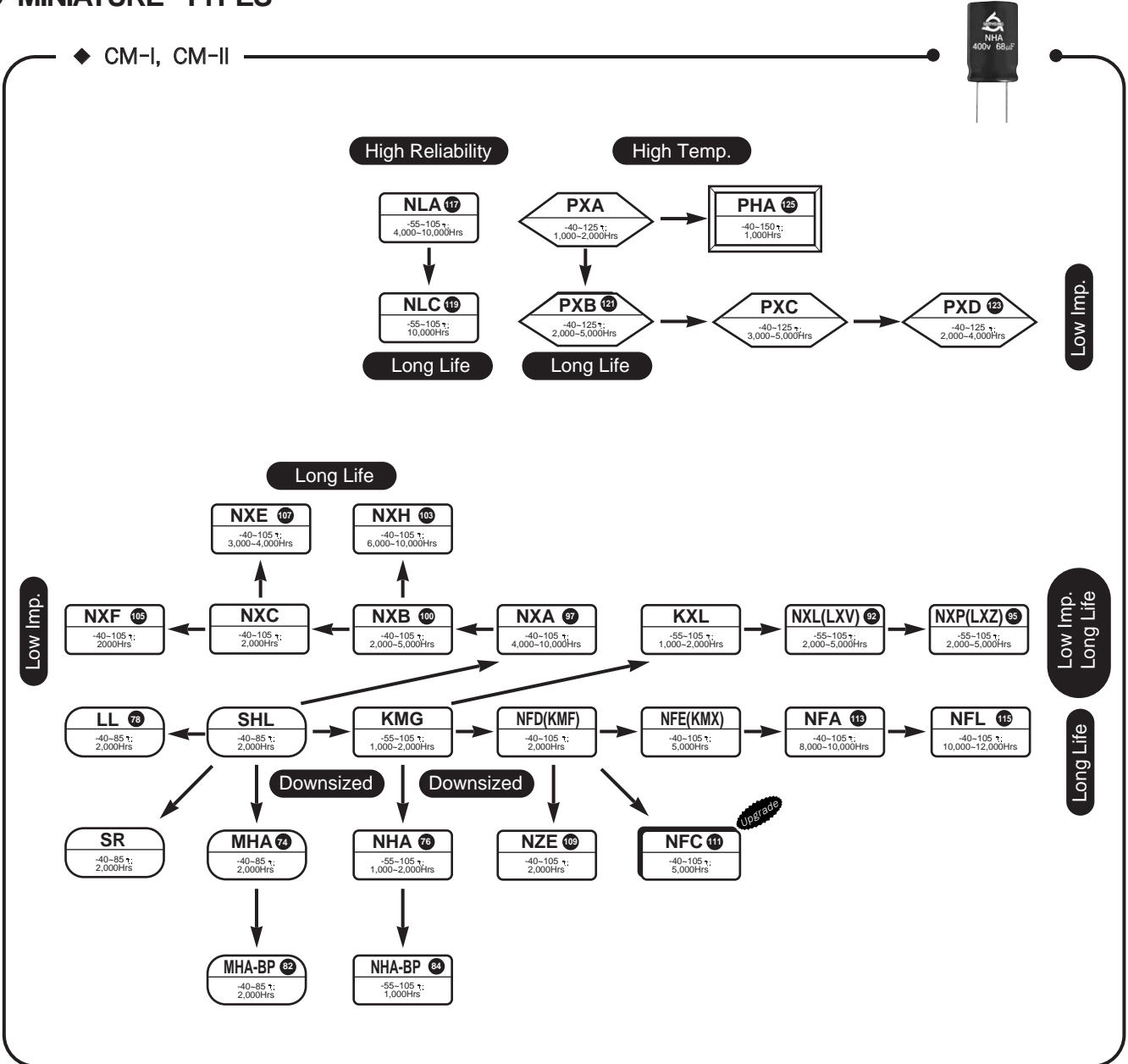
● SURFACE MOUNT TYPES



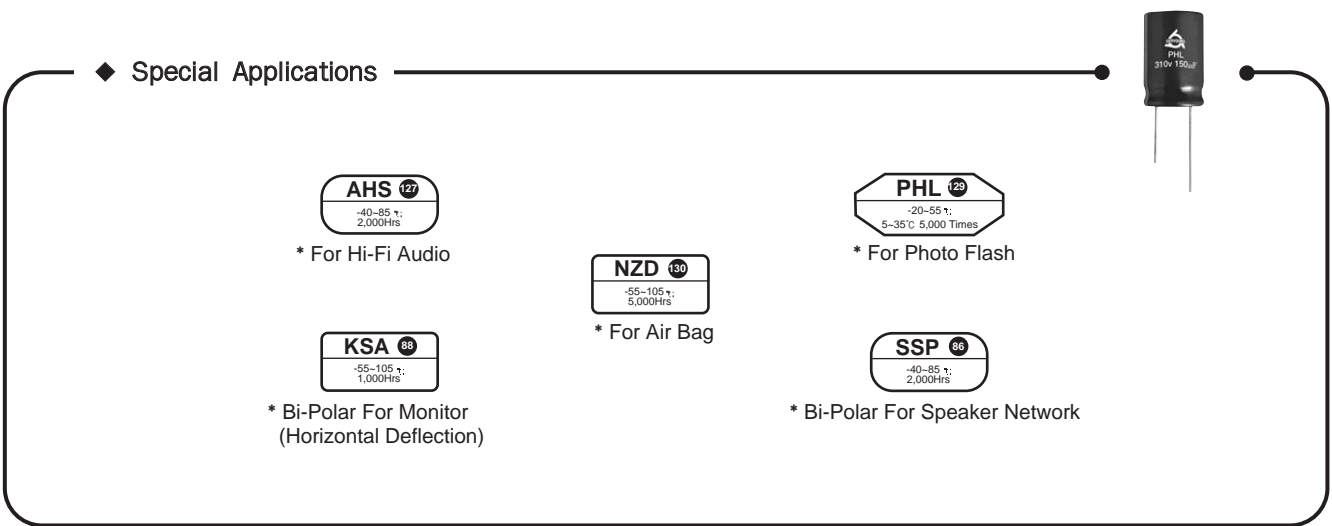
