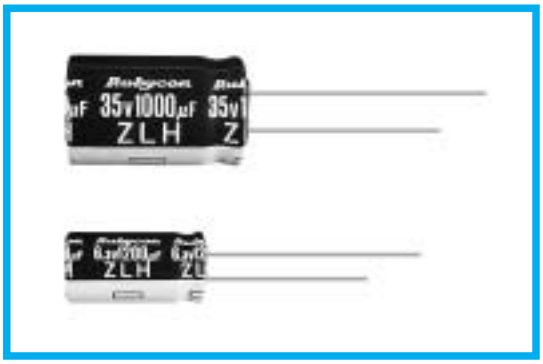
ZLH SERIES

105℃ Miniaturized, Long Life, Low impedance.



◆FEATURES

- Achieved endurance improvement and miniaturization of ZL series, as well as high frequency impedance reduction.
- Load Life : 105℃ 6000～10000hours.
- RoHS compliance.

◆SPECIFICATIONS

Items	Characteristics
Category Temperature Range	−40～+105℃
Rated Voltage Range	6.3～50V.DC
Capacitance Tolerance	±20%（20℃，120Hz）
Leakage Current(MAX)	I=0.01CV or 3 μA whichever is greater. (After 2 minutes) I=Leakage Current(μA) C=Rated Capacitance(μF) V=Rated Voltage(V)
Dissipation Factor(MAX) (tan δ)	Rated Voltage (V): 6.3 / 10 / 16 / 25 / 35 / 50 tan δ: 0.22 / 0.19 / 0.16 / 0.14 / 0.12 / 0.10 （20℃，120Hz） When rated capacitance is over 1000 μF, tan δ shall be added 0.02 to the listed value with increase of every 1000 μF.
Endurance	After life test with rated ripple current at conditions stated in the table below, the capacitors shall meet the following requirements. Capacitance Change: Within ±25% of the initial value. (6.3v,10v : ±30%) Dissipation Factor: Not more than 200% of the specified value. Leakage Current: Not more than the specified value. Case size / Life Time (hrs): φD≦ 6.3 — 6000; φD= 8 — 8000; φD≧ 10 — 10000
Low Temperature Stability Impedance Ratio(MAX)	Rated Voltage (V): 6.3 / 10 / 16 / 25 / 35 / 50 Z(−25℃)/Z(20℃): 2 / 2 / 2 / 2 / 2 / 2 Z(−40℃)/Z(20℃): 3 / 3 / 3 / 3 / 3 / 3 （120Hz）

◆MULTIPLIER FOR RIPPLE CURRENT

Frequency coefficient

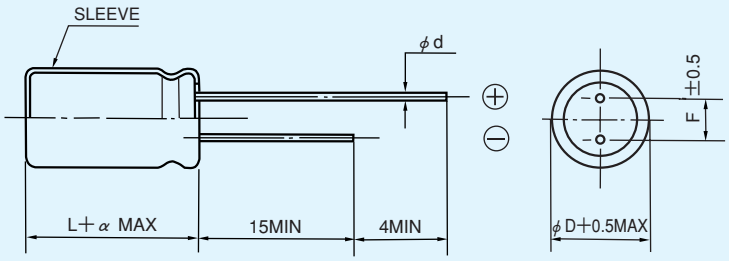
Frequency (Hz)		120	1k	10k	100k≦
Coefficient	27 μF	0.42	0.70	0.90	1.00
	47～270 μF	0.50	0.73	0.92	1.00
	330～680 μF	0.55	0.77	0.94	1.00
	820～1800 μF	0.60	0.80	0.96	1.00
	2200～8200 μF	0.70	0.85	0.98	1.00

◆PART NUMBER

□□□ Rated Voltage | ZLH Series | □□□□□ Rated Capacitance | □ Capacitance Tolerance | □□□ Option | □□ Lead Forming | D×L Case Size

◆DIMENSIONS

(mm)



φD	5	6.3	8	10	12.5	16
φd	0.5		0.6			0.8
F	2.0	2.5	3.5	5.0		7.5
α	L≦16 : α=1.5 L≧20 : α=2.0					

◆STANDARD SIZE

Rated voltage 6.3V(0J)				
Rated capacitance (μF)	Size φD×L(mm)	Rated ripple current (mA r.m.s./105℃, 100kHz)	Impedance (Ω MAX)	
			20℃, 100kHz	−10℃, 100kHz
220	5×11	345	0.22	0.80
470	6.3×11	540	0.094	0.35
820	8×11.5	945	0.056	0.19
1200	8×16	1250	0.045	0.15
1200	10×12.5	1330	0.039	0.14
1500	8×20	1500	0.029	0.11
1800	10×16	1760	0.028	0.10
2200	10×20	1960	0.020	0.060
2700	10×23	2250	0.018	0.054
3900	12.5×20	2480	0.017	0.043
4700	12.5×25	2900	0.015	0.038
5600	12.5×30	3450	0.013	0.033
6800	16×20	3250	0.015	0.038
6800	12.5×35	3570	0.012	0.031
8200	16×25	3630	0.013	0.035

