CD 11A PA Series

2000h at 85℃

- Load life of 2000 hours at 85℃
- True audio reproduction by the supprssion
  Of electrical noise due to external vibration



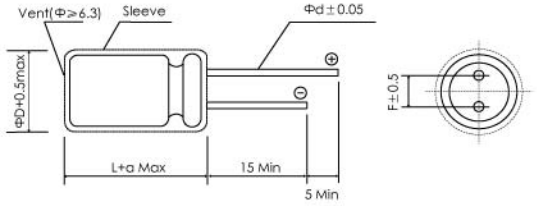
Items	Characteristics
Operating Temperature Range (℃)	-40 ~ +85
Voltage Range (V)	6.3 ~ 100
Capacitance Tolerance (20℃, 120Hz)	± 20%
Leakage Current (μA)	After 2 minutes at 20℃application of rated voltage, leakage current is not more than 0.001CV or 4, wichever is greater. C: Nominal Capacitance (μF) V: Rated Voltage (V)
Dissipation Factor (20℃, 120Hz)	See table below

Rated Voltage (V)	6.3	10	16	25	35	50	63	100
Tan δ (max)	0.3	0.25	0.19	0.16	0.14	0.12	0.10	0.10

When nominal capacitance is over 1000μF tan δ shall be added 0.02 to the listed value with increase of every 1000μF

	Useful Life	Load Life	Endurance Test	Shelf Life
Lifetime	3000h	2000h	2500h	1000h
Leakage Current	Not more than specified value	Not more than specified value	Not more than specified value	Not more than specified value
Capacitance Change	Within ± 30% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value
Dissipation Factor	Not more than 300% of specified value	Not more than 150% of specified value	Not more than 150% of specified value	Not more than 150% of specified value
Condition: Applied Voltage Applied Current Applied Temperature Failure Rate Level	U_R I_R 85℃ ⩽ 1% Failure Rate	U_R I_R 85℃ guaranteed	U_R I_R = 0 85℃	U_R = 0 I_R = 0 85℃ After test: U_R to be applied for 30min >24h before measurement

Dimensions mm

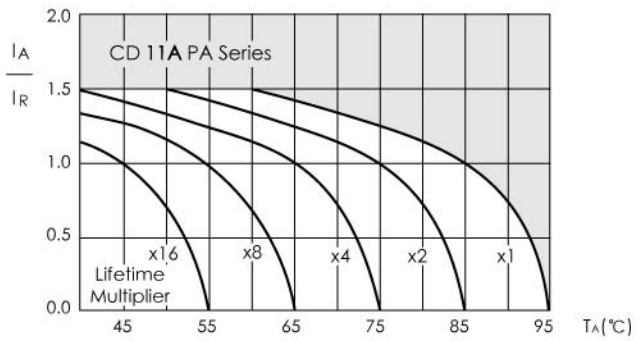


ΦD	5	6.3	8	10	12.5	16	18
F	2.0	2.5	3.5	5.0		7.5	
Φd	0.5		0.6			0.8	
a	1.0		2.0				

Frequency Coefficient

Rated Voltage (V)	Frequency / CV (μFV)	50~60Hz	120Hz	1kHz	10kHz	100kHz
6.3 ~ 16	ALL CV value	0.80	1.00	1.10	1.20	1.20
25 ~ 35	⩽ 1000	0.80	1.00	1.50	1.70	1.70
	> 1000	0.80	1.00	1.20	1.30	1.30
50 ~ 100	⩽ 1000	0.80	1.00	1.60	1.90	1.90
	> 1000	0.80	1.00	1.20	1.30	1.30

Lifetime Diagram



I_A = actual ripple current at 120Hz, I_R = rated ripple current at 120Hz, 85℃
Multiplier of Useful Life as a function of ambient temperature and ripple current load

Tempercture Coefficient

Temperature(℃)	+70	+85
Coefficient	1.35	1

MINIATURE

Assistance needed? Please contact JIANGHAI EUROPE GmbH +49 (0)2151 652088-72 or info@jianghai-europe.com