● MINIATURE TYPES



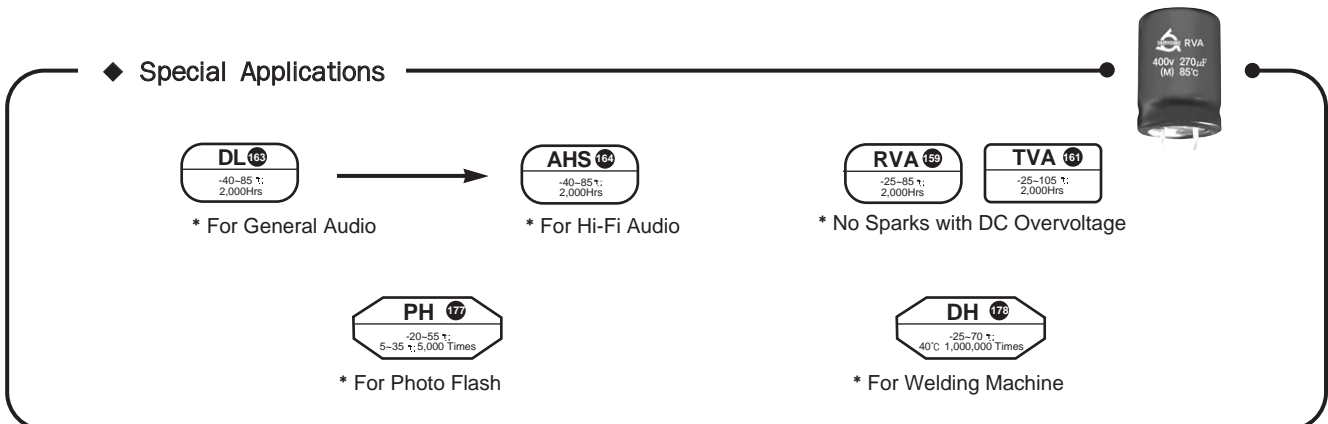