Rated voltage 10V(1A)				
Rated capacitance (μF)	Size φD×L(mm)	Rated ripple current (mA r.m.s./105℃, 100kHz)	Impedance (Ω MAX)	
			20℃, 100kHz	−10℃, 100kHz
150	5×11	345	0.22	0.80
330	6.3×11	540	0.094	0.35
680	8×11.5	945	0.056	0.19
1000	8×16	1250	0.045	0.15
1000	10×12.5	1330	0.039	0.14
1500	8×20	1500	0.029	0.11
1500	10×16	1760	0.028	0.10
1800	10×20	1960	0.020	0.060
2200	10×23	2250	0.018	0.054
3300	12.5×20	2480	0.017	0.043
3900	12.5×25	2900	0.015	0.038
4700	12.5×30	3450	0.013	0.033
4700	16×20	3250	0.015	0.038
5600	12.5×35	3570	0.012	0.031
6800	16×25	3630	0.013	0.035

Rated voltage 16V(1C)				
Rated capacitance (μF)	Size φD×L(mm)	Rated ripple current (mA r.m.s./105℃, 100kHz)	Impedance (Ω MAX)	
			20℃, 100kHz	−10℃, 100kHz
100	5×11	345	0.22	0.80
220	6.3×11	540	0.094	0.35
470	8×11.5	945	0.056	0.19
680	8×16	1250	0.045	0.15
680	10×12.5	1330	0.039	0.14
1000	8×20	1500	0.029	0.11
1000	10×16	1760	0.028	0.10
1500	10×20	1960	0.020	0.060
1800	10×23	2250	0.018	0.054
2200	12.5×20	2480	0.017	0.043
2700	12.5×25	2900	0.015	0.038
3300	12.5×30	3450	0.013	0.033
3300	16×20	3250	0.015	0.038
3900	12.5×35	3570	0.012	0.031
4700	16×25	3630	0.013	0.035

Rated voltage 25V(1E)				
Rated capacitance (μF)	Size φD×L(mm)	Rated ripple current (mA r.m.s./105℃, 100kHz)	Impedance (Ω MAX)	
			20℃, 100kHz	−10℃, 100kHz
68	5×11	345	0.22	0.80
150	6.3×11	540	0.094	0.35
330	8×11.5	945	0.056	0.19
390	8×16	1250	0.045	0.15
470	10×12.5	1330	0.039	0.14
560	8×20	1500	0.029	0.11
680	10×16	1760	0.028	0.10
820	10×20	1960	0.020	0.060
1000	10×23	2250	0.018	0.054
1500	12.5×20	2480	0.017	0.043
1800	12.5×25	2900	0.015	0.038
2200	12.5×30	3450	0.013	0.033
2200	16×20	3250	0.015	0.038
2700	12.5×35	3570	0.012	0.031
3300	16×25	3630	0.013	0.035

Rated voltage 35V(1V)				
Rated capacitance (μF)	Size φD×L(mm)	Rated ripple current (mA r.m.s./105℃, 100kHz)	Impedance (Ω MAX)	
			20℃, 100kHz	−10℃, 100kHz
47	5×11	345	0.22	0.80
100	6.3×11	540	0.094	0.35
220	8×11.5	945	0.056	0.19
270	8×16	1250	0.045	0.15
330	10×12.5	1330	0.039	0.14
390	8×20	1500	0.029	0.11
470	10×16	1760	0.028	0.10
560	10×20	1960	0.020	0.060
680	10×23	2250	0.018	0.054
1000	12.5×20	2480	0.017	0.043
1200	12.5×25	2900	0.015	0.038
1500	12.5×30	3450	0.013	0.033
1500	16×20	3250	0.015	0.038
1800	12.5×35	3570	0.012	0.031
2200	16×25	3630	0.013	0.035

Rated voltage 50V(1H)				
Rated capacitance (μF)	Size φD×L(mm)	Rated ripple current (mA r.m.s./105℃, 100kHz)	Impedance (Ω MAX)	
			20℃, 100kHz	−10℃, 100kHz
27	5×11	238	0.34	1.18
56	6.3×11	385	0.14	0.50
100	8×11.5	724	0.074	0.22
120	8×16	950	0.061	0.18
150	10×12.5	979	0.061	0.18
180	8×20	1190	0.046	0.14
220	10×16	1370	0.042	0.12
270	10×20	1580	0.030	0.090
330	10×23	1870	0.028	0.085
470	12.5×20	2050	0.027	0.068
560	12.5×25	2410	0.023	0.059
680	12.5×30	2860	0.021	0.052
820	12.5×35	2960	0.019	0.051
820	16×20	2730	0.023	0.059
1000	16×25	3010	0.021	0.056