Ratings for CD **11A** PA Series

U_R (Surge Voltage) Code	Rated Capa-citance	Max ESR 20℃, 120Hz	Rated Ripple Current 85℃, 120Hz	Size Φ D x L	P/N
(V)	(μF)	(Ω)	(mArms)	(mm)	-
6.3 (7.2) 0J	100	3.98	85	5×11.5	ECR0JPA101M□□050011
	220	1.81	150	6.3×11.5	ECR0JPA221M□□063011
	330	1.21	180	6.3×11.5	ECR0JPA331M□□063011
	470	0.85	260	8×11.5	ECR0JPA471M□□080011
	1000	0.40	450	10×12.5	ECR0JPA102M□□100012
	2200	0.19	890	12.5×20	ECR0JPA222M□□125020
	3300	0.14	1050	12.5×20	ECR0JPA332M□□125020
	4700	0.10	1550	16×25	ECR0JPA472M□□160025
	6800	0.08	1750	16×25	ECR0JPA682M□□160025
	10000	0.06	2150	16×31.5	ECR0JPA103M□□160031
	15000	0.05	2700	18×35.5	ECR0JPA153M□□180035
10 (13) 1A	33	10.05	55	5×11.5	ECR1APA330M□□050011
	47	7.06	65	5×11.5	ECR1APA470M□□050011
	100	3.32	95	5×11.5	ECR1APA101M□□050011
	220	1.51	165	6.3×11.5	ECR1APA221M□□063011
	330	1.01	240	8×11.5	ECR1APA331M□□080011
	470	0.71	280	8×11.5	ECR1APA471M□□080011
	1000	0.33	540	10×16	ECR1APA102M□□100016
	2200	0.16	970	12.5×20	ECR1APA222M□□125020
	3300	0.12	1250	12.5×25	ECR1APA332M□□125025
	4700	0.09	1650	16×25	ECR1APA472M□□160025
	6800	0.07	2050	16×31.5	ECR1APA682M□□160031
	10000	0.06	2550	18×35.5	ECR1APA103M□□180035
16 (20) 1C	22	11.46	50	5×11.5	ECR1CPA220M□□050011
	33	7.64	60	5×11.5	ECR1CPA330M□□050011
	47	5.36	75	5×11.5	ECR1CPA470M□□050011
	100	2.52	120	6.3×11.5	ECR1CPA101M□□063011
	220	1.15	220	8×11.5	ECR1CPA221M□□080011
	330	0.76	270	8×11.5	ECR1CPA331M□□080011
	470	0.54	390	10×12.5	ECR1CPA471M□□100012
	1000	0.25	680	10×20	ECR1CPA102M□□100020
	2200	0.13	1200	12.5×25	ECR1CPA222M□□125025
	3300	0.10	1600	16×25	ECR1CPA332M□□160025
	4700	0.07	2050	16×31.5	ECR1CPA472M□□160031
	6800	0.06	2550	18×35.5	ECR1CPA682M□□180035
25 (32) 1E	22	9.65	55	5×11.5	ECR1EPA220M□□050011
	33	6.43	70	5×11.5	ECR1EPA330M□□050011
	47	4.52	80	5×11.5	ECR1EPA470M□□050011
	100	2.12	140	6.3×11.5	ECR1EPA101M□□063011
	220	0.97	240	8×11.5	ECR1EPA221M□□080011
	330	0.64	350	10×12.5	ECR1EPA331M□□100012
	470	0.45	460	10×16	ECR1EPA471M□□100016
	1000	0.21	850	12.5×20	ECR1EPA102M□□125020
	2200	0.11	1500	16×25	ECR1EPA222M□□160025
	3300	0.08	1900	16×31.5	ECR1EPA332M□□160031
	4700	0.06	2450	18×35.5	ECR1EPA472M□□180035
35 (44) 1V	4.7	39.53	25	5×11.5	ECR1VPA4R7M□□050011
	10	18.58	40	5×11.5	ECR1VPA100M□□050011
	22	8.44	60	5×11.5	ECR1VPA220M□□050011
	33	5.63	75	5×11.5	ECR1VPA330M□□050011

