

LR Series Snap-in Type 85°C

Features

- ◆ Snap-in design for audio equipment.
- ◆ Aluminum case designed explosion-proof vent. Non solvent-proof type
- ◆ For detail specifications, please refer to Engineering Bulletin NO. E154
- ◆ RoHS Compliant



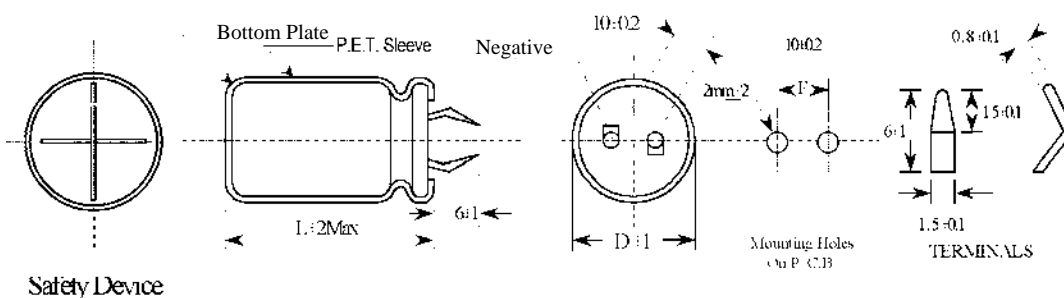
Specifications

Item	Performance Characteristics																					
Operating Temperature Range	-40~+85°C																					
Rated voltage Range	16 to 100 VDC																					
Capacitance Range	680~33000 µ F																					
Capacitance Tolerance	±20%(120Hz,+20°C)																					
Leakage Current (+20°C,max.)	$I \leq 0.02 CV (\mu A)$ After 5 minute with rated working voltage applied.																					
Dissipation Factor ($\tan \delta$, at 20°C , 120Hz)	<table border="1"> <tr> <td>Working Voltage(VDC)</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>80</td> <td>100</td> </tr> <tr> <td>D.F.(%)max.</td> <td>35</td> <td>30</td> <td>30</td> <td>30</td> <td>22</td> <td>20</td> <td>20</td> </tr> </table>	Working Voltage(VDC)	16	25	35	50	63	80	100	D.F.(%)max.	35	30	30	30	22	20	20					
	Working Voltage(VDC)	16	25	35	50	63	80	100														
D.F.(%)max.	35	30	30	30	22	20	20															
For capacitance > 22000 µ F, add 2% per another 1000 µ F.																						
Low Temperature Characteristics (at 120Hz)	Impedance ratio max																					
	<table border="1"> <tr> <td>Rated voltage(V)</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> </tr> <tr> <td>Z - 25°C / Z+20°C</td> <td>5</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> </tr> <tr> <td>Z - 40°C / Z+20°C</td> <td>15</td> <td>15</td> <td>12</td> <td>12</td> <td>12</td> <td>12</td> </tr> </table>	Rated voltage(V)	16	25	35	50	63	100	Z - 25°C / Z+20°C	5	4	4	4	4	4	Z - 40°C / Z+20°C	15	15	12	12	12	12
	Rated voltage(V)	16	25	35	50	63	100															
Z - 25°C / Z+20°C	5	4	4	4	4	4																
Z - 40°C / Z+20°C	15	15	12	12	12	12																
Load Life	Test condition Duration time :2000 Hrs Ambient temperature :+85°C Applied voltage :Rated DC working voltage After test requirement at +20°C Capacitance change : $\leq \pm 25\%$ of the initial measured value Dissipation factor : $\leq 200\%$ of the initial specified value Leakage current : \leq The initial specified value																					
Shelf Life	Test condition Duration time :1000 Hrs Ambient temperature :+85°C Applied voltage :None After test requirement at +20°C: Same limits as Load life. Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.																					

Multiplier for Ripple Current vs. Frequency

CAP(µ F)\ Frequency(Hz)	50(60)	120	1K	10K	100K
CAP ≤ 100	0.80	0.1	1.36	1.48	1.53
100 < CAP ≤ 1000	0.80	1	1.25	1.35	1.38
1000 < CAP	0.80	1	1.17	1.25	1.28

Diagram of Dimensions:(unit:mm)



Case Size

φ D x L (mm)

