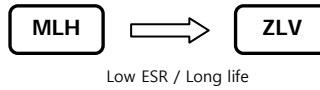


ZLV series

- Low impedance
- High-Ripple current
- RoHS compliant

- 105°C 4,000 ~ 5,000Hrs assured.
- Low impedance, High Ripple current
- For LCD TV BLU, SMPS, IP-Board, Adaptor
- RoHS compliant
- Halogen-free capacitors are also available.

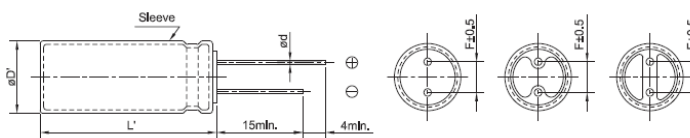


Specifications

Item	Characteristics																								
Rated Voltage Range	10 ~ 100Vdc																								
Operating Temperature Range	-40 ~ +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>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> </tr> <tr> <td>Tanδ(Max.)</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> <td>0.06</td> </tr> </table> <p>If the capacitance exceeds 1,000uF, then Tanδ will be added 0.02 every 1000uF increase. (at 20°C, 120Hz)</p>	Rated Voltage(Vdc)	10	16	25	35	50	63	100	Tanδ(Max.)	0.19	0.16	0.14	0.12	0.10	0.08	0.06								
Rated Voltage(Vdc)	10	16	25	35	50	63	100																		
Tanδ(Max.)	0.19	0.16	0.14	0.12	0.10	0.08	0.06																		
Temperature characteristics (Max,impedance ratio)	<table border="1"> <tr> <td>Rated Voltage(Vdc)</td> <td>10</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 colspan="7">2</td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td colspan="7">3</td> </tr> </table> <p>(at 120Hz)</p>	Rated Voltage(Vdc)	10	16	25	35	50	63	100	Z(-25°C)/Z(20°C)	2							Z(-40°C)/Z(20°C)	3						
Rated Voltage(Vdc)	10	16	25	35	50	63	100																		
Z(-25°C)/Z(20°C)	2																								
Z(-40°C)/Z(20°C)	3																								
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>Capacitance change</td> <td>≤±25% of the initial value</td> </tr> <tr> <td>Tan δ</td> <td>≤200% of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>≤The initial specified value</td> </tr> </table> <table border="1"> <tr> <td>∅D</td> <td>Life time</td> </tr> <tr> <td>∅8</td> <td>4,000hrs</td> </tr> <tr> <td>∅10 x 12.5L</td> <td>4,000hrs</td> </tr> <tr> <td>∅10</td> <td>5,000hrs</td> </tr> </table>	Capacitance change	≤±25% of the initial value	Tan δ	≤200% of the initial specified value	Leakage current	≤The initial specified value	∅D	Life time	∅8	4,000hrs	∅10 x 12.5L	4,000hrs	∅10	5,000hrs										
Capacitance change	≤±25% of the initial value																								
Tan δ	≤200% of the initial specified value																								
Leakage current	≤The initial specified value																								
∅D	Life time																								
∅8	4,000hrs																								
∅10 x 12.5L	4,000hrs																								
∅10	5,000hrs																								
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> <table border="1"> <tr> <td>Capacitance change</td> <td>≤±25% of the initial value</td> </tr> <tr> <td>Tanδ</td> <td>≤200% of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>≤200%The initial specified value</td> </tr> </table>	Capacitance change	≤±25% of the initial value	Tanδ	≤200% of the initial specified value	Leakage current	≤200%The initial specified value																		
Capacitance change	≤±25% of the initial value																								
Tanδ	≤200% of the initial specified value																								
Leakage current	≤200%The initial specified value																								

Dimensions

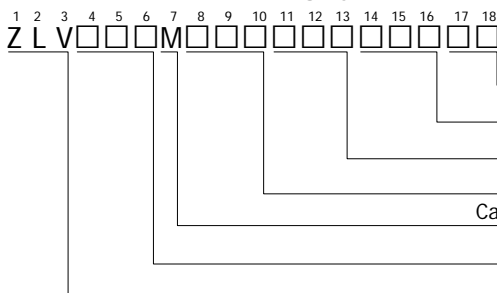
Unit(mm)



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

- Printed black color letter on PET sky blue sleeve

Code numbering system



- Taping, Cutting
- Terminal type
- Size (8x11.5: F11)
- Capacitance
- Capacitance tolerance(M: ±20%, K: ±10%, V: -10~20%)
- Rated voltage(ex. 6.3V→6R3, 10V→010, 63V→063)
- Series name

