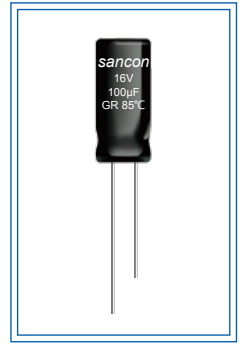


GR(CD110)

Features

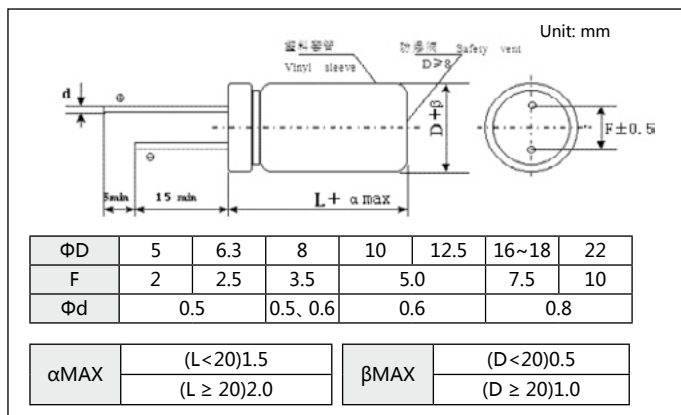
- 85°C , 2000hours.
- Used in color-TV, audio sets, air conditioning circuits, etc.
- RoHS Compliant.



Specifications

Item	Performance Characteristics																																											
Operating Temperature Range	-40~+85°C	-25~+85°C																																										
Rated Voltage Range	6.3~100V	160~450V																																										
Nominal Capacitance Range	0.1~33000µF																																											
Capacitance Tolerance	±20%(+20°C ,120Hz)																																											
Leakage Current	$I \leq 0.01CV$ or $3\mu A$ (at 20°C , after 2minutes , Whichever is greater)	$I \leq 0.03CV(\mu A)+10\mu A$ (1 minute) at 20°C after 1minute with rated working voltage applied																																										
Dissipation Factor ($tg\delta$,+20°C ,120Hz)	<table border="1"> <tr> <th>$U_R(V)$</th> <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><td>160</td><td>200</td><td>250</td><td>400</td><td>420</td><td>450</td> </tr> <tr> <th>$tg\delta$</th> <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><td>0.20</td><td>0.20</td><td>0.20</td><td>0.20</td><td>0.20</td><td>0.20</td> </tr> </table>														$U_R(V)$	6.3	10	16	25	35	50	63	100	160	200	250	400	420	450	$tg\delta$	0.24	0.20	0.16	0.14	0.12	0.10	0.10	0.08	0.20	0.20	0.20	0.20	0.20	0.20
	$U_R(V)$	6.3	10	16	25	35	50	63	100	160	200	250	400	420	450																													
$tg\delta$	0.24	0.20	0.16	0.14	0.12	0.10	0.10	0.08	0.20	0.20	0.20	0.20	0.20	0.20																														
When nominal capacitance exceeds 1000µF, add 0.02 to the value above for each 1000µF increase.																																												
Temperature Characteristics (Impedance ratio at 120Hz)	<table border="1"> <tr> <th>$U_R(V)$</th> <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> <th>Z-25°C /+20°C</th> <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> <th>Z-40°C /+20°C</th> <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 /+20°C	5	4	3	2	2	2	2	2	Z-40°C /+20°C	10	8	6	5	3	3	3	3	When nominal capacitance exceeds 1000µF ,Add 0.5 to the value of Z-25°C /+20°C above for each 1000µF increase.								
	$U_R(V)$	6.3	10	16	25	35	50	63	100																																			
	Z-25°C /+20°C	5	4	3	2	2	2	2	2																																			
Z-40°C /+20°C	10	8	6	5	3	3	3	3																																				
<table border="1"> <tr> <th>$U_R(V)$</th> <td>160</td><td>200</td><td>250</td><td>400</td><td>420</td><td>450</td> </tr> <tr> <th>Z-25°C /+20°C</th> <td>3</td><td>3</td><td>4</td><td>6</td><td>7</td><td>7</td> </tr> </table>						$U_R(V)$	160	200	250	400	420	450	Z-25°C /+20°C	3	3	4	6	7	7	When nominal capacitance exceeds 1000µF,Add 1.0 to the value of Z-40°C /+20°C above for each 1000µF increase.																								
$U_R(V)$	160	200	250	400	420	450																																						
Z-25°C /+20°C	3	3	4	6	7	7																																						
Load Life	After applying rated voltage for 2000 hours at +85°C and then resumed 16 hours: Capacitance change : ±20% of the initial measured value Leakage current : ≤ the initial specified value Dissipation factor: ≤ 200% of the initial specified value																																											
Shelf Life	After storage for 1000 hours at +85°C , and then resumed 16 hours: Capacitance change :±20% of the initial measured value Leakage current : ≤ 200% of the initial specified value Dissipation factor: ≤ 200% of the initial specified value																																											

