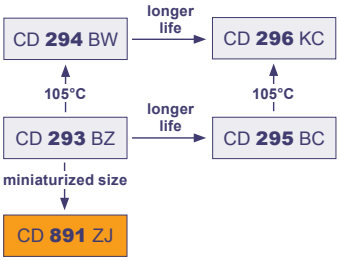
CD **891** ZJ Series

4000h at 85°C

· Miniaturized 85°C



Item	Characteristics	
Operating Temperature Range (°C)	-40 ~ +85	-25 ~ +85
Voltage Range (V)	35 ~ 400	450 ~ 500
Capacitance Range (µF)	68 ~ 15000	
Capacitance Tolerance (20°C, 120Hz)	± 20%	
Leakage Current (µA)	After 5 minutes at 20°C application of rated voltage, leakage current is not more than 0,01CV or 1,5mA, whichever is smaller C: Nominal Capacitance (µF) V: Rated Voltage (V)	

Dissipation Factor (20°C, 120Hz)

Rated Voltage (V) / Cap (µF)	35~50	63	80~100
≤ 2700	0,20	0,15	0,15
3300 ~ 4700	0,25	0,20	0,15
5600 ~ 6800	0,30	0,20	0,20
≥ 8200	0,35	0,25	-

Rated Voltage (V) / Ø (mm)	160~200	250~500
22 ~ 30	0,10	0,15
35	0,12	0,15

Stability at Low Temperature (Impedance Ratio at 120Hz)

Rated Voltage (V)	35	50~100	160~200	250~400	450~500
$Z_{-25°C} / Z_{+20°C}$	4	3		4	
$Z_{-40°C} / Z_{+20°C}$	15	10	6	8	-

	Useful Life		Load Life	Endurance Test	Shelf Life
Lifetime	**4000h**	>65000h	2000h	3000h	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 ± 15% of initial value	Within ± 20% of initial value	Within ± 15% of initial value
Dissipation Factor	Not more than 300% of specified value		Not more than 150% of specified value	Not more than 130% of specified value	Not more than 150% of specified value
Condition:					
Applied Voltage	U_R	U_R	U_R	U_R	$U_R = 0$
Applied Current	I_R	1,2 x I_R	I_R	$I_R = 0$	$I_R = 0$
Applied Temperature	85°C	40°C	85°C	85°C	85°C
Outlier Percentage	≤ 1%	≤ 1%	0%, guaranteed	IEC 60384	0%

After test: U_R to be applied for 30min >24h before measurement

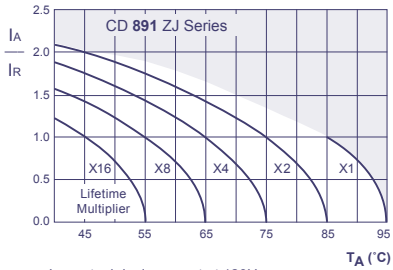
Multiplier for Ripple Current

Frequency Coefficient

Rated Voltage (V) / Frequency	50Hz	120Hz	1kHz	10kHz	100kHz
≤ 50	0,95	1,00	1,10	1,15	1,15
63 ~ 100	0,95	1,00	1,16	1,30	1,33
≥ 160	0,95	1,00	1,20	1,50	1,55

