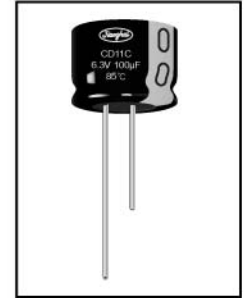
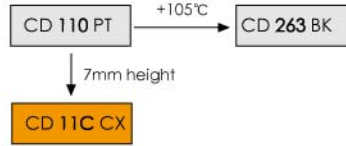


CD 11C CX Series



1000h at 85°C

- Load life of 1000 hours at 85°C
- 7mm L standard products
- VTR, video cameras, car radios, micro cassette tape recorder, etc.

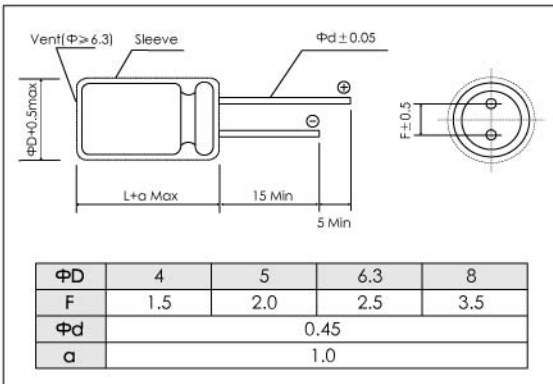


Items	Characteristics																														
Operating Temperature Range (°C)	-40 ~ +85																														
Capacitance Tolerance (20°C, 120Hz)	± 20%																														
Leakage Current (µA)	After 2 minutes at 20°C application of rated voltage, leakage current is not more than 0.01CV or 3, whichever is greater. C: Nominal Capacitance (µF) V: Rated Voltage (V)																														
Dissipation Factor (20°C, 120Hz)	<table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>4</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>Tan δ (max)</td> <td>0.35</td> <td>0.24</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> <td>0.08</td> </tr> </tbody> </table>	Rated Voltage (V)	4	6.3	10	16	25	35	50	63	100	Tan δ (max)	0.35	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.08										
	Rated Voltage (V)	4	6.3	10	16	25	35	50	63	100																					
Tan δ (max)	0.35	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.08																						
Stability at Low Temperature (Impedance Ratio at 120Hz)	<table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>4</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>Z_{-25°C} / Z_{+20°C}</td> <td>6</td> <td>4</td> <td>3</td> <td colspan="6">2</td> </tr> <tr> <td>Z_{-40°C} / Z_{+20°C}</td> <td>16</td> <td>10</td> <td>8</td> <td>6</td> <td colspan="5">4</td> </tr> </tbody> </table>	Rated Voltage (V)	4	6.3	10	16	25	35	50	63	100	Z _{-25°C} / Z _{+20°C}	6	4	3	2						Z _{-40°C} / Z _{+20°C}	16	10	8	6	4				
Rated Voltage (V)	4	6.3	10	16	25	35	50	63	100																						
Z _{-25°C} / Z _{+20°C}	6	4	3	2																											
Z _{-40°C} / Z _{+20°C}	16	10	8	6	4																										

	Useful Life	Load Life	Endurance Test	Shelf Life
Lifetime	2000h	1000h	1500h	500h
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 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value
Condition: Applied Voltage Applied Current Applied Temperature Failure Rate Level	U _R I _R 85°C ≤ 1% Failure Rate	U _R I _R 85°C guaranteed	U _R I _R = 0 85°C	U _R = 0 I _R = 0 85°C <div style="border: 1px solid black; padding: 2px;">After test: U_R to be applied for 30min >24h before measurement</div>

Dimensions

mm



Frequency Coefficient

Frequency Rated Voltage(V)	Frequency			
	50-60Hz	120Hz	1kHz	10k~100kHz
4 ~ 16	0.80	1.0	1.1	1.2
25 ~ 35	0.80	1.0	1.5	1.7
50 ~ 100	0.80	1.0	1.6	1.9

