

HLR Series 105°C Low-Leakage (低漏電)

- Long Life, 2000 hours at 105°C (U_R, I_R applied)
- Low-leakage design
- RoHS Compliant

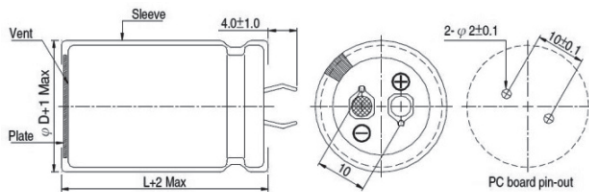


SPECIFICATIONS AND CHARACTERISTICS IN BRIEF

Item	Performance Characteristics								
Standard	IEC 60384-4								
Temperature Range	-40°C (10V to 250V)、-25°C (315V to 450V) to +105°C (Operating) -55°C to +105°C (Storage)								
Rated Working Voltage Range U_R	16V to 450V								
Surge Voltage U_s	1.10 x U_R (for $U_R > 250$ VDC), 1.15 x U_R (for $U_R \leq 250$ VDC)								
Nominal Capacitance Range	47µF to 10000µF								
Capacitance Tolerance	±20% (120Hz, +20°C)								
Leakage Current I_L	= 0.006 x C_R x U_R (µA) or 6mA whichever is the smaller. Note, C_R is in µF.	Test Condition: U_R , 5mins., 20°C							
Characteristics at low Temperature	Max. impedance ratio at 120 Hz	U_R (V)	16~100	160~250	315~385	400~450			
		Z -25°C / Z 20°C	4	4	6	8			
		Z -40°C / Z 20°C	15	15	-	-			
tan δ	Working Voltage (V)	16	25	35	50	63	80	100	160~450
	tan δ (max) (120Hz, +20°C)	0.30	0.25	0.25	0.25	0.25	0.22	0.20	0.16
Operational Life Time +105°C, U_R , I_R	Can Diameter	22,25	2000 hrs	End of Life Requirement: $\Delta C/C \leq \pm 20\%$ $\tan \delta \leq 2 \times \text{initial } \tan \delta \text{ value}$ $I_L \leq \text{initial specified limit}$					
		30,35	2000 hrs						
	Can Diameter	22,25	3000 hrs						
		30,35	4000 hrs						
Shelf Life +105°C	After leaving capacitors under no load at 105°C for 1500 hours, Capacitors shall meet specified value for load life characteristics listed above.								
Others	If the capacitors are stored more than 1 year, the Leakage Current may increase. Please apply voltage through about 1 kΩ resistor, if necessary.								

SPECIFICATIONS

Unit:mm



Mounting

These capacitors are designed to be mounted by their terminations alone, and may be used in any position.

RIPPLE CURRENT MULTIPLIER

Freq(HZ)	50	120	1K	10K	100K
Coefficient	0.80	1.00	1.20	1.35	1.40

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STANDARD RATINGS								
Voltage (V)	16		25		35		63	
Cap (μF)	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
680							22×25	0.75
1000							22×30 25×25	1.00 1.00
1500					22×25	1.15	22×35 25×30 30×25	1.30 1.30 1.35
2200			22×25	1.35	22×30 25×25	1.50 1.50	22×45 25×40 30×30 35×25	1.75 1.80 1.75 1.80
3300	22×20	1.35	22×30 25×25	1.80 1.80	22×35 25×30 30×25	1.95 1.95 2.00	25×50 30×40 35×30	2.45 2.45 2.40
4700	22×25	1.80	22×35 25×30 30×25	2.30 2.30 2.40	22×45 25×40 30×30 35×25	2.55 2.65 2.60 2.65	30×50 35×40	3.20 3.20
6800	22×35 25×30 30×25	2.25 2.25 2.35	22×45 25×40 30×30 35×25	2.75 2.80 2.75 2.85	25×50 30×40 35×30	3.10 3.10 3.00	35×40	3.75
10000	22×45 25×35 30×30 35×25	2.50 2.50 2.50 2.60	25×50 30×40 35×30	3.10 3.10 3.00	30×50 35×40	3.40 3.40		

Maximum Allowable Ripple Current (A rms) at 105°C 120HZ

Case Size ΦD×L(mm)

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STANDARD RATINGS								
Voltage (V)	80		100		160		200	
	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
220							22×30	0.71
270							25×30	0.81
330							25×35	0.95
390					20×30	1.03	25×40	1.08
					22×25	1.03		
470					22×35	1.27	22×50	1.21
					22×30	1.26	25×40	1.21
					25×25	1.26		
560					22×40	1.44	25×45	1.33
					22×30	1.45		
					25×30	1.45	30×35	1.39
680	22×30	0.90	22×35	0.95	22×40	1.95	25×50	1.51
	25×25	0.90	25×30	1.00	25×30	1.93	30×40	1.60
			30×25	1.00	30×25	1.93	35×35	1.60
1000	22×35	1.20	22×50	1.35	22×50	2.02	30×50	1.98
	25×30	1.20	25×40	1.35				
	30×25	1.25	30×30	1.35	25×40	2.00		
			35×25	1.35	30×30	2.06		
1500	22×50	1.70	25×50	1.80	30×40	3.16	35×50	2.12
	25×40	1.65						
	30×30	1.65	30×40	1.85				
	35×25	1.65	35×25	1.35				
2200	25×50	2.20	30×50	2.45	35×40	4.76		
	30×40	2.20	35×40	2.45				
	35×30	2.15	35×40	2.45				
3300	30×50	3.00						
	35×40	2.95						
4700	35×50	3.90						

Maximum Allowable Ripple Current (A rms) at 105°C 120HZ

Case Size ΦD×L(mm)

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STANDARD RATINGS								
Voltage (V)	250		350		400		450	
Cap (μF)	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
47							22×30	0.44
68					22×30	0.50	22×40	0.57
100					22×35	0.63	25×35	0.72
120			22×35	0.56	22×40	0.71	22×50	0.81
150			22×40	0.74	22×50	0.83	25×45	0.94
			25×30	0.72	25×40	0.84	30×35	0.97
180	22×30	0.62	22×45	0.84	30×35	0.98	30×40	1.07
					35×30	0.98		
220	22×40	0.81	22×50	0.95	25×50	1.10	30×45	1.28
	25×30	0.79	25×40	0.95	30×40	1.10	35×40	1.28
270	25×35	0.91	25×50	1.10	30×45	1.32	30×45	1.41
			30×40	1.20				
330	25×40	1.02	30×45	1.29	30×50	1.55	35×45	1.68
	30×30	1.10	35×35	1.29	35×40	1.52		
390	25×45	1.20	35×40	1.52	35×45	1.66		
470	25×50	1.33	35×40	1.65	35×45	1.88	35×50	2.11
	30×40	1.39						
560	30×45	1.58	35×45	1.82	35×50	1.99		
680	30×50	1.81						
	35×40	1.81						
1000	35×50	2.21						

Maximum Allowable Ripple Current (A rms) at 105°C 120HZ

Case Size ΦD×L(mm)

Specifications are subject to change without notice. Should a safety or technical concern arise regarding the product, please be sure to contact our sales offices or agents immediately.