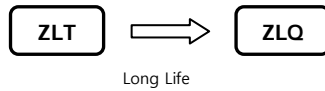




ZLQ series

- Low ESR
- Low Profile
- RoHS compliant
- Solvent Proof

- 105°C 4,000 ~ 10,000Hrs assured.
- Low impedance, Long Life
- For SMPS, IP-Board, Adaptor
- RoHS compliant
- Halogen-free capacitors are also available.

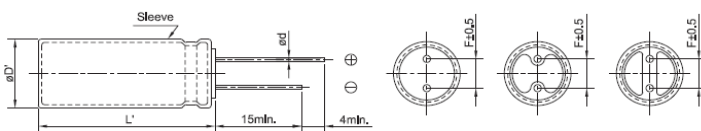


Specifications

Item	Characteristics																								
Rated Voltage Range	6.3 ~ 50Vdc																								
Operating Temperature Range	-55 ~ +105°C																								
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)																								
Leakage Current	I=0.01CV(µA) or 3µA, whichever is greater. Where, I:Max. Leakage current(µA), C:Nominal capacitance(µF), V:Rated voltage(VDC) (at 20°C, 2 minutes)																								
Dissipation Factor(Tanδ)	<table border="1"> <tr> <td>Rated Voltage(Vdc)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td>Tanδ(Max.)</td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> </tr> </table> <p>If the capacitance exceeds 1,000µF, then Tanδ will be added 0.02 every 1000µF increase.(at 20°C, 120Hz)</p>	Rated Voltage(Vdc)	6.3	10	16	25	35	50	Tanδ(Max.)	0.22	0.19	0.16	0.14	0.12	0.10										
Rated Voltage(Vdc)	6.3	10	16	25	35	50																			
Tanδ(Max.)	0.22	0.19	0.16	0.14	0.12	0.10																			
Temperature characteristics (Max,impedance ratio)	<table border="1"> <tr> <td>Rated Voltage(Vdc)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>(at 120Hz)</td> </tr> <tr> <td>ΔC(-55°C)/C(20°C)</td> <td colspan="6">30%</td> <td></td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>4</td> <td></td> </tr> </table>	Rated Voltage(Vdc)	6.3	10	16	25	35	50	(at 120Hz)	ΔC(-55°C)/C(20°C)	30%							Z(-40°C)/Z(20°C)	8	6	4	3	3	4	
Rated Voltage(Vdc)	6.3	10	16	25	35	50	(at 120Hz)																		
ΔC(-55°C)/C(20°C)	30%																								
Z(-40°C)/Z(20°C)	8	6	4	3	3	4																			
Load life	<p>The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for specified life times at 105°C.</p> <table border="1"> <tr> <td></td> <td>ØD</td> <td>6.3~10v</td> <td>16~50v</td> </tr> <tr> <td>Capacitance change</td> <td>Ø5-6.3</td> <td>4,000 hrs</td> <td>5,000 hrs</td> </tr> <tr> <td>Tan δ</td> <td>Ø8-10</td> <td>6,000 hrs</td> <td>7,000 hrs</td> </tr> <tr> <td>Leakage current</td> <td>Ø12.5~</td> <td>8,000 hrs</td> <td>10,000 hrs</td> </tr> </table>		ØD	6.3~10v	16~50v	Capacitance change	Ø5-6.3	4,000 hrs	5,000 hrs	Tan δ	Ø8-10	6,000 hrs	7,000 hrs	Leakage current	Ø12.5~	8,000 hrs	10,000 hrs								
	ØD	6.3~10v	16~50v																						
Capacitance change	Ø5-6.3	4,000 hrs	5,000 hrs																						
Tan δ	Ø8-10	6,000 hrs	7,000 hrs																						
Leakage current	Ø12.5~	8,000 hrs	10,000 hrs																						
Shelf life	<p>The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C without voltage applied. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes at least 24 hours and not more than 48 hours before the measurements.</p> <p>Capacitance change ≤±20% of the initial value Tanδ ≤200% of the initial specified value Leakage current ≤200%The initial specified value</p>																								