∅5	D
∅6.3	E
∅8	F
∅10	G
∅12.5	X
∅16	J
∅18	K



ZLV series

■ Standard Ratings

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

VV (Vdc)	Cap (uF)	Size ØxL (mm)	Imp. ¹⁾	Ripple ²⁾	Code No
6.3	120	5 x 11	0.72	167	ZLV6R3□121D11CS□□□
	220	6.3 x 11	0.38	256	ZLV6R3□221E11CS□□□
	330	6.3 x 15	0.27	333	ZLV6R3□331E15CS□□□
		8 x 11.5	0.19	487	ZLV6R3□331F11CS□□□
	470	10 x 12.5	0.12	625	ZLV6R3□471G13CS□□□
	560	8 x 15	0.16	498	ZLV6R3□561F15CS□□□
	680	10 x 16	0.084	826	ZLV6R3□681G16CS□□□
	820	8 x 20	0.110	650	ZLV6R3□821F20CS□□□
	1,200	10 x 20	0.061	1,060	ZLV6R3□122G20CS□□□
	1,500	10 x 25	0.052	1,280	ZLV6R3□152G25CS□□□
	2,200	10 x 30	0.044	1,450	ZLV6R3□222G30CS□□□
	2,700	12.5 x 25	0.033	1,690	ZLV6R3□272X25CS□□□
	3,300	12.5 x 30	0.032	1,790	ZLV6R3□332X30CS□□□
	3,900	12.5 x 30	0.030	1,950	ZLV6R3□392X30CS□□□
	4,700	12.5 x 35	0.027	2,210	ZLV6R3□472X35CS□□□
	5,600	12.5 x 42.5	0.024	2,390	ZLV6R3□562X43CS□□□
	5,600	16 x 25	0.028	2,080	ZLV6R3□562J25CS□□□
	6,800	16 x 31.5	0.026	2,350	ZLV6R3□682J32CS□□□
	6,800	18 x 25	0.029	2,140	ZLV6R3□682K25CS□□□
	8,200	16 x 35.5	0.023	2,550	ZLV6R3□822J36CS□□□
10,000	18 x 31.5	0.025	2,420	ZLV6R3□103K32CS□□□	
12,000	18 x 35.5	0.024	2,660	ZLV6R3□123K36CS□□□	
15,000	18 x 40	0.019	3,020	ZLV6R3□153K40CS□□□	
10	82	5 x 11	0.72	167	ZLV010□820D11CS□□□
	180	6.3 x 11	0.38	256	ZLV010□181E11CS□□□
	270	6.3 x 15	0.27	333	ZLV010□271E15CS□□□
		8 x 11.5	0.19	487	ZLV010□271F11CS□□□
	470	8 x 11.5	0.25	330	ZLV010□471F11CS□□□
		8 x 15	0.16	495	ZLV010□471F15CS□□□
	680	8 x 20	0.11	640	ZLV010□681F20CS□□□
		10 x 16	0.084	825	ZLV010□681G16CS□□□
	1,000	10 x 20	0.062	1,040	ZLV010□102G20CS□□□
	1,200	10 x 25	0.052	1,260	ZLV010□122G25CS□□□
	1,500	10 x 30	0.044	1,440	ZLV010□152G30CS□□□
	1,800	12.5 x 20	0.046	1,340	ZLV010□182X20CS□□□
	2,200	12.5 x 25	0.034	1,690	ZLV010□222X25CS□□□
	2,700	12.5 x 30	0.030	1,950	ZLV010□272X30CS□□□
	3,300	12.5 x 35	0.027	2,200	ZLV010□332X35CS□□□
		16 x 20	0.039	1,630	ZLV010□332J20CS□□□
	3,900	12.5 x 42.5	0.024	2,390	ZLV010□392X43CS□□□
		16 x 25	0.029	2,070	ZLV010□392J25CS□□□
	4,700	16 x 31.5	0.025	2,280	ZLV010□472J32CS□□□
	5,600	16 x 31.5	0.026	2,350	ZLV010□562J32CS□□□
18 x 25		0.029	2,130	ZLV010□562K25CS□□□	
6,800	16 x 35.5	0.023	2,550	ZLV010□682J36CS□□□	
	18 x 31.5	0.026	2,410	ZLV010□682K32CS□□□	
8,200	18 x 35.5	0.023	2,660	ZLV010□822K36CS□□□	
10,000	18 x 40	0.019	3,010	ZLV010□103K40CS□□□	
16	56	5 x 11	0.72	165	ZLV016□560D11CS□□□
	120	6.3 x 11	0.38	255	ZLV016□121E11CS□□□
	180	6.3 x 15	0.27	330	ZLV016□181E15CS□□□
		8 x 11.5	0.19	485	ZLV016□181F11CS□□□
	270	10 x 12.5	0.12	625	ZLV016□271G13CS□□□
	330	8 x 15	0.16	495	ZLV016□331F15CS□□□
		8 x 20	0.11	640	ZLV016□471F20CS□□□
	470	10 x 16	0.084	825	ZLV016□471G16CS□□□
		10 x 20	0.062	1,040	ZLV016□681G20CS□□□
	820	10 x 25	0.052	1,260	ZLV016□821G25CS□□□
1,000	10 x 30	0.047	1,360	ZLV016□102G30CS□□□	