Multiplier for Lifetime

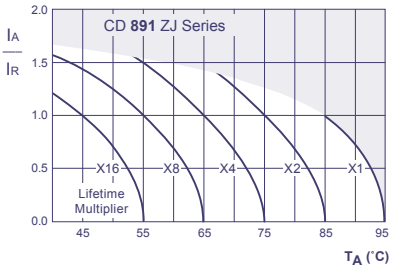
Lifetime Diagram U_R < 160V



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

Multiplier for Lifetime

Lifetime Diagram U_R ≥ 160V



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

Snap-In

Ratings for CD **891** ZJ Series

$U_{R.DC}$ (Surge Voltage) Code	Rated Capa-citance	Max ESR 20°C, 120Hz	Typ ESR 20°C, 120Hz	Max Ripple Current 85°C, 120Hz	Size Ø D x L
(V)	(µF)	(mΩ)	(mΩ)	(mArms)	(mm)
35 (44) 1V	4700	71	57	2200	22 x 30
	6800	59	47	2600	25 x 30
	10000	47	38	2820	25 x 40
		47	38	3200	30 x 30
	15000	31	25	3300	30 x 35
50 (63) 1H	2200	120	97	1600	20 x 25
	3300	100	81	2000	22 x 30
		100	81	2000	25 x 25
	4700	71	57	2400	25 x 30
		71	57	2400	30 x 25
	10000	47	38	3200	25 x 50
63 (79) 1J	3300	81	65	2680	25 x 30
	4700	57	46	2600	22 x 50
		57	46	2600	25 x 35
	5600	48	38	2700	25 x 40
	6800	40	32	2900	25 x 50
	8200	41	33	3500	35 x 35
	10000	34	27	4000	35 x 40
	15000	23	18	4400	35 x 50
80 (100) 1K	2700	74	59	2600	25 x 35
	3300	61	49	2700	22 x 45
	4700	43	34	3300	25 x 55
	8200	32	25	4200	35 x 50
	10000	28	22	4500	35 x 50
100 (125) 2A	1000	230	180	1500	22 x 30
	1200	166	133	1600	22 x 30
	2200	91	73	2200	22 x 55
		91	73	2200	25 x 40
		91	73	2200	30 x 30
	4700	43	34	3400	30 x 50
200 (250) 2D	120	1300	1050	1050	22 x 25
	470	283	226	1700	25 x 30
	680	196	157	2300	22 x 45
	1000	160	128	2600	25 x 40
		160	128	3100	30 x 40
	1500	125	115	3700	25 x 50
	1800	120	100	3750	35 x 40
	2200	100	80	3800	35 x 50
	3300	60	50	4200	35 x 60
250 (300) 2E	330	603	483	1300	22 x 30
	680	293	235	2300	25 x 50
	1000	199	160	3000	30 x 40
	1500	135	110	3800	30 x 50
	1800	110	90	4400	35 x 45
	2200	90	75	4600	35 x 50
400 (450) 2G	68	2926	2341	550	22 x 20
	120	1658	1327	800	25 x 25
	150	1327	1062	900	22 x 30
	220	905	724	1100	30 x 30
	270	737	590	1300	25 x 40
	330	603	483	1600	22 x 50
		603	483	1600	30 x 40
		603	483	1520	35 x 30
	390	511	409	1800	30 x 40
	470	424	339	2400	30 x 50
		424	339	2100	35 x 40
	560	356	285	2000	30 x 50
		356	285	2300	35 x 40
	680	300	240	2500	35 x 45
	820	245	200	2700	30 x 70
		245	200	2600	35 x 50
	1000	200	160	3100	35 x 55
		200	160	3200	40 x 60
	1200	165	135	3500	35 x 80
420 (470) 2X	150	1330	1062	940	25 x 40
	270	737	590	1420	30 x 30
	680	293	235	2500	35 x 50
	1000	200	160	3200	35 x 70
450 (500) 2W	150	1327	1062	900	22 x 40
	220	905	724	1100	25 x 45
	330	603	483	1650	30 x 40
		603	483	1650	35 x 35
	390	511	409	1800	25 x 55
		511	409	1800	30 x 45
		511	409	1700	35 x 35
	470	424	339	2200	30 x 50
		424	339	2200	35 x 40
	560	355	285	2300	35 x 50
	680	395	234	2300	35 x 50
	820	245	195	2500	35 x 60
	1000	200	160	3100	35 x 80
	1200	165	135	5000	40 x 100
	2200	90	75	6000	45 x 100
500 (550) 2H	470	425	340	2300	35 x 55
	680	295	234	2500	35 x 70

Customer specific products and adaptions on request.

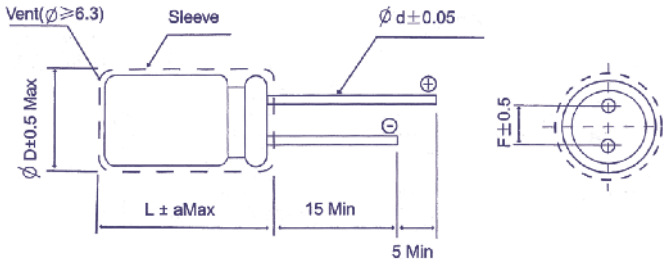
Part Number System

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**

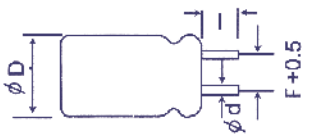
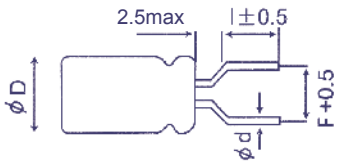
Dimensions for loose, long-lead type (bulk)
Order Code: LL



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)

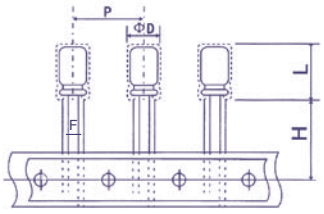
Straight Lead			Bended Lead		
					
Code	CB	**CC**	CD	CE	CF
l	5,0 ± 0,5	**4,5 ± 0,5**	4,0 ± 0,5	3,5 ± 0,5	3,0 ± 0,5

preferred in mm

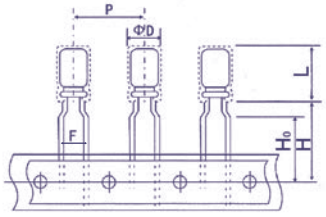
Dimensions for Ammopack taping
Order Code: FF (FD)

