



RGA Series

Features

- 105°C, 2,000 hours assured
- 105°C standard series for general purposes
- RoHS Compliance
- If there is any requirement on ESR, it's suggested to use low ESR series instead of RGA. Please consult us for any inquiry.



Sleeve & Marking Color: Black & White

Specifications

Items	Performance																																																																																				
Category Temperature Range	6.3~400V										450V																																																																										
	-40℃ ~ +105℃										-25℃ ~ +105℃																																																																										
Capacitance Tolerance	±20% (at 120Hz, 20℃)																																																																																				
Leakage Current (at 20℃)	Rated voltage		≤ 100V					> 100V																																																																													
	Time		after 2 minutes					after 5 minutes																																																																													
	Leakage Current		I = 0.01CV or 3 (μA) whichever is greater					CV ≤ 1,000 I = 0.03CV + 15(μA)				CV > 1,000 I = 0.02CV + 25(μA)																																																																									
	Where, C = rated capacitance in μF V = rated DC working voltage in V																																																																																				
Tanδ (at 120 Hz, 20℃)	<table><tr><td>Rated Voltage</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><td>160</td><td>200</td><td>250</td><td>350</td><td>400</td><td>450</td></tr><tr><td>Tanδ (max)</td><td>0.23</td><td>0.20</td><td>0.16</td><td>0.14</td><td>0.12</td><td>0.10</td><td>0.09</td><td>0.08</td><td>0.12</td><td>0.14</td><td>0.17</td><td>0.20</td><td>0.25</td><td>0.25</td></tr></table> When the capacitance exceeds 1,000μF, 0.02 shall be added every 1,000μF increase.															Rated Voltage	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	Tanδ (max)	0.23	0.20	0.16	0.14	0.12	0.10	0.09	0.08	0.12	0.14	0.17	0.20	0.25	0.25																																								
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Low Temperature Characteristics (at 120Hz)	Impedance ratio shall not exceed the values given in the table below. <table><tr><td colspan="3">Rated Voltage</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><td>160</td><td>200</td><td>250</td><td>350</td><td>400</td><td>450</td></tr><tr><td rowspan="4">Impedance Ratio</td><td>Z(-25℃)</td><td>φ D < 16</td><td>4</td><td>3</td><td>3</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td rowspan="2">3</td><td rowspan="2">6</td><td rowspan="2">8</td><td rowspan="2">12</td><td rowspan="2">14</td><td rowspan="2">16</td></tr><tr><td>/Z(+20℃)</td><td>φ D ≥ 16</td><td>6</td><td>4</td><td>4</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td></tr><tr><td>Z(-40℃)</td><td>φ D < 16</td><td>8</td><td>6</td><td>6</td><td>4</td><td>4</td><td>3</td><td>3</td><td>3</td><td rowspan="2">4</td><td rowspan="2">8</td><td rowspan="2">10</td><td