Dimensions

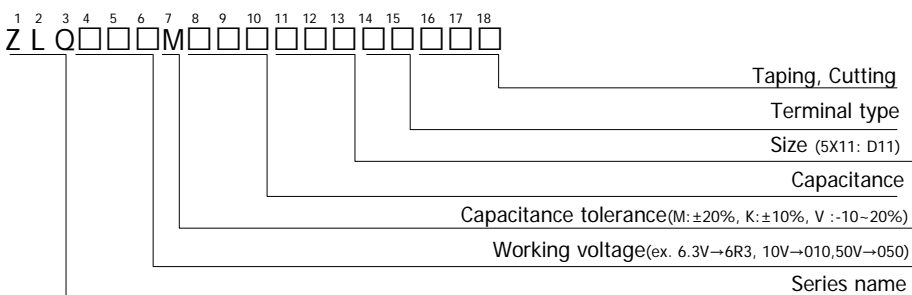
Unit(mm)



ØD	5	6.3	8	10	12.5	16	18
Ød	0.5	0.5	0.5	0.6	0.6	0.8	0.8
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
ØD'	ØD+0.5 max.						
L'	L+1.5 max				L+2.0 max		

- Printed white color letter on PET brown sleeve

Code numbering system



Ø5	D
Ø6.3	E
Ø8	F
Ø10	G
Ø12.5	X
Ø16	J
Ø18	K



ZLQ series

Standard Ratings

Note1) Imp. = $\Omega_{max} / 20^\circ C, 100kHz$ 2) Ripple current = $mArms / 105^\circ C, 100kHz$