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	

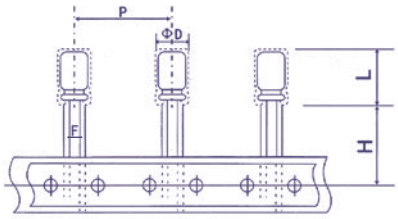
Form A



Form B



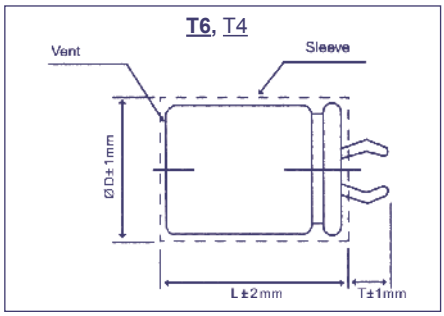
Form C



in mm

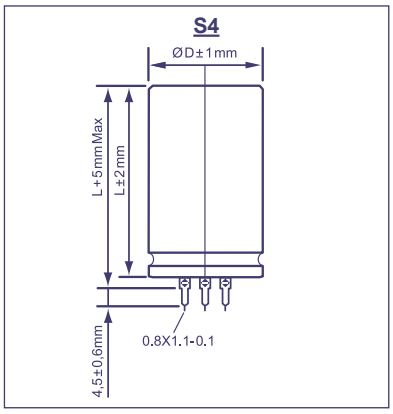
Technical Specification **Snap-In Type**

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

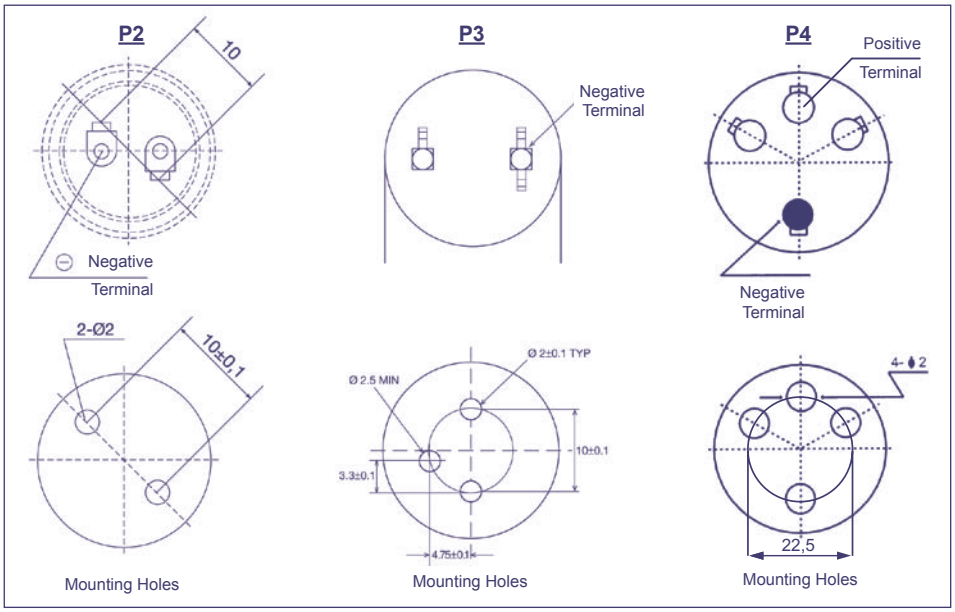


Terminal	T6	T4
Pin Length	6,3	4,0
	preferred	

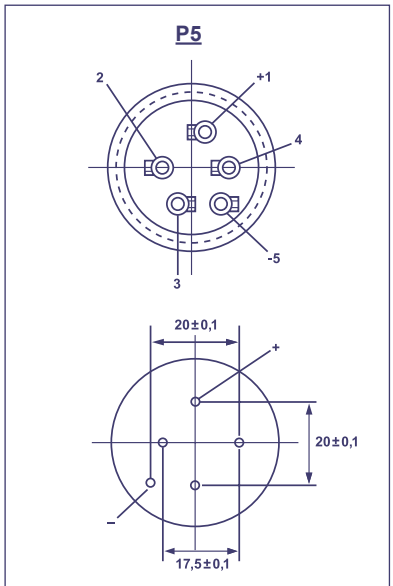
Pin Type: Soldering Order Code: S4



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