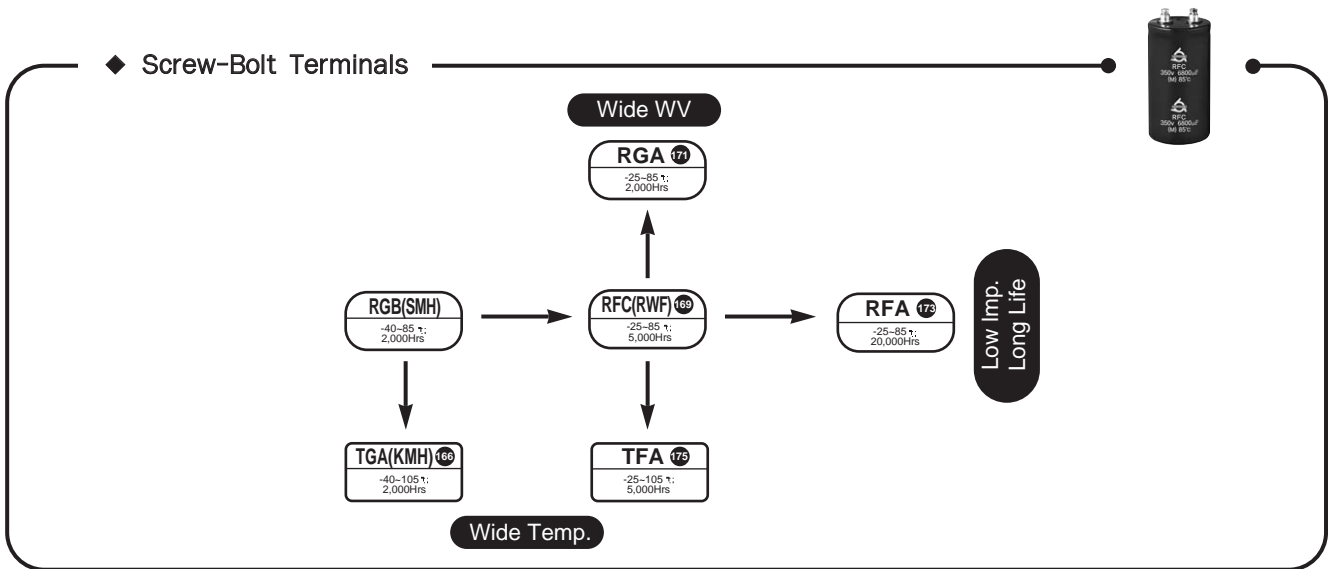
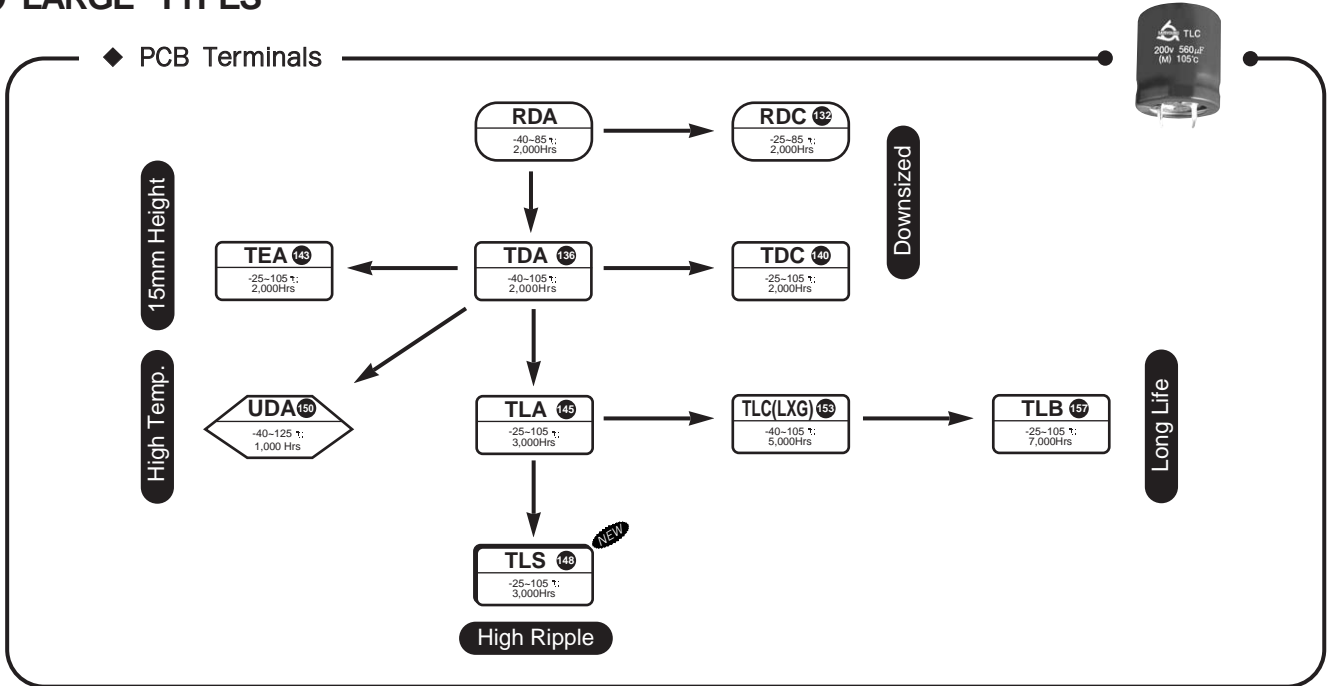
● MINIATURE TYPES



