



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
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																															
Low Temperature Characteristics (at 120Hz)	Impedance ratio shall not exceed the values given in the table below.																																												
	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																																			
Endurance	Test Time		2,000 Hrs																																										
	Capacitance Change		Within ±20% of initial value																																										
	Tanδ		Less than 200% of specified value																																										
	Leakage Current		Within specified value																																										
	* 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℃.																																												
Shelf Life Test	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																																										
	* 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).																																												
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 rowspan="4">Cap. (μF)</td><td>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>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>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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Cap. (μF)	Under 100	0.70	1.00	1.30	1.40	1.50																																							
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	1,000 up above	0.80	1.00	1.10	1.12	1.15																																							

Diagram of Dimensions

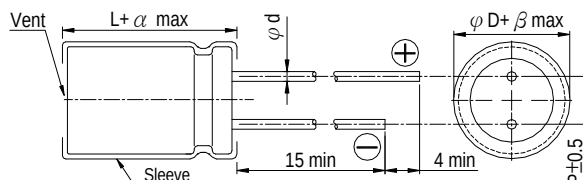


Lead Spacing and Diameter

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

μF	Contents	V. DC		6.3V (0J)		10V (1A)		16V (1C)		25V (1E)		35V (1V)		50V (1H)		63V (1J)		100V (2A)	
		$\phi D \times L$	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	$\phi D \times L$	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	12.5×16	290
330	331			6.3×11	200	8×11.5	270	8×11.5	310	10×12.5	335	10×16	410	10×20	510	16×25	620	16×16	420
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	12.5×16	425
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	16×20	830
2,200	222	10×16	690	10×20	760	12.5×16	780	12.5×25	1,110	16×25	1,260	16×31.5	1,420	18×35.5	1,770	22×40	2,510	18×25	1,110
3,300	332	10×20	840	12.5×25	1,100	12.5×16	940	16×25	1,440	16×31.5	1,420	18×25	1,570	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	18×35.5	1,900	22×40	2,340	25×40	3,000				
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	2,290	16×35.5	2,210	22×40	2,720										
33,000	333	18×25	2,900	18×35.5	2,930	18×40	3,230	22×40	3,460										
		18×45	3,080	22×40	4,090	25×45	4,500												

μF	Contents	V. DC		160V (2C)		200V (2D)		250V (2E)		350V (2V)		400V (2G)		450V (2W)	
		$\phi D \times L$	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
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	245	16×20	255	16×25	280		
68	680	12.5×20	275	12.5×20	265	16×16	290	16×20	320	18×25	360	18×25	360		
100	101	12.5×25	355	16×20	365	16×25	425	18×31.5	460	16×31.5	370	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	18×40	560		
220	221	16×31.5	660	18×20	510	16×31.5	550	18×40	600	22×40	730	22×40	770		
330	331	18×35.5	820	18×35.5	750	18×35.5	760	25×40	865	22×45	930				
470	330	22×40	1,130	22×40	965	22×40	1,140	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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