Temperature Coefficient

Temperature(°C)	+70	+85
Coefficient	1.35	1

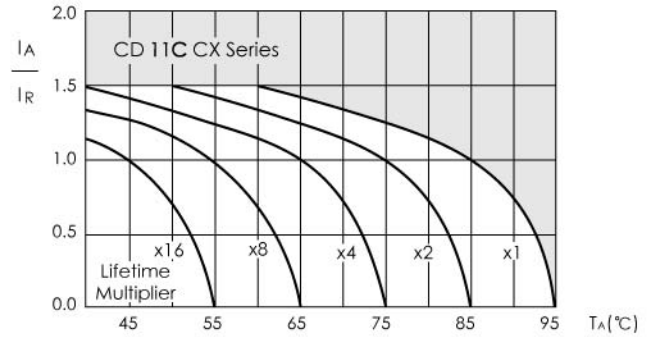
MINIATURE

Ratings for CD 11C CX Series

Ur (Surge Voltage) Code	Rated Capa- citan- ce	Max ESR 20°C, 120Hz	Rated Ripple Current 85°C, 120Hz	Size Φ D x L	P/N
(V)	(μF)	(Ω)	(mArms)	(mm)	-
4 (5) 0G	33	14.1	35	4x7	ECR0GCX330M□□040007
	47	9.9	40	4x7	ECR0GCX470M□□040007
	100	4.6	70	5x7	ECR0GCX101M□□050007
	220	2.1	120	6.3x7	ECR0GCX221M□□063007
	330	1.4	170	8x7	ECR0GCX331M□□080007
6.3 (7.2) 0J	22	14.5	35	4x7	ECR0JCX220M□□040007
	33	9.7	40	4x7	ECR0JCX330M□□040007
	47	6.8	50	4x7	ECR0JCX470M□□040007
	100	3.2	80	5x7	ECR0JCX101M□□050007
	220	1.4	140	6.3x7	ECR0JCX221M□□063007
10 (13) 1A	330	1.0	205	8x7	ECR0JCX331M□□080007
	22	12.1	35	4x7	ECR1ACX220M□□040007
	33	8.0	45	4x7	ECR1ACX330M□□040007
	47	5.6	60	5x7	ECR1ACX470M□□050007
	100	2.7	108	6.3x7	ECR1ACX101M□□063007
16 (20) 1C	220	1.2	185	8x7	ECR1ACX221M□□080007
	10	21.2	35	4x7	ECR1CCX100M□□040007
	22	9.7	40	4x7	ECR1CCX220M□□040007
	33	6.4	55	5x7	ECR1CCX330M□□050007
	47	4.5	70	5x7	ECR1CCX470M□□050007
25 (32) 1E	100	2.1	120	6.3x7	ECR1CCX101M□□063007
	220	1.0	205	8x7	ECR1CCX221M□□080007
	3.3	56.3	15	4x7	ECR1ECX3R3M□□040007
	4.7	39.5	20	4x7	ECR1ECX4R7M□□040007
	10	18.6	30	4x7	ECR1ECX100M□□040007
35 (44) 1V	22	8.4	50	5x7	ECR1ECX220M□□050007
	33	5.6	70	6.3x7	ECR1ECX330M□□063007
	47	4.0	85	6.3x7	ECR1ECX470M□□063007
	100	1.9	145	8x7	ECR1ECX101M□□080007
	3.3	48.3	15	4x7	ECR1VCX3R3M□□040007
50 (63) 1H	4.7	33.9	20	4x7	ECR1VCX4R7M□□040007
	10	15.9	30	4x7	ECR1VCX100M□□040007
	22	7.2	55	5x7	ECR1VCX220M□□050007
	33	4.8	75	6.3x7	ECR1VCX330M□□063007
	47	3.4	110	8x7	ECR1VCX470M□□080007
63 (79) 1J	0.1	1327.0	4	4x7	ECR1HCX0R1M□□040007
	0.22	603.2	5	4x7	ECR1HCXR22M□□040007
	0.33	402.1	7	4x7	ECR1HCXR33M□□040007
	0.47	282.3	8	4x7	ECR1HCXR47M□□040007
	1	132.7	10	4x7	ECR1HCX010M□□040007
	2.2	60.3	15	4x7	ECR1HCX2R2M□□040007
	3.3	40.2	20	4x7	ECR1HCX3R3M□□040007
	4.7	28.2	24	4x7	ECR1HCX4R7M□□040007
	10	13.3	40	5x7	ECR1HCX100M□□050007
	22	6.0	70	6.3x7	ECR1HCX220M□□063007
100 (125) 2A	33	4.0	100	8x7	ECR1HCX330M□□080007
	0.1	1061.6	4	4x7	ECR1JCX0R1M□□040007
	0.22	482.5	6	4x7	ECR1JCXR22M□□040007
	0.33	321.7	7	4x7	ECR1JCXR33M□□040007
	0.47	225.9	8	4x7	ECR1JCXR47M□□040007
	1	106.2	10	4x7	ECR1JCX010M□□040007
	2.2	48.3	15	4x7	ECR1JCX2R2M□□040007
	3.3	32.2	23	4x7	ECR1JCX3R3M□□040007
	4.7	22.6	30	5x7	ECR1JCX4R7M□□050007
	10	10.6	50	6.3x7	ECR1JCX100M□□063007
100 (125) 2A	1	106.2	12	4x7	ECR2ACX010M□□040007
	2.2	48.3	20	5x7	ECR2ACX2R2M□□050007
	3.3	32.2	30	6.3x7	ECR2ACX3R3M□□063007
	4.7	22.6	35	6.3x7	ECR2ACX4R7M□□063007