Cap(μF)	16 (20)								25 (32)							
	22		25		30		35		22		25		30		35	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
820									22×21	0.75						
1000											25×21	0.95				
1200	22×21	0.95														
1500			25×21	1.10										30×21	1.30	
1800	22×26	1.20									25×26	1.55				
2200					30×21	1.35			22×36	1.85	25×21	1.50	30×26	1.80	35×22	1.75
											25×31	1.80				
2700			25×26	1.75					22×26	1.70						
									22×46	2.20	25×36	2.15				
3300	22×21	1.50	25×31	2.00			35×22	1.95	22×21	1.50			30×21	1.85		
									22×31	1.80			30×31	2.40		
									22×51	2.50	25×41	2.45			35×27	2.45
3900	22×46	2.30	25×21	1.55							25×21	1.55				
			25×36	2.35	30×26	2.35					25×26	1.10				
											25×46	2.80	30×36	2.80		
4700	22×21	1.35	25×41	2.70					22×26	1.70					35×22	2.20
	22×26	1.75					35×27	2.60	22×36	2.30	25×31	2.25			35×32	3.15
	22×51	2.75			30×31	2.70							30×41	3.25		
5600			25×46	2.90	30×21	1.85			22×41	2.50	25×36	2.40	30×21	1.85		
													30×26	2.50	35×36	3.50
					30×36	2.90							30×46	3.50		
6800	22×31	2.20	25×21	1.70			35×32	3.15	22×31	2.20	25×26	2.15				
			25×26	2.15					22×51	2.65	25×41	2.65	30×31	2.65		
			25×51	3.20	30×41	3.20									35×42	3.80
8200							35×22	2.25	22×36	2.35	25×31	2.30			35×22	2.25
	22×26	1.90	25×31	2.30			35×37	3.30			25×46	2.90	30×36	2.85	35×27	3.05
	22×36	2.40			30×46	3.35									35×47	4.00
10000	22×31	2.05			30×21	2.10	35×42	3.50	22×41	2.65	25×36	2.50	30×26	2.65		
			25×26	2.00	30×26	2.50					25×51	3.30	30×41	3.30	35×32	3.30
	22×41	2.65	25×36	2.45												
12000	22×36	2.20	25×31	2.15	30×31	2.72	35×22	2.10	22×46	2.90	25×41	2.75	30×31	2.80	35×27	2.65
	22×51	2.75	25×41	2.75			35×42	3.50					30×46	3.55	35×37	3.50
							35×47	3.70								
15000	20×41	2.50	25×36	2.40	30×26	2.50					25×46	3.15	30×36	3.10		
			25×46	3.10	30×36	3.10							30×51	4.15	35×42	4.00
18000	22×46	2.80	25×41	2.60	30×31	2.65	35×32	3.45			25×51	3.55	30×41	3.40	35×32	3.50
			25×51	3.50	30×41	3.40									35×47	4.45
22000			25×46	2.95	30×36	2.90	35×27	2.90					30×46	3.85	35×37	3.85
					30×46	3.80	35×37	3.80								
27000			25×51	3.40	30×41	3.25										
					30×51	4.25	35×32	3.35							35×42	4.30
33000							35×42	4.25								
					30×46	3.70	35×37	3.65							35×47	4.85
							35×47	4.50								

Ripple Current (A, rms) at 85°C 120Hz

φ DxL(mm)

Cap(μF)	35 (44)								50 (63)							
	22		25		30		35		22		25		30		35	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
680									22×26	1.00						
820			25×21	0.85					22×21	1.00						
									22×31	1.25	25×21	1.35				
1000	22×26	1.00									25×21	1.50				
1200	22×21	1.30	25×26	1.40												
	22×31	1.45			30×21	1.40										
1500	22×36	1.55	25×31	1.55					22×21	1.55	25×36	2.15	30×21	1.80		
									22×31	1.80			30×26	2.15		
									22×46	2.20						
1800	22×26	1.55	25×21	1.65	30×26	1.75	35×22	1.70	22×51	2.45	25×21	1.65			35×27	2.40
	22×41	1.45									25×26	2.15				
											25×41	2.45				
2200	22×46	1.95	25×36	1.95	30×31	1.95			22×26	1.85	25×31	2.30	30×36	2.60	35×22	2.60
									22×36	2.35	25×51	2.65			35×32	2.60
2700	22×31	2.05	25×26	2.00	30×21	2.05	35×27	2.30	22×46	2.45			30×26	2.60		
			25×46	2.35	30×36	2.30					25×36	2.50	30×46	3.00	35×37	2.95
3300	22×26	1.75	25×31	2.20			35×32	2.65	22×36	2.20			30×31	2.80		
	22×36	2.25	25×51	2.70	30×41	2.70			22×51	2.80	25×41	2.80	30×51	3.30	35×42	3.25
3900	22×41	2.40	25×36	2.30	30×21	1.85	35×22	2.50							35×22	2.45
					30×26	2.40	35×37	3.00	22×41	2.45	25×31	2.50	30×26	2.35	35×27	3.15
					30×46	3.00					25×46	3.00	30×36	3.00	35×47	3.50
4700	22×31	2.20	25×26	2.15	30×31	2.55	35×42	3.55	22×46	2.60	25×36	2.70	30×41	3.30	35×32	3.35
	22×46	2.70			30×51	3.55					25×51	3.40			35×52	3.90
5600	22×36	2.35	25×31	2.25			35×22	2.25	22×51	2.90			30×31	3.00	35×22	2.85
	22×41	3.00	25×41	3.00			35×27	2.85			25×41	2.90	30×46	3.60	35×37	3.60
	22×51	2.60					35×47	3.80								
6800					30×26	2.60					25×41	3.30	30×36	3.25		
					30×36	3.30	35×32	3.05					30×51	4.10	35×42	3.95
							35×52	4.15								
8200	22×46	2.90	25×41	2.70	30×31	2.75							30×41	3.55	35×32	3.65
					30×41	3.60	35×37	3.30							35×47	4.40
10000			25×46	3.05	30×36	3.00							30×46	4.00	35×37	4.00
					30×51	3.80	35×27	3.20							35×52	5.50
							35×42	3.70								
12000			25×51	3.45	25×51	3.30	35×32	3.40								
							35×37	4.10							35×42	4.35
							35×47	3.80								
15000					30×46	3.80	35×52	4.80							35×52	4.70
18000					30×51	4.30	35×42	4.15								
22000							35×47	4.70								