◆ Special Applications

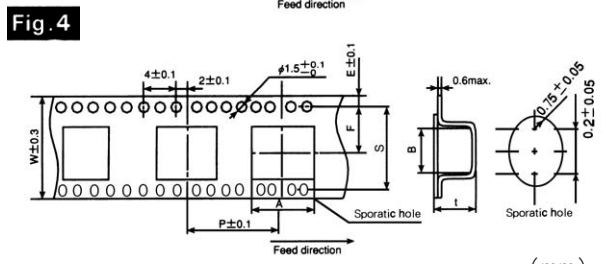
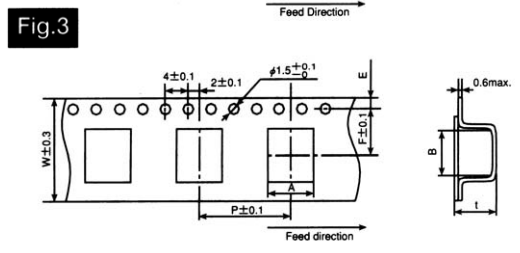
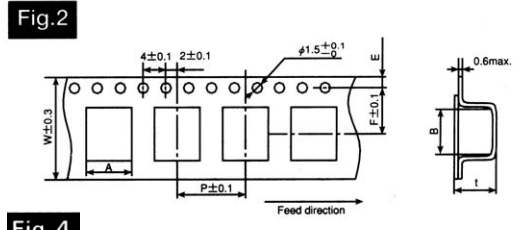
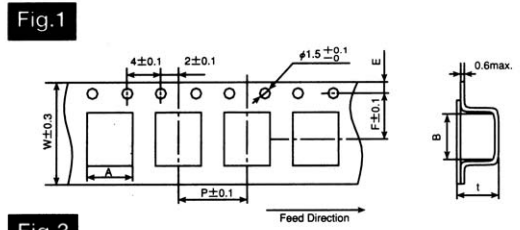


● LARGE TYPES



DETAIL SPECIFICATIONS OF TAPING METHOD

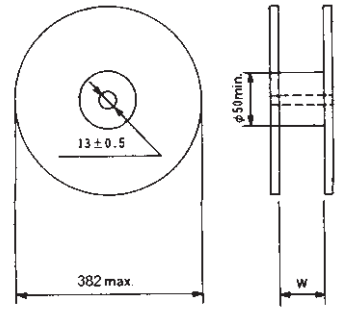
■ SURFACE MOUNT TYPE TAPING DIMENSIONS



(mm)