Diagram of Dimensions



Standard Size

Miniature Mount

V(Code) U _R Cap.(μF) Code		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											5×11	1.1		
0.22	R22											5×11	2.3		
0.33	R33											5×11	3.5		
0.47	R47											5×11	5		
1	010											5×11	10		
2.2	2R2											5×11	23	5×11	25
3.3	3R3							5×11	20	5×11	25	5×11	35		
4.7	4R7					5×11	30	5×11	30	5×11	35	5×11	40		
10	100					5×11	40	5×11	50	5×11	55	5×11	50	5×11	65
22	220			5×11	55	5×11	75	5×11	80	5×11	85	6.3×11	95	6.3×11	100
												5×11	80		
33	330	5×11	55	5×11	80	5×11	80	5×11	95	6.3×11	105	6.3×11	120	8×11.5	140
47	470	5×11	75	5×11	95	5×11	110	5×11	115	6.3×11	130	6.3×11	155	8×11.5	170
100	101	5×11	130	5×11	145	6.3×11	160	6.3×11	190	8×11.5	210	8×11.5	280	10×12.5	300
						5×11	130								
120	121							6.3×11	130						
220	221	6.3×11	200	6.3×11	230	8×11.5	260	8×11.5	330	10×12.5	385	10×16	410	10×20	470
330	331	6.3×11	270	8×11.5	290	8×11.5	370	10×12.5	440	10×16	470	10×20	520	12.5×20	710
470	471	8×11.5	320	8×11.5	350	8×14	440	10×16	520	10×20	580	12.5×20	740	12.5×25	900
						8×11.5	316								
680	681			8×11.5	420			10×16	540	10×20	620				
1000	102	8×16	540	10×13	620	10×16	710	10×20	830	12.5×20	1000	12.5×25	1100	16×30	1300
		10×12.5	540							10×20	880				
1500	152	10×12.5	780												
2200	222	10×16	900	10×20	970	12.5×25	1150	16×25	1300	16×30	1550	18×30	1700	18×40	2300
						12.5×20	1050								
3300	332	12.5×20	1050	12.5×20	1250	12.5×25	1400	16×30	1650	18×30	1950	18×40	2200	22×40	2700
		10×20	980												
4700	472	12.5×25	1350	12.5×25	1500	16×25	1700	16×35	2050	18×35	2400	22×40	2900	22×50	3400
6800	682	12.5×25	1600	12.5×25	1850	16×35	2150	18×35	2550	22×35	3000	22×50	3400		
10000	103	16×25	2000	16×30	2350	18×35	2700	22×35	3000	22×50	3700				
15000	153	16×35	2550	18×30	2950	22×35	3400	22×50	3800						
22000	223	18×40	3200	22×35	3700	22×50	4200								
		22×30	2900												
33000	333	22×50	3900												

V(Code) U _R Cap.(μF) Code		100V		160V		200V		250V		400V		450V	
		125		13		250		300		450		500	
		2A		2C		2D		2E		2G		2W	
0.1	0R1												
0.22	R22												
0.33	R33												
0.47	R47												
1	010	5×11	21	5×11	17	8×11.5	17	8×11.5	17	8×11.5	18	8×11.5	18
2.2	2R2	5×11	30	6.3×11	26	8×11.5	26	8×11.5	26	8×11.5	34	10×12.5	40
3.3	3R3	5×11	40	8×11.5	40	8×11.5	29	8×11.5	33	8×11.5	41	10×16	54
4.7	4R7	5×11	45	8×11.5	48	8×11.5	39	8×11.5	39	10×12.5	58	10×16	64
10	100	6.3×11	75	10×12.5	71	10×12.5	90	10×16	100	10×16	94	10×20	100
22	220	8×11.5	130	10×16	117	10×16	140	10×20	150	12.5×20	173	16×25	200
33	330	10×12.5	180	10×20	212	10×20	190	12.5×20	210	16×25	250	16×30	260
47	470	10×12.5	230	12.5×25	150	12.5×20	260	12.5×25	250	16×30	340	16×35	340
												18×30	340
100	101	12.5×20	370	16×25	396	16×25	470	16×30	460	18×35	580	22×40	480
220	221	12.5×25	620	16×30	636	16×35	727	18×40	740				
330	331	16×25	760	18×40	945	18×35	900	22×40	1020				
470	471	16×35	1000	22×40	1180	22×40	1100						
1000	102	18×40	1380										
1800	182	22×40	1540										
2200	222	22×50	2400										

Rated ripple current(mA, +85°C, 120Hz)