Ripple Current (A, rms) at 85°C 120Hz

φ DxL(mm)

WV(SV) φ D Cap(μF)	63 (79)								80 (100)								
	22		25		30		35		22		25		30		35		
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	
680	22×26	1.75							22×36	2.25	25×31	2.15					
820	22×21	1.30	25×21	1.65	30×21	1.90			22×31	2.05	25×21	1.65	30×21	2.05	35×22	2.55	
	22×31	1.90	25×26	1.85					22×41	2.45	25×26	2.00	30×26	2.40			
1000											25×36	2.35					
	22×26	1.85							22×26	1.85			30×31	2.60	35×22	2.10	
	22×36	2.05	25×31	2.00					22×36	2.20	25×31	2.15					
1200									22×51	2.60	25×41	2.60					
	22×31	1.95	25×21	1.65	30×21	1.95			22×31	1.95	25×26	1.90	30×21	2.00	35×27	2.95	
	22×41	2.25	25×26	1.90	30×26	2.20	35×22	2.30	22×41	2.45	25×36	2.30	30×26	2.40			
1500											25×46	2.85	30×36	2.80			
	22×26	1.90							22×36	2.15	25×31	2.10					
	22×36	2.15	25×31	2.10					22×51	2.60	25×41	2.65	30×31	2.65	35×32	3.25	
1800											25×51	3.30	30×41	3.20			
	22×31	2.00	25×26	2.00	30×21	2.05	35×22	2.45	22×41	2.35			30×26	2.40	35×22	2.50	
	22×41	2.35	25×41	2.90	30×26	2.35	35×27	2.70	22×46	2.70	25×46	2.85	30×36	2.85	35×27	3.00	
2200													30×46	3.55	35×37	3.50	
	22×51	2.90			30×31	2.90											
	22×36	2.20	25×31	2.15			35×22	2.10			25×36	2.75	30×31	2.55			
2700											25×51	3.25	30×41	3.15	35×32	3.25	
	22×41	2.45	25×36	2.35	30×26	2.50	35×27	2.95					30×41	3.15	35×32	3.20	
			25×46	2.80	30×36	2.75	35×32	3.65					30×46	3.60	35×37	3.55	
3300																	
					30×46	3.30									35×47	4.45	
	22×46	2.80	25×41	2.60	30×31	2.70	35×32	3.15			25×51	3.25	30×41	3.15	35×32	3.20	
3900													30×51	4.10	35×42	3.95	
					30×51	3.80									35×52	5.05	
			25×46	2.85	30×36	2.85							30×46	3.45	35×37	3.40	
4700																	
					30×46	3.35	35×37	3.35							35×47	4.35	
							35×42	4.30									
5600														30×46	3.85	35×42	3.75
															35×52	4.85	
			25×51	3.20	30×41	3.10											
6800					30×51	3.80	35×52	4.50									
															35×47	4.10	
8200																	
10000																	

Ripple Current (A, rms) at 85°C 120Hz

φ D×L(mm)

Cap(μF)	WV(SV)		100 (125)							
	φ D		22		25		30		35	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple		
680	22×26	1.75								
	22×36	2.15	25×31	2.10						
	22×46	2.65	25×36	2.70						
820	22×31	1.85	25×26	1.80	30×21	1.90				
	22×41	2.40			30×26	2.35	35×22	2.45		
	22×51	3.00	25×41	3.00			35×27	2.85		
1000	22×46	2.70	25×36	2.35	30×31	3.00				
			25×41	3.10	30×36	3.30	35×32	3.05		
			25×51	2.35						
1200	22×41	2.20	25×31	2.75	30×26	2.20	35×22	2.30		
	22×51	3.00			30×31	3.05	35×27	2.90		
					30×41	3.60	35×37	3.30		
1500	22×46	2.55	25×36	3.60	30×36	3.40	35×32	3.40		
			25×51	3.20	30×51	3.90	35×42	3.95		
1800	22×51	2.85	25×41	2.85	30×31	2.90	35×27	2.75		
					30×41	3.70	35×37	3.40		
							35×47	4.15		
2200			25×46	3.20	30×36	3.20	35×32	3.00		
					30×51	3.95	35×42	3.80		
							35×52	4.75		
2700					30×41	3.55	35×37	3.25		
							35×47	4.30		
3300					30×51	3.75	35×52	4.95		
3900							35×42	4.30		
4700							35×52	4.50		

Ripple Current (A, rms) at 85°C 120Hz