VV (Vdc)	Cap (uF)	Size ØxL (mm)	Imp. ¹⁾	Ripple ²⁾	Code No
16	1,200	10 x 30	0.044	1,440	ZLV016□122G30CS□□□
		12.5 x 20	0.046	1,340	ZLV016□122X20CS□□□
	1,500	12.5 x 25	0.034	1,690	ZLV016□152X25CS□□□
		12.5 x 30	0.030	1,950	ZLV016□222X30CS□□□
	2,200	16 x 20	0.039	1,630	ZLV016□222J20CS□□□
		12.5 x 35	0.027	2,200	ZLV016□272X35CS□□□
	2,700	16 x 25	0.029	2,070	ZLV016□272J25CS□□□
		12.5 x 42.5	0.024	2,390	ZLV016□332X43CS□□□
	3,300	18 x 20	0.038	1,750	ZLV016□332K20CS□□□
		16 x 31.5	0.026	2,350	ZLV016□392J32CS□□□
	3,900	18 x 25	0.029	2,130	ZLV016□392K25CS□□□
		16 x 35.5	0.023	2,550	ZLV016□472J36CS□□□
	5,600	18 x 31.5	0.026	2,410	ZLV016□562K32CS□□□
	6,800	18 x 35.5	0.023	2,660	ZLV016□682K36CS□□□
8,200	18 x 40	0.019	3,010	ZLV016□822K40CS□□□	
25	39	5 x 11	0.72	165	ZLV025□390D11CS□□□
	47	5 x 11	0.72	194	ZLV025□470D11CS□□□
	82	6.3 x 11	0.38	255	ZLV025□820E11CS□□□
	100	6.3 x 11	0.35	280	ZLV025□101E11CS□□□
		6.3 x 15	0.27	330	ZLV025□121E15CS□□□
	120	8 x 11.5	0.19	485	ZLV025□121F11CS□□□
		10 x 12.5	0.12	625	ZLV025□181G13CS□□□
	180	8 x 15	0.16	495	ZLV025□221F15CS□□□
	330	8 x 20	0.11	640	ZLV025□331F20CS□□□
		10 x 16	0.084	825	ZLV025□331G16CS□□□
	470	10 x 20	0.062	1,150	ZLV025□471G20CS□□□
	560	10 x 25	0.052	1,260	ZLV025□561G25CS□□□
	680	10 x 30	0.048	1,330	ZLV025□681G30CS□□□
	820	12.5 x 20	0.046	1,440	ZLV025□821X20CS□□□
1,000	12.5 x 25	0.034	1,690	ZLV025□102X25CS□□□	
	12.5 x 30	0.030	1,950	ZLV025□152X30CS□□□	
1,500	16 x 20	0.039	1,630	ZLV025□152J20CS□□□	
	12.5 x 35	0.027	2,200	ZLV025□182X35CS□□□	
1,800	16 x 25	0.029	2,070	ZLV025□182J25CS□□□	
	12.5 x 42.5	0.024	2,390	ZLV025□222X43CS□□□	
2,200	18 x 20	0.038	1,750	ZLV025□222K20CS□□□	
	16 x 31.5	0.026	2,350	ZLV025□272J32CS□□□	
2,700	18 x 25	0.029	2,130	ZLV025□272K25CS□□□	
	16 x 35.5	0.023	2,550	ZLV025□332J36CS□□□	
3,300	18 x 31.5	0.026	2,410	ZLV025□332K32CS□□□	
	18 x 35.5	0.023	2,660	ZLV025□392K36CS□□□	
4,700	18 x 40	0.019	3,010	ZLV025□472K40CS□□□	
35	27	5 x 11	0.72	165	ZLV035□270D11CS□□□
	47	6.3 x 11	0.50	233	ZLV035□470E11CS□□□
	56	6.3 x 11	0.38	255	ZLV035□560E11CS□□□
	68	6.3 x 11	0.38	255	ZLV035□680E11CS□□□
	82	6.3 x 15	0.27	330	ZLV035□820E15CS□□□
		8 x 11.5	0.19	485	ZLV035□820F11CS□□□
	100	8 x 15	0.16	566	ZLV035□101F15CS□□□
	120	10 x 12.5	0.12	625	ZLV035□121G13CS□□□
	180	8 x 15	0.16	495	ZLV035□181F15CS□□□
		8 x 20	0.11	640	ZLV035□221F20CS□□□
	220	10 x 16	0.084	825	ZLV035□221G16CS□□□
		10 x 20	0.062	1,040	ZLV035□331G20CS□□□
	390	10 x 25	0.052	1,260	ZLV035□391G25CS□□□
	470	10 x 30	0.048	1,320	ZLV035□471G30CS□□□
10 x 30		0.044	1,440	ZLV035□561G30CS□□□	
560	12.5 x 20	0.046	1,340	ZLV035□561X20CS□□□	
	12.5 x 25	0.034	1,690	ZLV035□681X25CS□□□	