Customer products are available on request.

Lifetime Diagram



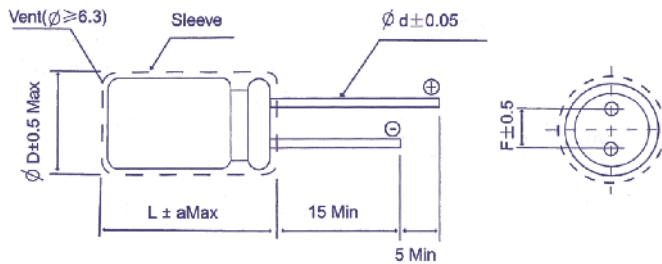
I_a = actual ripple current at 120Hz, I_r = rated ripple current at 120Hz, 85°C
Multiplier of Useful Life as a function of ambient temperature and ripple current load

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

EC	R	1C	PT	101	M	FF	25	0611	JExxxx	
Technology	Terminal Type	Rated Voltage Code	Series Code	Capacitance Code (in μF)	Capacitance Tolerance	Lead Form	Terminal/Pitch Size	Size $\varnothing D \times L$	for Specials only	
EC = Electrolytic Capacitor	SMD = V	2,5V = 0E	CD 110 = PT	0,47 = R47	$\pm 20\%$ = M	SMD:		4x7 = 0407		
	Radial = R	4V = 0G	CD 11GL = GL	1,0 = 010	$\pm 10\%$ = 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				
		250V = 2E	CD 297 = BB			5 Pin = P5				
		315V = 2F	CD 299 = PG			preferred				
		350V = 2V	CD 29D = HR							
		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									
$\varnothing D$	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	15,0	17,5	20,0
$\varnothing d$	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	
I	5,0 ± 0,5	4,5 ± 0,5	4,0 ± 0,5	3,5 ± 0,5	3,0 ± 0,5	

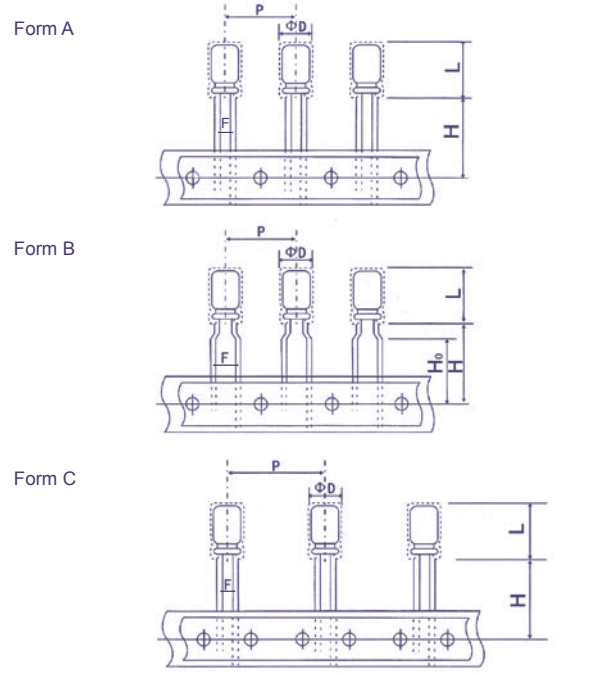
preferred

in mm

Dimensions for Ammopack taping

Order Code: FF (FD)