U_R (Surge Voltage) Code	Rated Capa-citance	Max ESR 20℃, 120Hz	Rated Ripple Current 85℃, 120Hz	Size Φ D x L	P/N
(V)	(μF)	(Ω)	(mArms)	(mm)	-
35 (44) 1V	47	3.95	100	6.3×11.5	ECR1VPA470M□□063011
	100	1.86	170	8×11.5	ECR1VPA101M□□080011
	220	0.84	310	10×12.5	ECR1VPA221M□□100012
	330	0.56	420	10×16	ECR1VPA331M□□100016
	470	0.40	540	10×20	ECR1VPA471M□□100020
	1000	0.19	990	12.5×20	ECR1VPA102M□□125020
	2200	0.10	1750	16×31.5	ECR1VPA222M□□160031
	3300	0.07	2250	18×35.5	ECR1VPA332M□□180035
50 (63) 1H	0.47	338.80	9	5×11.5	ECR1HPAR47M□□050011
	1	159.24	14	5×11.5	ECR1HPA010M□□050011
	2.2	72.38	20	5×11.5	ECR1HPA2R2M□□050011
	3.3	48.25	25	5×11.5	ECR1HPA3R3M□□050011
	4.7	33.88	30	5×11.5	ECR1HPA4R7M□□050011
	10	15.92	40	5×11.5	ECR1HPA100M□□050011
	22	7.24	65	5×11.5	ECR1HPA220M□□050011
	33	4.83	90	6.3×11.5	ECR1HPA330M□□063011
	47	3.39	110	6.3×11.5	ECR1HPA470M□□063011
	100	1.59	190	8×11.5	ECR1HPA101M□□080011
	220	0.72	370	10×16	ECR1HPA221M□□100016
	330	0.48	490	10×20	ECR1HPA331M□□100020
	470	0.34	670	12.5×20	ECR1HPA471M□□125020
	1000	0.16	1250	16×25	ECR1HPA102M□□160025
	2200	0.08	2100	18×35.5	ECR1HPA222M□□180035
63 (79) 1J	4.7	28.23	30	5×11.5	ECR1JPA4R7M□□050011
	10	13.27	45	5×11.5	ECR1JPA100M□□050011
	22	6.03	80	6.3×11.5	ECR1JPA220M□□063011
	33	4.02	100	6.3×11.5	ECR1JPA330M□□063011
	47	2.82	140	8×11.5	ECR1JPA470M□□080011
	100	1.33	250	10×12.5	ECR1JPA101M□□100012
	220	0.60	440	10×20	ECR1JPA221M□□100020
	330	0.40	620	12.5×20	ECR1JPA331M□□125020
	470	0.28	810	12.5×25	ECR1JPA471M□□125025
	1000	0.13	1500	16×31.5	ECR1JPA102M□□160031
100 (125) 2A	0.47	282.33	10	5×11.5	ECR2APAR47M□□050011
	1	132.70	15	5×11.5	ECR2APA010M□□050011
	2.2	60.32	20	5×11.5	ECR2APA2R2M□□050011
	3.3	40.21	25	5×11.5	ECR2APA3R3M□□050011
	4.7	28.23	30	5×11.5	ECR2APA4R7M□□050011
	10	13.27	55	6.3×11.5	ECR2APA100M□□063011
	22	6.03	95	8×11.5	ECR2APA220M□□080011
	33	4.02	140	10×12.5	ECR2APA330M□□100012
	47	2.82	180	10×16	ECR2APA470M□□100016
	100	1.33	340	12.5×20	ECR2APA101M□□125020
	220	0.60	640	16×25	ECR2APA221M□□160025
	330	0.40	780	16×25	ECR2APA331M□□160025
	470	0.28	1000	16×31.5	ECR2APA471M□□160031

Customer products are available on request.