WV (Vdc)	Cap (uF)	Size ØxL(mm)	Imp. ¹⁾	Ripple ²⁾	Code No
6.3	150	5 x 11	0.50	175	ZLQ6R3□151D11CS□□□
	330	6.3 x 11	0.25	290	ZLQ6R3□331E11CS□□□
	470	6.3 x 15	0.18	400	ZLQ6R3□471E15CS□□□
	680	8 x 11.5	0.12	555	ZLQ6R3□681F12CS□□□
	820	10 x 12.5	0.090	760	ZLQ6R3□821G13CS□□□
	1,000	8 x 15	0.090	730	ZLQ6R3□102F15CS□□□
	1,200	8 x 20	0.080	810	ZLQ6R3□122F20CS□□□
		10 x 16	0.068	1,050	ZLQ6R3□122G16CS□□□
	1,500	10 x 20	0.052	1,220	ZLQ6R3□152G20CS□□□
	2,200	10 x 25	0.045	1,440	ZLQ6R3□222G25CS□□□
	2,700	10 x 30	0.037	1,690	ZLQ6R3□272G30CS□□□
	3,300	12.5 x 20	0.038	1,660	ZLQ6R3□332X20CS□□□
	3,900	12.5 x 25	0.030	1,950	ZLQ6R3□392X25CS□□□
	4,700	12.5 x 30	0.025	2,310	ZLQ6R3□472X30CS□□□
	5,600	12.5 x 35	0.022	2,510	ZLQ6R3□562X35CS□□□
		16 x 20	0.031	2,210	ZLQ6R3□562J20CS□□□
	6,800	12.5 x 42.5	0.019	2,870	ZLQ6R3□682X43CS□□□
		16 x 25	0.024	2,560	ZLQ6R3□682J25CS□□□
8,200	16 x 31.5	0.021	3,010	ZLQ6R3□822J32CS□□□	
	16 x 35.5	0.019	3,150	ZLQ6R3□103J36CS□□□	
10,000	18 x 25	0.023	2,740	ZLQ6R3□103K25CS□□□	
	18 x 31.5	0.021	3,330	ZLQ6R3□123K32CS□□□	
15,000	18 x 35.5	0.019	3,680	ZLQ6R3□153K36CS□□□	
18,000	18 x 40	0.018	3,880	ZLQ6R3□183K40CS□□□	
10	100	5 x 11	0.50	175	ZLQ010□101D11CS□□□
	220	6.3 x 11	0.25	290	ZLQ010□221E11CS□□□
	330	6.3 x 15	0.18	400	ZLQ010□331E15CS□□□
	470	8 x 11.5	0.12	555	ZLQ010□471F12CS□□□
	680	8 x 15	0.090	730	ZLQ010□681F15CS□□□
		10 x 12.5	0.088	760	ZLQ010□681G13CS□□□
	1,000	8 x 20	0.080	810	ZLQ010□102F20CS□□□
		10 x 16	0.068	1,050	ZLQ010□102G16CS□□□
	1,200	10 x 20	0.052	1,220	ZLQ010□122G20CS□□□
	1,500	10 x 25	0.045	1,440	ZLQ010□152G25CS□□□
	1,800	10 x 30	0.037	1,690	ZLQ010□182G30CS□□□
	2,200	12.5 x 20	0.038	1,660	ZLQ010□222X20CS□□□
	3,300	12.5 x 25	0.030	1,950	ZLQ010□332X25CS□□□
	3,900	12.5 x 30	0.025	2,310	ZLQ010□392X30CS□□□
		16 x 20	0.031	2,210	ZLQ010□392J20CS□□□
	4,700	12.5 x 35	0.022	2,510	ZLQ010□472X35CS□□□
		12.5 x 42.5	0.019	2,870	ZLQ010□562X43CS□□□
	5,600	16 x 25	0.024	2,560	ZLQ010□562J25CS□□□
	18 x 20	0.031	2,490	ZLQ010□562K20CS□□□	
6,800	16 x 31.5	0.021	3,010	ZLQ010□682J32CS□□□	
	18 x 25	0.023	2,740	ZLQ010□682K25CS□□□	
8,200	16 x 35.5	0.019	3,150	ZLQ010□822J36CS□□□	
	18 x 31.5	0.021	3,330	ZLQ010□822K32CS□□□	
10,000	18 x 35.5	0.019	3,680	ZLQ010□103K36CS□□□	
12,000	18 x 40	0.018	3,880	ZLQ010□123K40CS□□□	
16	47	5 x 11	0.50	175	ZLQ016□470D11CS□□□
	100	6.3 x 11	0.25	290	ZLQ016□101E11CS□□□
	220	6.3 x 15	0.18	400	ZLQ016□221E15CS□□□
	330	8 x 11.5	0.12	555	ZLQ016□331F12CS□□□
	470	8 x 15	0.090	730	ZLQ016□471F15CS□□□
		10 x 12.5	0.089	760	ZLQ016□471G13CS□□□
	560	8 x 20	0.080	810	ZLQ016□561F20CS□□□
	680	10 x 16	0.068	1,050	ZLQ016□681G16CS□□□
	1,000	10 x 20	0.052	1,220	ZLQ016□102G20CS□□□
	1,200	10 x 25	0.045	1,440	ZLQ016□122G25CS□□□