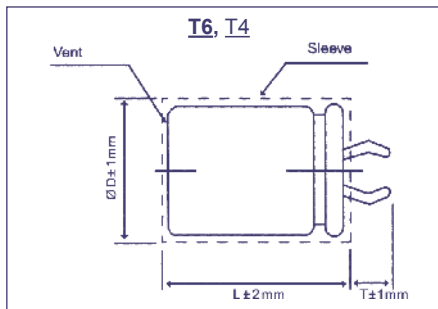
Code	Case Range		Dimensions				Form
	Ø D	L (max)	H ± 0,75	Ho ± 0,5	F ^{+0,8} _{-0,2}	P ± 0,1	
FF	4 ~ 5	13	18,5	-	2,5	12,7	B
	6,3	13	18,5	-	2,5	12,7	A
	8	13	18,5	-	3,5	12,7	
	4 ~ 8	7	17,5	16	5,0	12,7	B
	5 ~ 6,3	13	18,5				
	8	22	20,0				
		10	22	18,5	-	-	15,0
	12,5	27	18,5	-	-	-	C
FD	12,5	27	18,5	-	-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



in mm

Technical Specification Snap-In Type

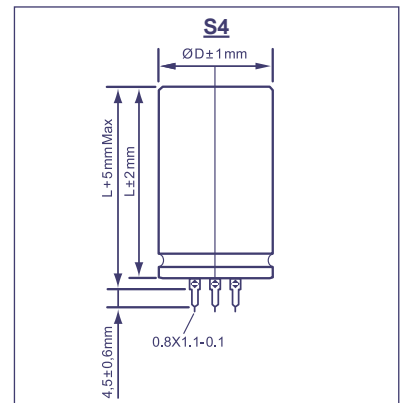
Pin Type: Snap-In Order Code: T6, T4



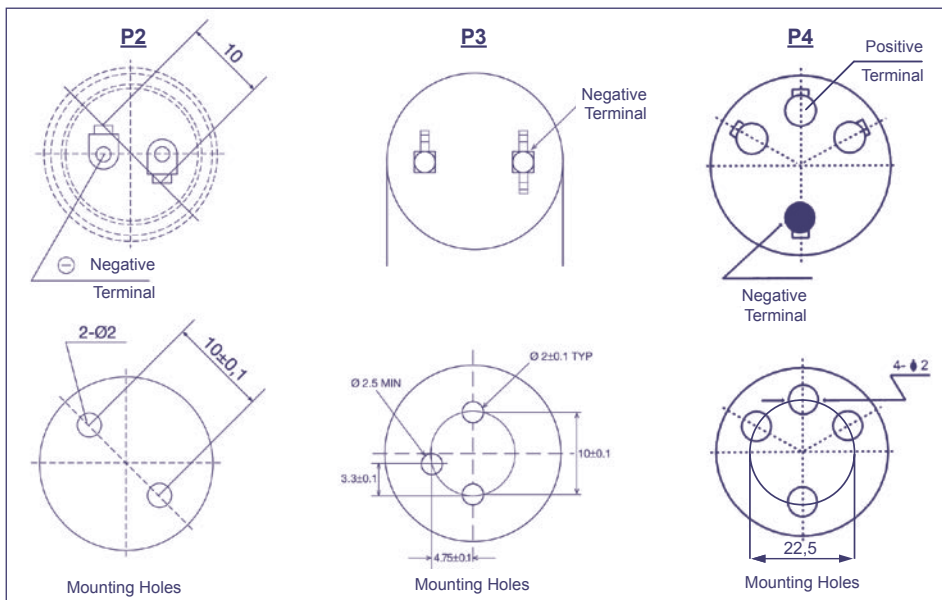
Terminal	T6	T4
Pin Length	6,3	4,0

preferred

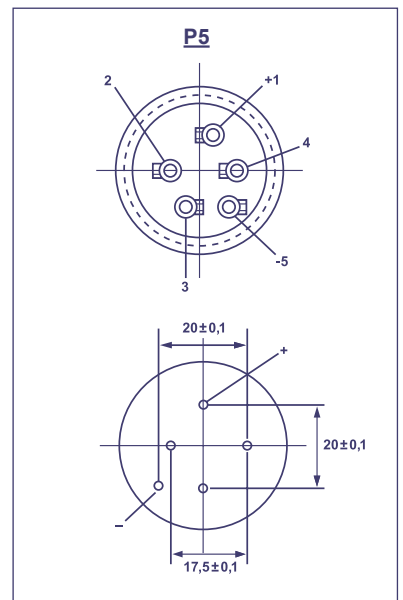
Pin Type: Soldering Order Code: S4



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