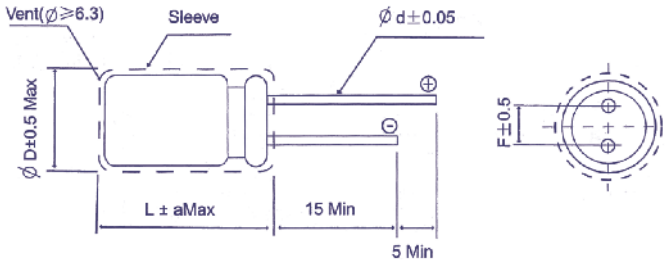
Part Number System

Order Code **SMD, Radial, Snap-In**

EC	R	1C	PT	101	M	FF	25	0611	JExxxxx
Technology	Terminal Type	Rated Voltage Code	Series Code	Capacitance Code (in µF)	Capacitance Tolerance	Lead Form	Terminal/ Pitch Size	Size Ø D x L	for Specials only
EC = Electrolytic Capacitor	SMD = V	2,5V = 0E	CD **110** = PT	0,47 = R47	**±20%** = **M**	SMD:		4x7 = 0407	
	Radial = R	4V = 0G	CD **11GL** = GL	1,0 = 010	±10% = K	**Taped** = **FF**	Terminal = T2	5x11,5 = 0511	
PC = Polymer Capacitor	Snap-In = S	6,3V = 0J	CD **261** = LK	2,2 = 2R2	+20 / -0% = R	Radial:		6,3x11,5 = 0611	
		10V = 1A	CD **261X** = QX	10 = 100	+20 / -10% = V	**Taped** = **FF**	2,0mm = 20	35x80 = 3580	
		16V = 1C	CD **262** = QM	100 = 101	+30 / -10% = Q	**Long Lead** = **LL**	2,5mm = 25	45x100 = 45100	
		20V = 1D	CD **263** = BK	1000 = 102	+50 / -10% = T	Cut 5,0mm = CB	3,5mm = 35		
		25V = 1E	CD **269** = PH	10000 = 103		**Cut 4,5mm** = **CC**	5,0mm = 50		
		35V = 1V	CD **269L** = HL			Cut 4,0mm = CD	7,5mm = 75		
		40V = 1G	CD **281** = LL			Cut 3,5mm = CE	10,0mm = 10		
		50V = 1H	CD **281L** = LH			Cut 3,0mm = CF	12,5mm = 12		
		63V = 1J	CD **287** = GC			on request: alternative lead forms (Keyed Polarity, axial, 90° - angle, others)			
		80V = 1K	CD **28L** = QL			**Snap-In:**			
		100V = 2A	CD **293** = BZ			4,0mm Pin Length = T4	2 Pin = P2		
		160V = 2C	CD **294** = BW			**6,3mm Pin Length** = **T6**	3 Pin = P3		
		180V = 2K	CD **295** = BC			Soldering Pin = S4	4 Pin = P4		
		200V = 2D	CD **296** = KC			on request: alternative pin types	5 Pin = P5		
		250V = 2E	CD **297** = BB						
		315V = 2F	CD **299** = PG						
		350V = 2V	CD **29D** = HR			**preferred**			
		385V = 2J	CD **29H** = QH						
		400V = 2G	CD **29L** = QL						
		415V = 2P	CD **891** = ZJ						
		420V = 2X	CD **892** = ZL						
		450V = 2W	CD **895** = ZK						
		500V = 2H							
		550V = 2Y	**Polymer on request**						

Technical Specification **Radial Type**

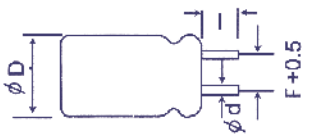
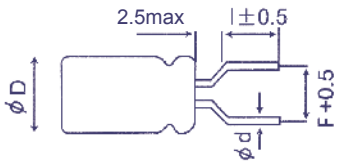
Dimensions for loose, long-lead type (bulk)
Order Code: LL



L	L ≤ 7					L ≥ 11									
Ø D	3	4	5	6,3	8	5	6,3	8	10	12,5	16	18	20	22	25
F	1	1,5	2,0	2,5	3,5	2,0	2,5	3,5	5,0		7,5		10,0		12,5
Ø d	0,4	0,45				0,5		0,6			0,8		1,0		
a_{Max}	1,0					2,0									

For diameter 20 pitch 7,5 on request. in mm

Dimensions for loose, short cut leads (bulk)
Order Code: CC (CB, CD, CE, CF)

Straight Lead			Bended Lead		
					
Code	CB	**CC**	CD	CE	CF
l	5,0 ± 0,5	**4,5 ± 0,5**	4,0 ± 0,5	3,5 ± 0,5	3,0 ± 0,5

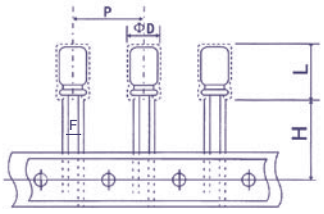
preferred in mm

Assistance needed? Please contact JIANGHAI EUROPE GmbH +49 (0) 2151 652088-72 or info@jianghai-europe.com

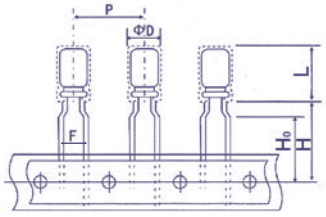
Dimensions for Ammopack taping
Order Code: FF (FD)

Code	Case Range		Dimensions				Form
	Ø D	L (max)	H ± 0,75	Ho ± 0,5	F +0,8 -0,2	P ± 0,1	
FF	4 ~ 5	13	18,5	-	2,5	12,7	B
	6,3	13	18,5	-	2,5	12,7	A
	8	13	18,5	-	3,5	12,7	
	4 ~ 8	7	17,5	16	5,0	12,7	B
	5 ~ 6,3	13	18,5				
	8	22	20,0				
	10	22	18,5	-			A
	12,5	27	18,5	-		15,0	
FD	12,5	27	18,5	-		25,4	C
FF	16	27	18,5	-	7,5	30,0	

