



FEATURES

- Long life, 105°C, 2,000 hours assured.
- Smaller size with large permissible ripple current
- Slim Type

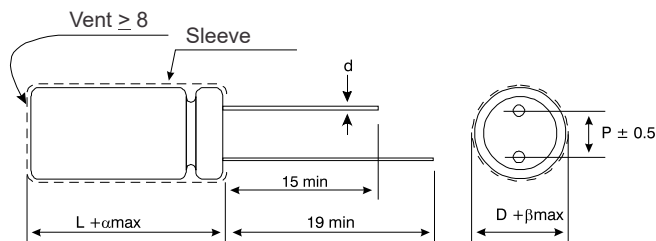
SPECIFICATIONS

Items	Performance						
Life	at 105 °C 2000 Hours						
Operating Temp.	400V			420 ~ 450V			
	-40 °C ~ +105 °C			-25 °C ~ +105 °C			
Capacitance Tolerance	±20% (at 120Hz, 20 °C)						
Leakage Current (at 20 °C)	Time	after 5 minutes					
	Leakage Current	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.						
Dissipation Factor (Tan δ at 120Hz, 20°C)	Rated Voltage	400	420	450			
	Tan δ (max)	0.24	0.24	0.24			
Low Temperature Characteristics (at 120Hz)	Impedance ratio shall not exceed the values given in the table below.						
	Rated Voltage			400	420	450	
	Impedance Ratio	Z (-25°C) / Z (+20 °C)		5	6	6	
		Z (-40°C) / Z (+20°C)		6	--	--	
Load Life Test	Test Time		2,000 hrs				
	Capacitance Change		Within ± 20% of initial value				
	Dissipation Factor		Less than 200% of specified value				
	Leakage Current		Within specified value				
	* The above specifications shall be satisfied when the capacitors are restored to 20 °C after the rated voltage applied with rated ripple current for 2,000 hrs at 105 °C.						
Shelf Life Test	Test Time		1,000 hours				
	Capacitance Change		Within ± 20% of initial value				
	Dissipation Factor		Less than 200% of specified value				
	Leakage Current		Within specified value				
	* The above specifications shall be satisfied when the capacitors are restored to 20 °C after exposing them for 1,000 hrs at 105 °C without voltage applied. The rated voltage shall be applied to the capacitors before the measurements. (Refer to JIS C 5101-4 4.1).						
Ripple Current & Frequency Multipliers	Freq. (Hz)	60	120	500	1k	10k up	
	Multipliers	0.80	1.00	1.25	1.45	1.50	
Other Standards	JIS C 5101-4						

LEAD SPACING AND DIAMETER SPECIFICATIONS

Unit: mm

D	8	10	12.5	16	18
P	3.5	5.0	5.0	7.5	7.5
d	0.6			0.8	
α	2.0				
β	0.5				



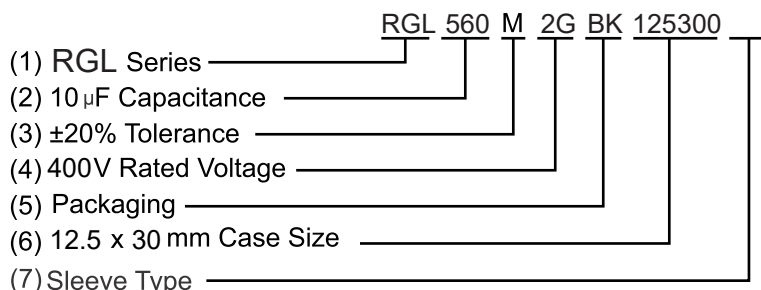
■ DIMENSIONS AND PERMISSIBLE RIPPLE CURRENT

Dimension: D×L(mm)

