

GR (CD110/CD110X)

- 85°C, 2000Hrs
- Used in color-TV, audio sets, air conditioning circuits etc.



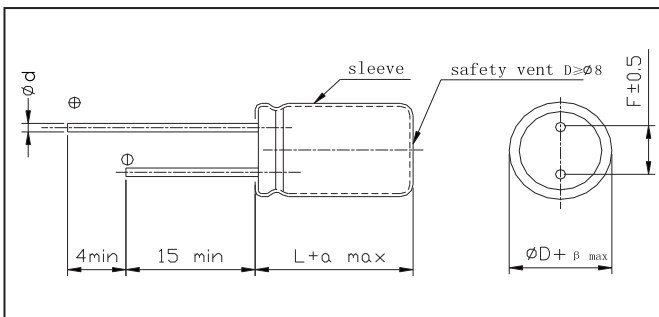
- Adapted to the ROHS directive (2002/95/EC).

Specifications

Item	Performance Characteristics																																		
Operating temperature range	-40 ~ +85°C				-25 ~ +85°C																														
Rated voltage range	6.3 ~ 100V				160 ~ 450V																														
Nominal capacitance range	0.1 ~ 33000 μ F																																		
Capacitance tolerance	± 20% (120Hz, +20°C)																																		
Leakage current	I ≤ 0.01CV (μ A) 3 μ A2 (at 20°C,after 2 minutes) (Whichever greater)				I ≤ 0.03CV (μ A) + 10 μ A 1 (1 minute)																														
Dissipation factor (tg δ) (+20°C, 120Hz)	<table><tr><td>U_R (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>tg δ</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>0.10</td><td>0.08</td></tr></table>								U _R (V)	6.3	10	16	25	35	50	63	100	tg δ	0.24	0.20	0.16	0.14	0.12	0.10	0.10	0.08									
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	tg δ	0.24	0.20	0.16	0.14	0.12	0.10	0.10	0.08																										
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	U _R (V)	160	200	250	400	450																													
tg δ	0.20	0.20	0.20	0.20	0.20																														
For capacitance value >1000 μ F, add 0.02 per another 1000 μ F																																			
Temperature Characteristics (Impedance ratio at 120Hz)	<table><tr><td>U_R (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>Z-25°C/ Z+20°C</td><td>5</td><td>4</td><td>3</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td></tr><tr><td>Z-40°C/ Z+20°C</td><td>10</td><td>8</td><td>6</td><td>5</td><td>3</td><td>3</td><td>3</td><td>3</td></tr></table>								U _R (V)	6.3	10	16	25	35	50	63	100	Z-25°C/ Z+20°C	5	4	3	2	2	2	2	2	Z-40°C/ Z+20°C	10	8	6	5	3	3	3	3
	U _R (V)	6.3	10	16	25	35	50	63	100																										
	Z-25°C/ Z+20°C	5	4	3	2	2	2	2	2																										
	Z-40°C/ Z+20°C	10	8	6	5	3	3	3	3																										
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U _R (V)	160	200	250	400	450																														
Z-25°C/ Z+20°C	3	3	4	6	7																														
For capacitance value > 1000μF , Add 0.5 per another 1000μ F for Z-25°C/ Z+20°C																																			
For capacitance value > 1000μF , Add 1.0 per another 1000μ F for Z-40°C/ Z+20°C																																			
Load life	After applying rated voltage for 2000 hours at +85°C and then resumed 16 hours: Capacitance change : ±20% Initial measured value Leakage current : ≤ Initial specified value Dissipation factor : ≤ 2 times Initial specified value																																		
Shelf life	After storage for 1000 hours at +85°C and then resumed 16 hours Capacitance change : ±20% Initial measured value Leakage current : ≤2 times Initial specified value Dissipation factor : ≤ 2 times Initial specified value																																		