WV (Vdc)	Cap (uF)	Size ØxL(mm)	Imp. ¹⁾	Ripple ²⁾	Code No
16	1,500	10 x 30	0.037	1,690	ZLQ016□152G30CS□□□
		12.5 x 20	0.038	1,660	ZLQ016□152X20CS□□□
	2,200	12.5 x 25	0.030	1,950	ZLQ016□222X25CS□□□
		12.5 x 30	0.025	2,310	ZLQ016□272X30CS□□□
	2,700	16 x 20	0.031	2,210	ZLQ016□272J20CS□□□
		12.5 x 35	0.022	2,510	ZLQ016□332X35CS□□□
	3,900	12.5 x 42.5	0.019	2,870	ZLQ016□392X43CS□□□
		16 x 25	0.024	2,560	ZLQ016□392J25CS□□□
		18 x 20	0.031	2,490	ZLQ016□392K20CS□□□
	4,700	16 x 31.5	0.021	3,010	ZLQ016□472J32CS□□□
		18 x 25	0.023	2,740	ZLQ016□472K25CS□□□
	5,600	16 x 35.5	0.019	3,150	ZLQ016□562J36CS□□□
18 x 31.5		0.021	3,330	ZLQ016□562K32CS□□□	
8,200	18 x 35.5	0.019	3,680	ZLQ016□822X36CS□□□	
10,000	18 x 40	0.018	3,880	ZLQ016□103K40CS□□□	
25	47	5 x 11	0.50	175	ZLQ025□470D11CS□□□
	82	6.3 x 11	0.30	260	ZLQ025□820E11CS□□□
	100	6.3 x 11	0.25	290	ZLQ025□101E11CS□□□
	150	6.3 x 15	0.18	400	ZLQ025□151E15CS□□□
	220	8 x 11.5	0.12	555	ZLQ025□221F12CS□□□
	330	8 x 15	0.090	730	ZLQ025□331F15CS□□□
		10 x 12.5	0.090	760	ZLQ025□331G13CS□□□
	390	8 x 20	0.080	810	ZLQ025□391F20CS□□□
	470	10 x 16	0.068	1,050	ZLQ025□471G16CS□□□
	680	10 x 16	0.068	1,130	ZLQ025□681G16CS□□□
		10 x 20	0.052	1,220	ZLQ025□681G20CS□□□
	820	10 x 20	0.052	1,320	ZLQ025□821G20CS□□□
		10 x 25	0.045	1,440	ZLQ025□821G25CS□□□
	1,000	10 x 30	0.037	1,690	ZLQ025□102G30CS□□□
		12.5 x 20	0.038	1,660	ZLQ025□102X20CS□□□
	1,500	12.5 x 25	0.030	1,950	ZLQ025□152X25CS□□□
		12.5 x 30	0.025	2,310	ZLQ025□182X30CS□□□
	1,800	16 x 20	0.031	2,210	ZLQ025□182J20CS□□□
12.5 x 35		0.022	2,510	ZLQ025□222X35CS□□□	
2,200	18 x 20	0.031	2,490	ZLQ025□222K20CS□□□	
	12.5 x 42.5	0.019	2,870	ZLQ025□272X43CS□□□	
2,700	16 x 25	0.024	2,560	ZLQ025□272J25CS□□□	
	16 x 31.5	0.021	3,010	ZLQ025□332J32CS□□□	
3,300	18 x 25	0.023	2,740	ZLQ025□332K25CS□□□	
	16 x 35.5	0.019	3,150	ZLQ025□392J36CS□□□	
3,900	18 x 31.5	0.021	3,330	ZLQ025□392K32CS□□□	
	18 x 35.5	0.019	3,680	ZLQ025□472K36CS□□□	
5,600	18 x 40	0.018	3,880	ZLQ025□562K40CS□□□	
35	33	5 x 11	0.50	175	ZLQ035□330D11CS□□□
	47	6.3 x 11	0.25	265	ZLQ035□470E11CS□□□
	56	6.3 x 11	0.25	290	ZLQ035□560E11CS□□□
	100	6.3 x 15	0.18	400	ZLQ035□101E15CS□□□
	150	8 x 11.5	0.12	555	ZLQ035□151F12CS□□□
		8 x 15	0.090	730	ZLQ035□221F15CS□□□
	220	10 x 12.5	0.090	760	ZLQ035□221G13CS□□□
		8 x 20	0.080	810	ZLQ035□271F20CS□□□
	330	10 x 16	0.068	1,050	ZLQ035□331G16CS□□□
	470	10 x 20	0.052	1,220	ZLQ035□471G20CS□□□
	560	10 x 25	0.045	1,440	ZLQ035□561G25CS□□□
		10 x 30	0.037	1,690	ZLQ035□681G30CS□□□
680	12.5 x 20	0.038	1,660	ZLQ035□681X20CS□□□	
	12.5 x 25	0.030	1,950	ZLQ035□102X25CS□□□	
1,000	12.5 x 30	0.025	2,310	ZLQ035□122X30CS□□□	
	16 x 20	0.031	2,210	ZLQ035□122J20CS□□□	