Series	Case Code	Fig	W	A	B	F	E	P	t	S
AL CHIP reALcap™	∅ 3(B55)	1	12	3.5±0.2	3.5±0.2	5.5	1.75±0.1	8	5.9±0.2	-
	∅4(D55,D56,D60)	1	12	4.7±0.2	4.7±0.2	5.5	1.75±0.1	8	5.7±0.2(D55,D56) 6.3±0.2(D60)	-
	∅ 5(E55,E56,E60)	2	12	5.7±0.2	5.7±0.2	5.5	1.75±0.1	12	5.7±0.2(E55,E56) 6.3±0.2(E60)	-
	∅ 6.3(F55,F56,F60)	2	16	7.0±0.2	7.0±0.2	7.5	1.75±0.1	12	5.7±0.2(F55,F56) 6.3±0.3(F60)	-
	∅ 6.3 × 8L(F80)	2	16	7.0±0.2	7.0±0.2	7.5	1.75±0.1	12	8.2±0.2	-
	∅ 8 × 6L(H63)	2	16	8.7±0.2	8.7±0.2	7.5	1.75±0.1	12	6.8±0.2	-
	∅ 8 × 6.7L(H70)	2	24	8.7±0.2	8.7±0.2	11.5	1.75±0.1	12	7.3±0.2	-
	∅ 8 × 10L(H10)	3	24	8.7±0.2	8.7±0.2	11.5	1.75±0.1	16	11.0±0.2	-
	∅ 8 × 11.5L(H12)	3	24	8.7±0.2	8.7±0.2	11.5	1.75±0.1	16	12.3±0.2	-
	∅ 10 × 10L(J10)	3	24	10.7±0.2	10.7±0.2	11.5	1.75±0.1	16	11.0±0.2	-
	∅ 10 × 12.2L(J12)	3	24	10.7±0.2	10.7±0.2	11.5	1.75±0.1	16	13.0±0.2	-
∅ 12.5 × 13.5L(K14)	4	32	13.4±0.2	13.4±0.2	14.2	1.75±0.1	24	14.0±0.2	28.4±0.1	

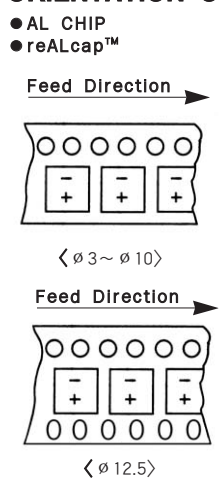
REEL



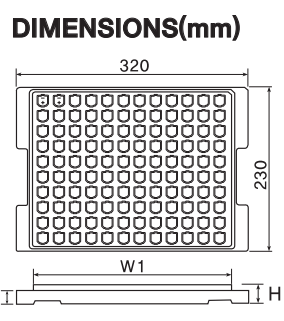
QUANTITY PER REEL

Series	Case Code	W(mm)	Q' ty(pcs/reel)	Q' ty(pcs/box)
AL CHIP reALcap™	∅ 3(B55)	14	2,000	20,000
	∅ 4(D55,D56,D60)	14	2,000	20,000
	∅ 5(E55,E56,E60)	14	1,000	10,000
	∅ 6.3(F55,F56,F60)	18	1,000	10,000
	∅ 6.3 × 8L(F80)	18	900	9,000
	∅ 8 × 6L(H63)	18	1,000	10,000
	∅ 8 × 6.7L(H70)	26	1,000	6,000
	∅ 8 × 10L(H10)	26	500	3,000
	∅ 8 × 11.5L(H12)	26	400	2,400
	∅ 10 × 10L(J10)	26	500	3,000
	∅ 10 × 12.2L(J12)	26	400	2,400
∅ 12.5 × 13.5L(K14)	34	200	1,000	

ORIENTATION OF POLARITY



■ SURFACE MOUNT TYPE(TRAY)