Case size table

Unit: mm



D	5	6	8	10	12	13	16,18,19	22
F	2	2.5	3.5	5.0		7.5		10
d	0.5	0.5-0.6		0.6		0.8		

α MAX	(L < 20) 1.5	β MAX	(D < 20) 0.5
	(L $\geq$ 20) 2.0		(D $\geq$ 20) 1.0

Dimensions

$C_R(\mu F)$	Code	U_R		U_S		6.3V		10V		16V		25V		35V		50V		63V	
						8		13		20		32		44		63		72	
						0J		1A		1C		1E		1V		1H		1J	
0.1	0R1															5x11	1.1		
0.22	R22															5x11	2.3		
0.33	R33															5x11	3.5		
0.47	R47															5x11	5		
1	010															5x11	10		
2.2	2R2															5x11	23		
3.3	3R3											5x11	20	5x11	25	5x11	35		
4.7	4R7									5x11	30	5x11	30	5x11	35	5x11	40		
10	100									5x11	40	5x11	50	5x11	55	5x11	60	5x11	65
22	220							5x11	55	5x11	75	5x11	80	5x11	85	6x11	95	6x11	100
33	330	5x11	55	5x11	80	5x11	80	5x11	80	5x11	95	6x11	95	6x11	105	6x11	120	8x11	140
47	470	5x11	75	5x11	95	5x11	110	5x11	115	5x11	115	6x11	130	6x11	130	6x12	155	8x12	170
100	101	5x11	130	5x11	145	6x11	160	6x11	190	8x11	210	8x12	260	10x13	385	10x16	410	10x20	470
220	221	6x11	200	6x11	230	8x11	260	8x12	330	10x13	385	10x16	470	10x20	520	10x20	520	12x20	710
330	331	6x12	270	8x11	290	8x12	370	10x13	440	10x16	470	10x20	580	13x20	740	13x25	900		
470	471	8x11	320	8x11	350	8x14	440	10x16	520	10x20	580	12x20	830	12x20	1000	13x25	1100	16x30	1300
1000	103	8x16	540	10x13	620	10x16	710	10x20	830	12x20	1000	13x25	1100	16x30	1550	18(19)x30	1700	18(19)x30	2300
2200	222	10x16	900	10x20	970	12x25	1150	16x25	1300	16x30	1550	18(19)x30	1950	18(19)x40	2200	22x40	2700		
3300	332	12x20	1050	12x20	1250	13x25	1400	16x30	1650	18(19)x30	1950	18(19)x40	2200	22x40	2700				
4700	472	12x25	1350	13x25	1500	16x25	1700	16x35	2050	18(19)x35	2400	22x40	2900	22x50	3400				
6800	682	13x25	1600	13x25	1850	16x35	2150	18(19)x35	2550	22x35	3000	22x50	3700						
10000	103	16x25	2000	16x30	2350	18 (19)x35	2700	22x35	3000	22x50	3700								
15000	153	16x35	2550	18 (19)x30	2950	22x35	3400	22x50	3800										
22000	223	18(19)x30	3200	22x35	3700	22x50	4200												
		22x30	2900																
33000	333	22x50	3900																

Dimensions

$C_R(\mu F)$	Code	U_R		U_S		100V		160V		200V		250V		400V		450V	
						125		200		250		300		450		500	
						2A		2C		2D		2E		2G		2W	
0.1	0R1																
0.22	R22																
0.33	R33																
0.47	R47																
1	010	5x11	21	5x11	17	8x11	17	8x11	17	8x11	17	8x12	18	8x12	18		
2.2	2R2	5x11	30	6x11	26	8x11	26	8x11	26	8x11	26	10x13	28	10x13	28		
3.3	3R3	5x11	40	8x11	29	8x11	29	8x12	33	10x13	32	10x16	35				
4.7	4R7	5x11	45	8x11	34	8x12	39	8x12	39	10x16	41	10x20	43				
10	100	6x12	75	8x16	58	10x13	61	10x16	64	13x20	70	13x20	70				
22	220	8x12	130	10x20	95	10x20	99	13x20	110	16x25	120	16x25	120				
33	330	10x13	180	12x20	120	13x20	140	13x20	140	16x30	140	16x35	150				
47	470	10x12	230	12x25	160	13x20	160	13x25	170	16x35	160	18 (19)x40	170				
												22x30	200				
100	101	12x20	370	16x25	240	16x30	250	16x30	250	16x30	250	16x30	350	22x40	350		
220	221	13x25	620	19x30	380	18(19)x35	390	18 (19)x40	430								
								22x30	400								
330	331	16x25	760	18 (19)x40	490	22x40	800	22x50	900								
470	471	16x35	1000	22x40	850	22x50	1100										
1000	102	18 (19)x40	1380														
2200	222	22x50	2400														

Rated ripple current(mA,+85°C,120Hz)