

### FEATURES

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

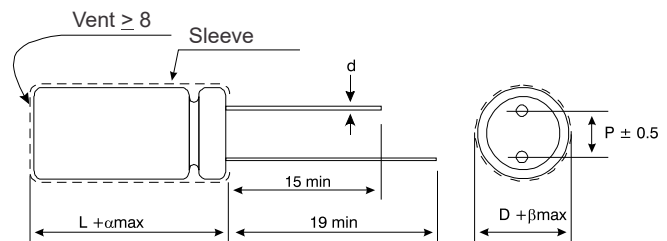
### SPECIFICATIONS

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

	8	10	12.5	16	18
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				

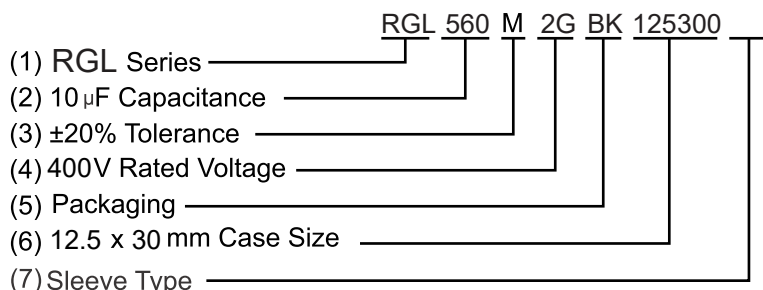


### ■ DIMENSIONS AND PERMISSIBLE RIPPLE CURRENT

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				
180										16 x 50	1050	1,575	18 x 40	1,060	1,590		
220													18 x 45	1,200	1,800		
420V (2P)	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				
	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		
450V (2W)	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  $\mu\text{F}$  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.

$\mu\text{F}$	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

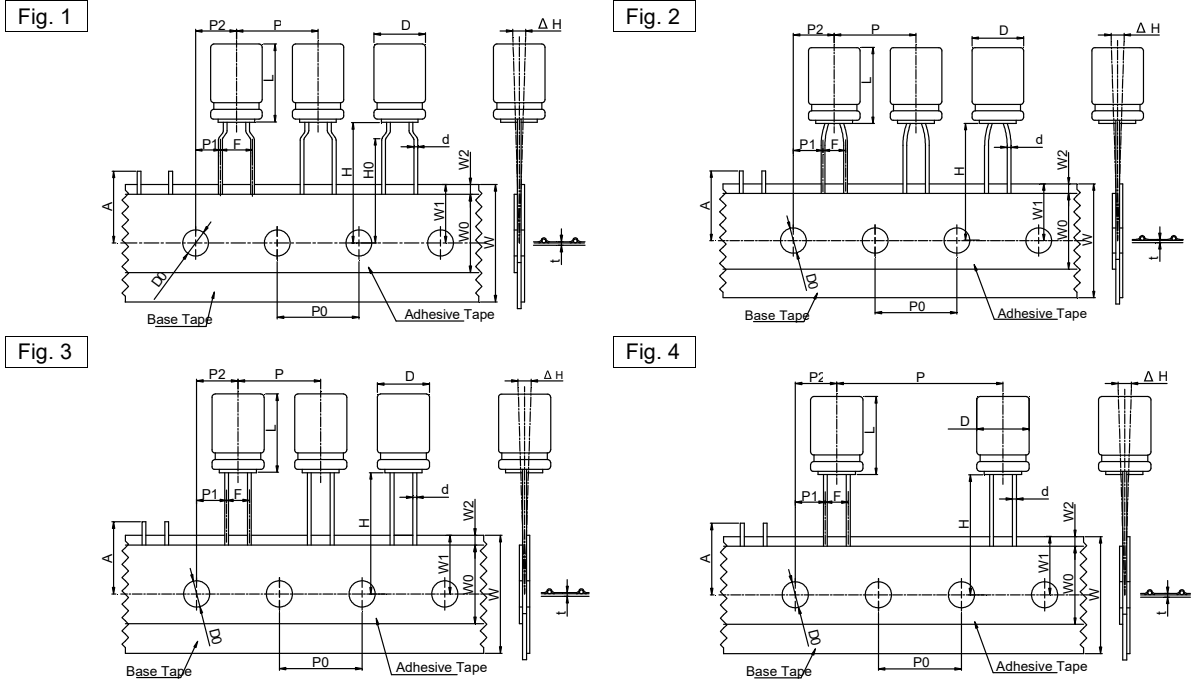
Diameter (mm)x10 & Length (mm)x10. Can Size 063110, represents 6.3mm diameter by 11mm length.

7. Sleeve Type\* = (Omit) PVC Sleeve

P = PET Sleeve

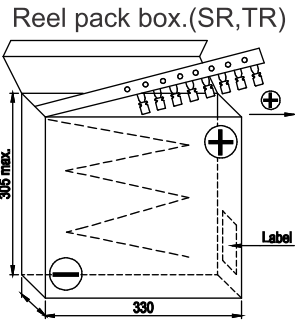
\*Note: All standard RFE Aluminum Electrolytic Capacitors are Lead (Pb) free and RoHS compliant. PET sleeve is available for those companies that also require PVC free product.

### LEADED TAPING & PACKAGING SPECIFICATIONS Taping Specification for Radial Lead Type



Packing	TA, TR (Fig. 1)								SA, SR (Fig. 2, 3, 4)											
	L ≤ 7mm				L ≥ 7mm				L ≤ 7mm					L ≥ 7mm						
Symbol	3	4	5	6.3	8	5	6.3	8	3	4	5	6.3	8	5	6.3	8	Tol.	10	13	Tol.
d	0.4	0.45	0.5	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	--	--	--	--	--	--	--	--	--	± 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
ΔH	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



#### 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:  
1. The above quantities are typical. Quantities may vary.  
2. 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 border="1"> <thead> <tr> <th>D x L</th> <th>d</th> <th>F</th> <th>F'</th> <th>H</th> </tr> </thead> <tbody> <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> </tbody> </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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