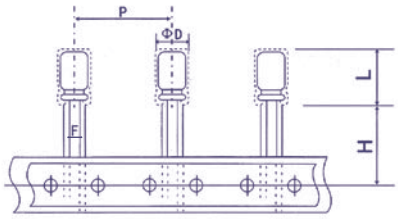
Form A



Form B



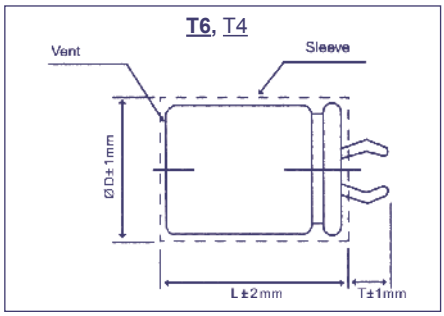
Form C



in mm

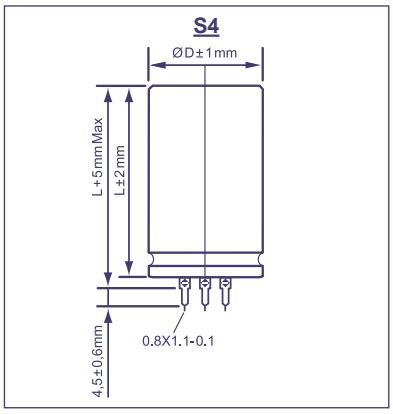
Technical Specification **Snap-In Type**

Pin Type: Snap-In Order Code: T6, T4

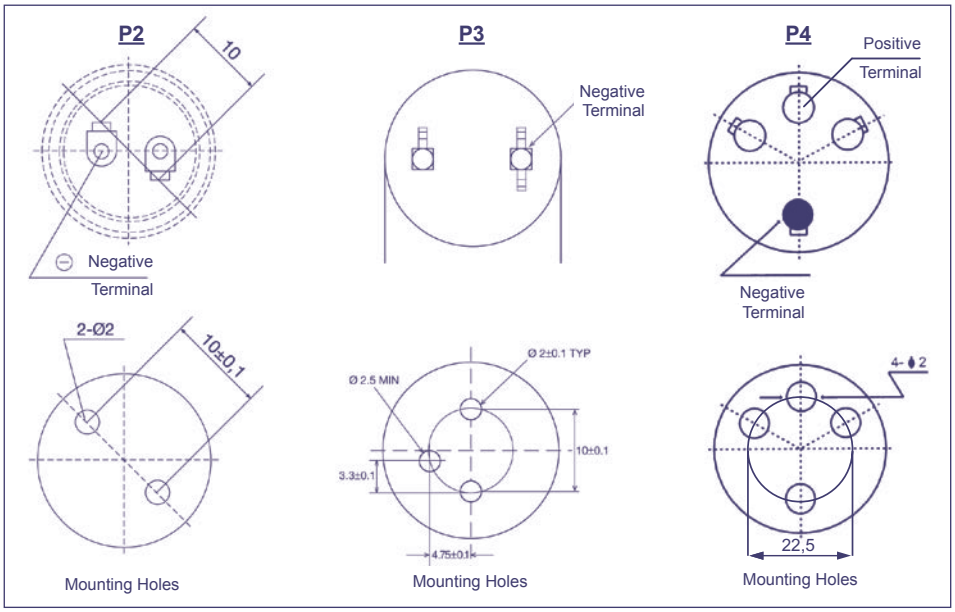


Terminal	T6	T4
Pin Length	6,3	4,0
	preferred	

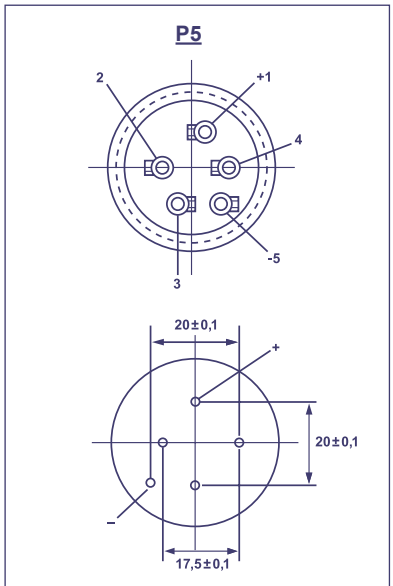
Pin Type: Soldering Order Code: S4



Snap-In Terminal Order Code: P2, P3, P4 **and Mounting Holes (Top view)**



Soldering Terminal Order Code: P5



P3 only as T4 Terminal available, P4 for Ø D ≥ 30mm, P5 for Ø D ≥ 40mm