rowspan="2">16</td><td rowspan="2">18</td><td rowspan="2">-</td></tr><tr><td>/Z(+20℃)</td><td>φ D ≥ 16</td><td>12</td><td>10</td><td>8</td><td>8</td><td>8</td><td>8</td><td>6</td><td>6</td></tr></table>															Rated Voltage			6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	Impedance Ratio	Z(-25℃)	φ D < 16	4	3	3	2	2	2	2	2	3	6	8	12	14	16	/Z(+20℃)	φ D ≥ 16	6	4	4	3	3	3	3	3	Z(-40℃)	φ D < 16	8	6	6	4	4	3	3	3	4	8	10	16	18	-	/Z(+20℃)	φ D ≥ 16	12	10	8	8	8	8	6	6
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	Z(-40℃)	φ D < 16	8	6	6	4	4	3	3	3	4	8	10	16	18	-																																																																					
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Endurance	<table><tr><td>Test Time</td><td>2,000 Hrs</td></tr><tr><td>Capacitance Change</td><td>Within ±20% of initial value</td></tr><tr><td>Tanδ</td><td>Less than 200% of specified value</td></tr><tr><td>Leakage Current</td><td>Within specified value</td></tr></table> * The above Specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied with rated ripple current for 2,000 hours at 105℃.															Test Time	2,000 Hrs	Capacitance Change	Within ±20% of initial value	Tanδ	Less than 200% of specified value	Leakage Current	Within specified value																																																														
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Shelf Life Test	<table><tr><td>Test Time</td><td>1,000 Hrs</td></tr><tr><td>Capacitance Change</td><td>With in ±20% of initial value</td></tr><tr><td>Tanδ</td><td>Less than 200% of specified value</td></tr><tr><td>Leakage Current</td><td>Within specified value</td></tr></table> * The above Specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours at 105℃ without voltage applied. The rated voltage shall be applied to the capacitors before the measurements for 160 ~ 450V (Refer to JIS C 5101-4 4.1).															Test Time	1,000 Hrs	Capacitance Change	With in ±20% of initial value	Tanδ	Less than 200% of specified value	Leakage Current	Within specified value																																																														
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Ripple Current & Frequency Multipliers	<table><tr><td colspan="2">Freq. (Hz)</td><td>60 (50)</td><td>120</td><td>500</td><td>1k</td><td>10k up</td></tr><tr><td>Cap. (μF)</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td colspan="2">Under 100</td><td>0.70</td><td>1.00</td><td>1.30</td><td>1.40</td><td>1.50</td></tr><tr><td colspan="2">100 < C ≤ 1,000</td><td>0.75</td><td>1.00</td><td>1.20</td><td>1.30</td><td>1.35</td></tr><tr><td colspan="2">1,000 up above</td><td>0.80</td><td>1.00</td><td>1.10</td><td>1.12</td><td>1.15</td></tr></table>															Freq. (Hz)		60 (50)	120	500	1k	10k up	Cap. (μF)							Under 100		0.70	1.00	1.30	1.40	1.50	100 < C ≤ 1,000		0.75	1.00	1.20	1.30	1.35	1,000 up above		0.80	1.00	1.10	1.12	1.15																																			
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Diagram of Dimensions