ZLQ series

Standard Ratings

Note1) Imp. = $\Omega_{max}/20^{\circ}C, 100kHz$ 2) Ripple current = $mA_{rms}/105^{\circ}C, 100kHz$

WV (Vdc)	Cap (uF)	Size $\varnothing \times L$ (mm)	Imp. ¹⁾	Ripple ²⁾	Code No
35	1,500	12.5 x 25	0.030	2,200	ZLQ035□152X25CS□□□
		12.5 x 35	0.022	2,510	ZLQ035□152X35CS□□□
	1,800	12.5 x 42.5	0.019	2,870	ZLQ035□182X43CS□□□
		16 x 25	0.024	2,560	ZLQ035□182J25CS□□□
		18 x 20	0.031	2,490	ZLQ035□182K20CS□□□
	2,200	16 x 31.5	0.021	3,010	ZLQT035□222J32CS□□□
		18 x 25	0.023	2,740	ZLQ035□222K25CS□□□
	2,700	16 x 35.5	0.019	3,150	ZLQ035□272J36CS□□□
		18 x 31.5	0.021	3,330	ZLQ035□272K32CS□□□
	3,300	18 x 35.5	0.019	3,680	ZLQ035□332K36CS□□□
3,900	18 x 40	0.018	3,800	ZLQ035□392K40CS□□□	
50	22	5 x 11	0.70	155	ZLQ050□220D11CS□□□
	33	6.3 x 11	0.45	170	ZLQ050□330E11CS□□□
	47	6.3 x 11	0.45	180	ZLQ050□470E11CS□□□
	68	6.3 x 15	0.31	360	ZLQ050□680E15CS□□□
	100	8 x 11.5	0.18	485	ZLQ050□101F12CS□□□
		8 x 15	0.16	635	ZLQ050□121F15CS□□□
	120	10 x 12.5	0.16	620	ZLQ050□121G13CS□□□
		180	8 x 20	0.12	730
	10 x 16		0.13	850	ZLQ050□181G16CS□□□

WV (Vdc)	Cap (uF)	Size $\varnothing \times L$ (mm)	Imp. ¹⁾	Ripple ²⁾	Code No
50	220	10 x 20	0.088	1,050	ZLQ050□221G20CS□□□
	330	10 x 25	0.073	1,250	ZLQ050□331G25CS□□□
	390	10 x 30	0.054	1,500	ZLQ050□391G30CS□□□
		12.5 x 20	0.059	1,480	ZLQ050□391X20CS□□□
	560	12.5 x 25	0.044	1,840	ZLQ050□561X25CS□□□
	680	12.5 x 30	0.039	2,220	ZLQ050□681X30CS□□□
		16 x 20	0.048	1,840	ZLQ050□681J20CS□□□
	820	12.5 x 35	0.033	2,290	ZLQ050□821X35CS□□□
		18 x 20	0.042	1,980	ZLQ050□821K20CS□□□
	1,000	16 x 31.5	0.049	2,500	ZLQ050□102J32CS□□□
		18 x 25	0.054	2,240	ZLQ050□102K25CS□□□
	1,200	16 x 35.5	0.039	2,700	ZLQ050□122J36CS□□□
		18 x 31.5	0.043	2,610	ZLQ050□122K32CS□□□
	1,500	16x 40	0.033	2,800	ZLQ050□152J40CS□□□
		18 x 35.5	0.035	2,750	ZLQ050□152K36CS□□□
	1,800	18 x 40	0.029	3,200	ZLQ050□182K40CS□□□

Rated ripple current multipliers

Capacitance (uF)	Frequency (Hz)				
	120	1K	10K	50K	100K
22~180	0.40	0.75	0.90	0.93	1.00
220~560	0.50	0.85	0.94	0.96	1.00
680~1,800	0.60	0.87	0.95	0.97	1.00
2,200~3,900	0.75	0.90	0.95	0.97	1.00
4,700~18,000	0.85	0.95	0.98	0.99	1.00