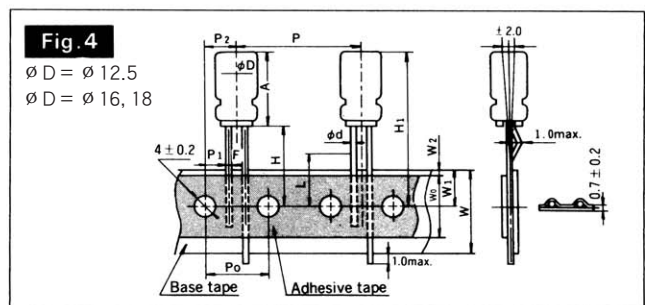
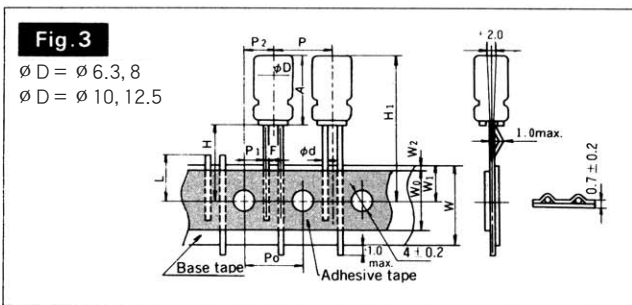
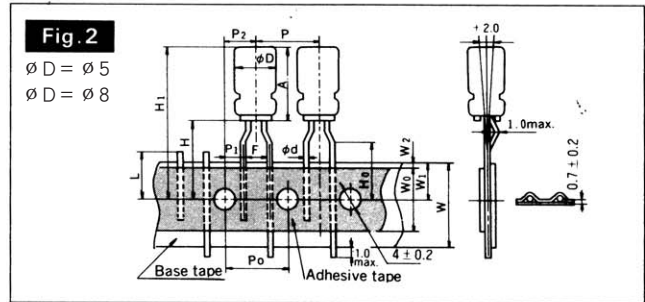
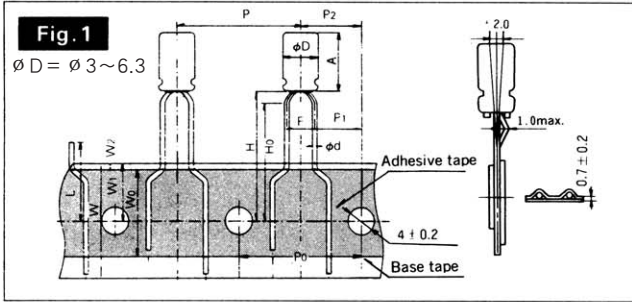


QUANTITY PER TRAY/BOX

Case Code	H (mm)	W1 (mm)	H1 (mm)	Q' ty (pcs/tray)	Q' ty (pcs/box)
L17~L22	28.0	284	24.0	80	160,400
M17~M22	28.0	284	24.0	60	120,300

MINIATURE TYPE

Unit(mm)