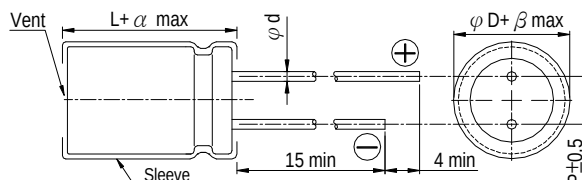


Lead Spacing and Diameter

Unit: mm

ϕD	5	6.3	8	10	12.5	16	18	22	25
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10	12.5
ϕd	0.5		0.6			0.8		1.0	
α	L<20: 1.5, L $\geq$ 20: 2.0							2.0	
β	0.5								

The case size of 12.5×16, 16×16, 16×20, 18×16, 18×20 and 18×25 are suitable for below diagram:





Dimension: $\phi D \times L(\text{mm})$

Ripple Current: mA/rms at 120 Hz, 105°C

Dimension & Permissible Ripple Current

V. DC		6.3V (0J)		10V (1A)		16V (1C)		25V (1E)		35V (1V)		50V (1H)		63V (1J)		100V (2A)	
μF	Contents	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA
2.2	2R2											5×11	20			5×11	30
3.3	3R3											5×11	30			5×11	31
4.7	4R7											5×11	33			5×11	36
10	100											5×11	50			6.3×11	54
22	220											5×11	78	6.3×11	86	6.3×11	93
33	330									5×11	75	5×11	90	6.3×11	100	8×11.5	130
47	470							5×11	97	5×11	90	6.3×11	120	6.3×11	130	10×12.5	165
100	101					5×11	110	6.3×11	142	6.3×11	150	8×11.5	188	10×12.5	235	10×20	265
220	221	5×11	140	6.3×11	175	6.3×11	190	8×11.5	236	8×11.5	270	10×12.5	300	10×16	335	12.5×25	440
330	331			6.3×11	200	8×11.5	270	8×11.5	310	10×12.5	350	10×16	410	10×20	510	16×25	620
470	471	6.3×11	230	8×11.5	290	8×11.5	310	10×12.5	380	10×16	460	10×20	530	12.5×20	640	16×31.5	715
1,000	102	8×11.5	380	10×12.5	460	10×16	560	10×20	680	12.5×20	810	12.5×25	950	16×25	930	18×40	1,275
2,200	222	10×16	690	10×20	760	12.5×16	780	12.5×25	1,110	16×25	1,260	16×35.5	1,470	18×40	2,280	25×45	2,400
3,300	332	10×20	840	12.5×20	1,100	12.5×25	1,170	16×25	1,440	16×31.5	1,420	18×35.5	1,770	22×40	2,510		
4,700	472	12.5×20	1,090	12.5×25	1,260	16×20	1,185	16×31.5	1,650	18×35.5	1,900	22×40	2,340	25×40	3,000		
6,800	682	16×16	1,010	16×16	1,060	18×16	1,290	18×25	1,550								
10,000	103	12.5×25	1,460	16×20	1,270	16×31.5	1,930	16×40	2,000	18×40	2,250	25×40	2,530				
15,000	153	16×20	1,190	16×20	1,270	18×20	1,585	18×35.5	2,160								
22,000	223	16×31.5	2,365	18×25	2,220	16×35.5	2,210	22×40	2,720								
33,000	333	18×25	2,290	16×35.5	2,590	18×31.5	2,330	18×45	2,410								

V. DC		160V (2C)		200V (2D)		250V (2E)		350V (2V)		400V (2G)		450V (2W)	
μF	Contents	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA
1	010									6.3×11	21	8×11.5	27
2.2	2R2			6.3×11	30	6.3×11	35	6.3×11	35	8×11.5	39	8×11.5	39
3.3	3R3			6.3×11	39	6.3×11	40	8×11.5	43	8×11.5	45	8×11.5	45
4.7	4R7			6.3×11	43	8×11.5	45	8×11.5	45	8×11.5	50	8×11.5	50
10	100	8×11.5	65	8×11.5	65	10×12.5	92	10×16	95	10×16	95	10×20	105
22	220	10×12.5	110	10×16	140	10×16	140	12.5×20	220	12.5×20	160	12.5×20	160
33	330	10×16	150	10×20	170	12.5×16	175	12.5×25	215	16×20	225	16×20	225
47	470	10×20	195	12.5×16	215	12.5×20	230	16×16	205	16×25	295	18×16	220
68	680	12.5×20	275	12.5×20	265	16×20	320	18×25	360	18×25	360	16×25	280
100	101	12.5×25	355	16×20	365	16×25	425	16×31.5	460	16×31.5	375	16×35.5	400
150	151	16×25	470	18×16	360	18×20	415	16×35.5	430	18×35.5	540	18×31.5	420
220	221	16×31.5	660	18×20	510	16×31.5	550	18×40	600	22×40	730	22×40	770
330	331	18×25	290	16×20	290	16×20	320	18×25	370	16×31.5	375	16×35.5	400
470	330	22×40	1,130	22×40	1,130	25×40	1,325	25×45	1,070				

Part Numbering System

RGA series	470 μF	±20%	6.3V	Bulk Package	Gas Type	6.3 $\phi \times 11\text{L}$	Pb-free and PET coating case
RGA	471	M	0J	BK	-	0611	
Series	Capacitance	Capacitance Tolerance	Rated Voltage	Lead Configuration & Package	Rubber Type	Case Size	Lead Wire and Coating Type

Note: For more details, please refer to "Part Numbering System (Radial Type)" on page 10.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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Факс: 8 (812) 320-02-42

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