Ripple Current: mA/rms at 100K Hz 105°C

V. DC	Cap. (μF)	8			10			12.5			16			18		
		D x L	Ripple Current		D x L	Ripple Current		D x L	Ripple Current		D x L	Ripple Current		D x L	Ripple Current	
			120 Hz	100k Hz		120 Hz	100k Hz		120 Hz	100k Hz		120 Hz	100k Hz		120 Hz	100k Hz
400V (2G)	15	8 x 30	190	285												
	22	8 x 35	250	375												
	27	8 x 40	300	450	10 x 30	245	370									
	33	8 x 45	350	525	10 x 35	295	445									
	39	8 x 50	390	585	10 x 40	345	515									
	47				10 x 45	400	600									
	56				10 x 50	450	675	12.5 x 30	470	705						
	68							12.5 x 35	540	810						
	82							12.5 x 40	620	930						
	100															
	120										16 x 35.5	800	1,200			
											16 x 40	840	1,260			
	150										16 x 45	940	1,410			
420V (2P)	180										16 x 50	1050	1,575	18 x 40	1,060	1,590
	220													18 x 45	1,200	1,800
	15	8 x 30	195	293												
	22	8 x 35	255	383												
	27	8 x 45	320	480	10 x 30	245	370									
	33	8 x 50	370	555	10 x 35	295	445									
	39				10 x 40	345	515									
	47				10 x 45	400	600									
	56				10 x 50	450	675	12.5 x 30	470	705						
	68							12.5 x 35	540	810						
	82							12.5 x 45	630	945						
	100							12.5 x 50	730	1,095	16 x 35.5	730	1,095			
	120										16 x 40	840	1,260			
450V (2W)	150										16 x 45	940	1,410	18 x 35.5	920	1,380
	180										16 x 50	1,050	1,575	18 x 40	1,060	1,590
	220													18 x 50	1,220	1,830
	15	8 x 30	195	293												
	22	8 x 40	270	405	10 x 30	225	330									
	27	8 x 45	320	480	10 x 35	265	400									
	33	8 x 50	370	555	10 x 40	315	475									
	39				10 x 45	360	545									
	47				10 x 50	420	625	12.5 x 30	430	645						
	56							12.5 x 35	490	735						
	68							12.5 x 40	560	840						
	82							12.5 x 45	630	945						
	100							12.5 x 50	730	1,095	16 x 35.5	730	1,095			
	120										16 x 45	840	1,260	18 x 35.5	820	1,230
	150										16 x 50	980	1,470	18 x 40	970	1,455
	180													18 x 45	995	1,490
														18 x 45	1,090	1,635
														18 x 50	1,140	1,710

■ HOW TO MAKE A PART NUMBER



1. Series: RGL

2. Capacitance: Rated capacitance in μ F is represented by a three digit number. The first two digits are the significant figures of the nominal capacitance and the third digit indicates the number of zeros following these figures. The decimal point is represented by the capital letter R. Please refer to the following example.

μ F	0.1	0.47	1	4.7	10	47	100	470	1000	4700	10000
Part Number	0R1	R47	010	4R7	100	470	101	471	102	472	103

3. Tolerance: (20% IS Typical)

Code	K	M	T	W
Tolerance	$\pm 10\%$	$\pm 20\%$	$\pm 50\% / -10\%$	$\pm 100\% / -10\%$

4. Rated Voltage: Voltage in volts (V) is represented by a two digit code showing the rated working voltage indicated as follows:

Voltage (WV)	6.3	10	16	25	35	40	50	63	80	100	160	200	250	350	400	450
Code	0J	1A	1C	1E	1V	1G	1H	1J	1K	2A	2C	2D	2E	2V	2G	2W

5. Lead Forming & Package

Code	Lead Description	Packaging
BC	Bending Cut	Bulk Packing
BK	Straight Lead	Bulk Packing
CC	Lead Cutting	Bulk Packing
FC	Lead Forming & Cutting	Bulk Packing
SD	Cathode Lead Beading	Bulk Packing
SA	Straight Lead	Tape & Ammo
TA	Lead Forming	Tape & Ammo
SR	Straight Lead	Tape & Reel
TR	Lead Forming	Tape & Reel

6. Can Size

Diameter (mm)x10 & Length (mm)x10. Can Size 063110, represents 6.3mm diameter by 11mm length.

7. Sleeve Type* = (Omit) PVC Sleeve

P = PET Sleeve

*Note: All standard RFE Aluminum Electrolytic Capacitors are Lead (Pb) free and RoHS compliant. PET sleeve is available for those companies that also require PVC free product.