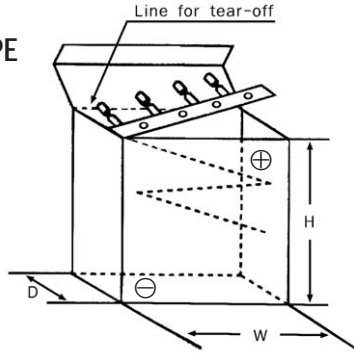
Code	Case size		ϕd	P	P0	P1	P2	F	W	W0	W1	W2	H	H0	H1	L	Fig		
	ϕD	A																	
Tol.	± 0.5	+1.0	± 0.05	± 1.0	± 0.2	± 0.7	± 1.0	+0.8 -0.2	± 0.5	min.	± 0.5	max.	± 0.75	± 0.5	-	max.			
Nominal	3	5	0.4	12.7	12.7	5.1 3.85	6.35	2.5 5	18.0	6	9.0	1.5	18.2 17.5	- 16.0	Check insertion machine specs.	11.0	1 2		
	3.5	5	0.4	12.7	12.7	5.1 3.85	6.35	2.5 5	18.0	6	9.0	1.5	18.2 17.5	- 16.0		11.0	1 2		
	4	5~7	0.45	12.7	12.7	5.1 3.85	6.35	2.5 5	18.0	6	9.0	1.5	18.2 17.5	- 16.0		11.0	1 2		
	5	5~7	0.45	12.7	12.7	5.1 3.85	6.35	2.5 5	18.0	6	9.0	1.5	18.2 17.5	- 16.0		11.0	1 2		
		11~15	0.5	12.7	12.7	5.1 3.85	6.35	2.5 5	18.0	10	9.0	1.5	18.5 16.0			11.0	2		
	6.3	5~7	0.45	12.7	12.7	5.1 3.85	6.35	2.5 5	18.0	6	9.0	1.5	18.2 17.5	- 16.0		11.0	1 2		
		9~15	0.5	12.7	12.7	5.1 3.85	6.35	2.5 5	18.0	10	9.0	1.5	18.5 16.0			11.0	3 2		
	8	* 5	0.45	12.7	12.7	5.1 3.85	6.35	2.5 5	18.0	6	9.0	1.5	18.2 17.5	- 16.0		11.0	3 2		
		7	0.45	12.7	12.7	5.1 3.85	6.35	3.5 5	18.0	10	9.0	1.5	18.5 20	- 16.0		11.0	3 2		
		9~20	0.6	12.7	12.7	5.1 3.85	6.35	3.5 5	18.0	10	9.0	1.5	18.2 18.5	- 16.0		11.0	3 2		
	Tol.	± 0.5	max.	± 0.05	± 1.0	± 0.3	± 0.7	± 1.3		± 0.5	min.	± 0.5	max.	± 0.75		-		max.	
	Nominal	10	27	0.6	12.7	12.7	3.85	6.35	5	18.0	12.5	9.0	1.5	18.5		-		11.0	3
12.5		27	0.6	15	15	5.0	7.5	5	18.0	12.5	9.0	1.5	18.5	-		11.0	3		
			0.6	25.4	12.7	3.85	6.35	5	18.0	12.5	9.0	1.5	18.5	-		11.0	4		
16		37.5	0.8	30	15	3.75	7.5	7.5	18.0	12.5	9.0	3.0	18~20	-		11.0	4		
18	37.5	0.8	30	15	3.75	7.5	7.5	18.0	12.5	9.0	3.0	18~20	-		11.0	4			

● P=25.4 taping is not standard. Use P=15 taping.

* $\phi 8 \times 5L$ (Height) is 6.5mm max.

PACKING QUANTITY

MINIATURE TYPE TAPING



Packing quantity ($\phi 3 \sim \phi 18$) is changable.

Item	Inner Box (PCS)	Out Box (PCS)	Box Dimension D × W × H (mm)	
RMV $\phi 6.3$	1,500	9,000	41 × 330 × 232	
RMV $\phi 8$	7~9L	1,000	6,000	41 × 330 × 232
	11.5L	1,000	5,000	51 × 330 × 230
RMV $\phi 10$	500	2,500	53 × 330 × 190	
SRE $\phi 3, 3.5$	3,000	18,000	41 × 330 × 232	
SRE, A $\phi 4$	2,500	15,000	41 × 330 × 232	
SRE, A $\phi 5$	2,000	12,000	41 × 330 × 232	
SRE, A $\phi 6.3$	1,500	9,000	41 × 330 × 232	
SRE, A $\phi 8$	1,000	6,000	41 × 330 × 232	
$\phi 5$	2,000	10,000	51 × 330 × 230	
$\phi 6.3$	1,500	7,500	48 × 330 × 211	
$\phi 8$	11.5L	1,000	5,000	51 × 330 × 230
	15L	1,000	5,000	51 × 330 × 230
	20L	800	4,000	62 × 330 × 198
$\phi 10$	16L max.	500	2,500	53 × 330 × 190
	25L max.		2,000	62 × 330 × 190
	33L max.		2,000	68 × 330 × 190
$\phi 12.5$	25L max.	400	2,000	61 × 324 × 235
$\phi 16$	25L max.	250	1,250	62 × 342 × 245
	35.5L max.		1,000	73 × 342 × 245
$\phi 18$	25L max.	200	1,000	62 × 342 × 245
	35.5L max.		800	73 × 342 × 245