LEADED TAPING & PACKAGING SPECIFICATIONS Taping Specification for Radial Lead Type

Fig. 1

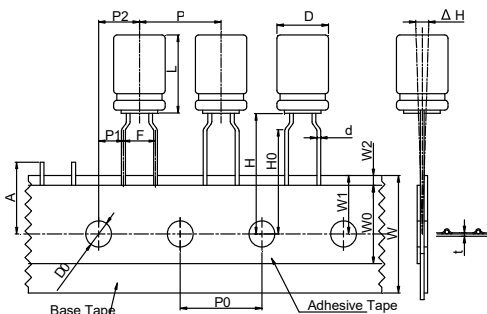


Fig. 2

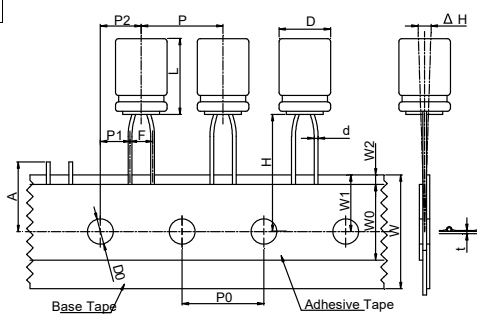


Fig. 3

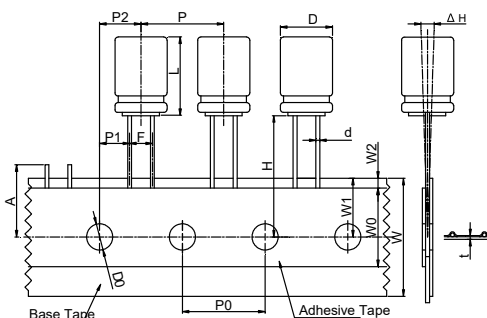
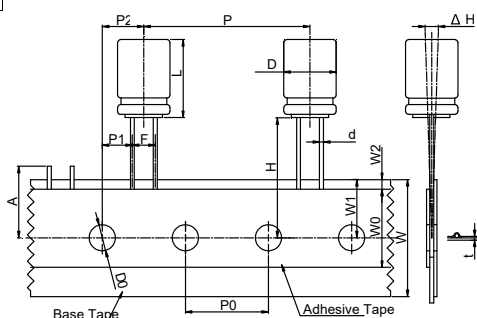


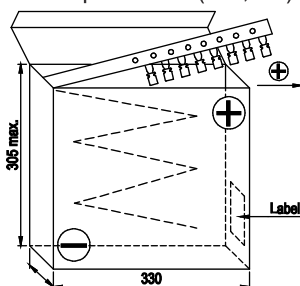
Fig. 4



Packing	TA, TR (Fig. 1)								SA, SR (Fig. 2, 3, 4)											
L	L ≤ 7mm					L ≥ 7mm			L ≤ 7mm					L ≥ 7mm						
D	3	4	5	6.3	8	5	6.3	8	3	4	5	6.3	8	5	6.3	8	Tol.	10	13	Tol.
Symbol	d	0.4	0.45	0.5	0.5	0.5	0.5	0.6	0.4	0.45	0.45	0.45	0.45	0.5	0.5	0.6	± 0.05	0.6	0.6	± 0.05
F	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.5	2.5	2.5	2.5	3.5	2.5	2.5	3.5	-0.2/+0.8	5.0	5.0	-0.2/+0.8
P	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	± 1.0	12.7	25.4	± 1.0
P0	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	± 0.2	12.7	12.7	± 0.30
P2	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	± 1.0	6.35	6.35	± 1.3
P1	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	5.1	5.1	5.1	5.1	4.6	5.1	5.1	4.6	± 0.5	3.85	3.85	± 0.7
H	17.5	17.5	17.5	17.5	17.5	18.5	18.5	20.0	17.5	17.5	17.5	17.5	17.5	18.5	18.5	18.5	± 0.75	18.5	18.5	± 0.75
H0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	--	--	--	--	--	--	--	--	± 0.5	--	--	± 0.5
W	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	± 0.5	18.0	18.0	± 0.5
W0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	Min	12.0	12.0	Min.
W1	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	± 0.5	9.0	9.0	± 0.5
W2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	Max.	1.5	1.5	Max.
D0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	± 0.2	4.0	4.0	± 0.2
t	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	± 0.2	0.7	0.7	± 0.2
Δ H	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	± 1.0	0	0	± 1.0
ε	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	Max.	1.0	1.0	Max.
A	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	Max.	11	11	Max.
Fig. No.	1	1	1	1	1	1	1	1	2	2	2	3	3	2	3	3		3	3,4	

Ammo pack box.(SA,TA)
10 Boxes per carton

Reel pack box.(SR,TR)



Packaging Quantity

D	3	4	5	6.3	8	10	13
TA, SA	3000	2000	2000	2000	1000	500	250
TR, SR	3000	1500	1200	1000	800	500	500

NOTES:

- The above quantities are typical. Quantities may vary.
- The component will be oriented on the tape so that the positive lead is leading or the negative lead is leading, depending on the customer's request

■ RADIAL FORMING

Lead Forming & Cutting Specifications for Radial Type (Unit: mm)

Forming Method	Code	Shape	Dimensions																																																																																
Forming Cut (4 ~ 8)	FC		<table><tr><th>D x L</th><th>d</th><th>F</th><th>F'</th><th>H</th></tr><tr><td>3 x 5</td><td>0.40</td><td>1.0</td><td>5.0</td><td>5.0</td></tr><tr><td>4 x 5</td><td>0.45</td><td>1.5</td><td>5.0</td><td>5.0</td></tr><tr><td>5 x 5</td><td>0.45</td><td>2.0</td><td>5.0</td><td>5.0</td></tr><tr><td>6.3 ~ 8 x 5</td><td>0.45</td><td>2.5</td><td>5.0</td><td>5.0</td></tr><tr><td>4 x 7</td><td>0.45</td><td>1.5</td><td>5.0</td><td>5.0</td></tr><tr><td>5 x 7 ~ 11</td><td>0.5</td><td>2.0</td><td>5.0</td><td>5.0</td></tr><tr><td>6 x 7 ~ 15</td><td>0.5</td><td>2.5</td><td>5.0</td><td>5.0</td></tr><tr><td>8 x 7 ~ 9</td><td>0.5</td><td>3.5</td><td>5.0</td><td>5.0</td></tr><tr><td>8 x 11.5 ~ 20</td><td>0.6</td><td>3.5</td><td>5.0</td><td>5.0</td></tr><tr><td>10</td><td>0.6</td><td>5.0</td><td>-</td><td>4.5</td></tr><tr><td>12.5</td><td>0.6</td><td>5.0</td><td>-</td><td>4.5</td></tr><tr><td>16</td><td>0.8</td><td>7.5</td><td>-</td><td>4.5</td></tr><tr><td>18</td><td>0.8</td><td>7.5</td><td>-</td><td>4.5</td></tr><tr><td>22</td><td>1.0</td><td>10.0</td><td>-</td><td>4.5</td></tr><tr><td>25</td><td>1.0</td><td>12.5</td><td>-</td><td>4.5</td></tr></table>	D x L	d	F	F'	H	3 x 5	0.40	1.0	5.0	5.0	4 x 5	0.45	1.5	5.0	5.0	5 x 5	0.45	2.0	5.0	5.0	6.3 ~ 8 x 5	0.45	2.5	5.0	5.0	4 x 7	0.45	1.5	5.0	5.0	5 x 7 ~ 11	0.5	2.0	5.0	5.0	6 x 7 ~ 15	0.5	2.5	5.0	5.0	8 x 7 ~ 9	0.5	3.5	5.0	5.0	8 x 11.5 ~ 20	0.6	3.5	5.0	5.0	10	0.6	5.0	-	4.5	12.5	0.6	5.0	-	4.5	16	0.8	7.5	-	4.5	18	0.8	7.5	-	4.5	22	1.0	10.0	-	4.5	25	1.0	12.5	-	4.5
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Bending Cut (5 ~ 25)	BC		<table><tr><th>D x L</th><th>d</th><th>F±0.5</th></tr><tr><td>5 X 11</td><td>0.5</td><td>2.0</td></tr><tr><td>6.3 X 11 ~ 15</td><td>0.5</td><td>2.5</td></tr><tr><td>8 X 11.5 ~ 20</td><td>0.6</td><td>3.5</td></tr><tr><td>10</td><td>0.6</td><td>5.0</td></tr><tr><td>12.5</td><td>0.6</td><td>5.0</td></tr><tr><td>16</td><td>0.8</td><td>7.5</td></tr><tr><td>18</td><td>0.8</td><td>7.5</td></tr><tr><td>22</td><td>1.0</td><td>10.0</td></tr><tr><td>25</td><td>1.0</td><td>12.5</td></tr></table>	D x L	d	F±0.5	5 X 11	0.5	2.0	6.3 X 11 ~ 15	0.5	2.5	8 X 11.5 ~ 20	0.6	3.5	10	0.6	5.0	12.5	0.6	5.0	16	0.8	7.5	18	0.8	7.5	22	1.0	10.0	25	1.0	12.5																																																		
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