LONG AND FORMING CUT

Item	$\phi D \times L$ (mm)	Terminal Conf.	Vinyl Bag (PCS)	Inner Box (PCS)	Out Box (PCS)
RMV	$\phi 6.3$	Long	500	2,000	24,000
	$\phi 8$	Long	200	1,000	12,000
	$\phi 10$	Long	100	2,000	8,000
SRE	$\phi 3 \sim \phi 4$	Long/Forming	500	4,000	48,000
	$\phi 5$	Long/Forming	500	3,000	36,000
	$\phi 6.3$	Long/Forming	500	3,000	30,000
SRA	$\phi 4 \sim \phi 5$	Long/Forming	500	3,000	36,000
	$\phi 6.3$	Long/Forming	500	2,000	24,000
	$\phi 8$	Long/Forming	200	1,000	12,000
SR	$\phi 6 \times 9L$	Long/Forming	500	2,000	24,000
	$\phi 8 \sim 9L$	Long	200	1,000	12,000
Forming		2,000		24,000	
CM-I	$\phi 5$	Long	200	2,000	24,000
		Forming			
	$\phi 6.3$	Long	200	2,000	20,000
		Forming			24,000
	$\phi 8 \times 11.5L$	Long/Forming	200	1,000	12,000
$\phi 8 \times 15L$	Long	100	500	6,000	
$\phi 8 \times 20L$	Long	100	500	6,000	

Item	$\phi D \times L$ (mm)	Terminal Conf.	Vinyl Bag (PCS)	Inner Box (PCS)	Out Box (PCS)
CM-II	$\phi 10 \times 12.5L$	Forming	100	2,500	10,000
		Long	100	2,000	8,000
	$\phi 10 \times 15 \sim 16L$	Forming	100	2,000	8,000
		Long	100	1,500	6,000
	$\phi 10 \times 20L \sim$	Forming	100	1,600	6,400
		Long	100	1,200	4,800
	$\phi 10 \times 25 \sim 50L$	Forming	100	1,200	4,800
		Long	100	1,000	4,000
	$\phi 12.5 \times 13L$	Forming/Long	100	1,500	6,000
	$\phi 12.5 \times 15 \sim 25L$	Forming	100	1,000	4,000
	$\phi 12.5 \times 15 \sim 16L$	Long	100	1,000	4,000
	$\phi 12.5 \times 20 \sim 25L$	Long	100	800	3,200
	$\phi 12.5 \times 30 \sim 35L$	Forming/Long	50	600/500	2,400/2,000
	$\phi 12.5 \times 42.5 \sim 50L$	Forming	50	500	2,000
		Long		400	1,600
	$\phi 16 \times 15L$	Forming	50	600	2,400
		Long			
	$\phi 16 \times 20 \sim 25L$	Forming/Long	50	600/500	2,400/2,000
	$\phi 16 \times 31.5 \sim 40L$	Forming/Long	50	400	1,600
	$\phi 18 \times 20 \sim 25L$	Forming/Long	50	400	1,600
	$\phi 18 \times 30 \sim 40L$	Forming	25	300	1,200
		Long		250	1,000
	$\phi 20 \times 40L$	Forming	20	150	600
		Long		160	640
	$\phi 22 \times 20 \sim 30L$	Long	20	200	800
	$\phi 22 \times 35L \sim$	Long	20	160	640
	$\phi 25.4 \times 25L$				
	$\phi 22 \times 50L \sim$	Long	15	120	480
$\phi 25.4 \times 50L$					
$\phi 22 \times 20L \sim$	Forming	-	100	400	
					$\phi 25.4 \times 40L$
$\phi 22 \times 45L$	Forming	-	100	300	
$\phi 25.4 \times 45 \sim 50L$					



ALUMINUM ELECTROLYTIC CAPACITORS

GENERAL PACKAGE

Size		Terminal Config.	Product Q'ty Per Inner Box(pcs)	Product Q'ty Per Out Box(pcs)
∅ D(mm)	L(mm)			
14.5	35	LA	320	1,280
16	25~45		250	1,000
	50		250	750
20	25~45	LA, VN, VS	150	600
	50		150	450
22~30	15~45		100	400
	50~60		100	300
35~40	15~45	VN, VS, VR, LA, LR, LI	50	200
	50~60		50	150
35	70~80		80	160
40	70~80		50	100
35	-	LA, LG, LR	-	50
50	-		-	32
63.5~89	-		-	10