ZLV series

Standard Ratings

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

VV (Vdc)	Cap (uF)	Size ØxL(mm)	Imp. ¹⁾	Ripple ²⁾	Code No
35	1,000	12.5 x 25	0.040	1,690	ZLV035□102X25CS□□□
		12.5 x 30	0.030	1,950	ZLV035□102X30CS□□□
	1,200	12.5 x 35	0.027	2,200	ZLV035□122X35CS□□□
		16 x 25	0.029	2,070	ZLV035□122J25CS□□□
	1,500	12.5 x 42.5	0.024	2,390	ZLV035□152X43CS□□□
		18 x 20	0.038	1,750	ZLV035□152K20CS□□□
	1,800	16 x 31.5	0.026	2,350	ZLV035□182J32CS□□□
		18 x 25	0.029	2,130	ZLV035□182K25CS□□□
	2,200	16 x 35.5	0.023	2,550	ZLV035□222J36CS□□□
		18 x 31.5	0.026	2,410	ZLV035□222K32CS□□□
	2,700	18 x 35.5	0.023	2,660	ZLV035□272K36CS□□□
	3,300	18 x 40	0.019	3,010	ZLV035□332K40CS□□□
50	4.7	5 x 11	3.0	100	ZLV050□4R7D11CS□□□
	10	5 x 11	1.4	124	ZLV050□100D11CS□□□
	18	5 x 11	1.1	130	ZLV050□180D11CS□□□
	22	6.3 x 11	0.91	180	ZLV050□220E11CS□□□
	39	6.3 x 11	0.56	220	ZLV050□390E11CS□□□
	47	6.3 x 11	0.56	300	ZLV050□470E11CS□□□
	56	6.3 x 15	0.41	310	ZLV050□560E15CS□□□
		8 x 11.5	0.33	368	ZLV050□560F11CS□□□
	82	8 x 15	0.25	470	ZLV050□820F15CS□□□
		10 x 12.5	0.16	480	ZLV050□820G13CS□□□
	120	8 x 20	0.18	610	ZLV050□121F20CS□□□
		10 x 16	0.12	755	ZLV050□121G16CS□□□
	180	10 x 20	0.088	945	ZLV050□181G20CS□□□
	220	10 x 25	0.068	1,150	ZLV050□221G25CS□□□
	330	10 x 30	0.059	1,260	ZLV050□331G30CS□□□
		12.5 x 20	0.059	1,190	ZLV050□331X20CS□□□
	470	12.5 x 25	0.045	1,490	ZLV050□471X25CS□□□
	560	12.5 x 30	0.039	1,720	ZLV050□561X30CS□□□
	680	12.5 x 35	0.038	1,890	ZLV050□681X35CS□□□
		16 x 20	0.044	1,420	ZLV050□681J20CS□□□
	820	12.5 x 42.5	0.029	2,030	ZLV050□821X43CS□□□
		16 x 25	0.034	1,880	ZLV050□821J25CS□□□
	1,000	18 x 20	0.041	1,520	ZLV050□821K20CS□□□
		16 x 31.5	0.030	2,150	ZLV050□102J32CS□□□
1,200	18 x 25	0.032	1,930	ZLV050□102K25CS□□□	
	16 x 35.5	0.027	2,320	ZLV050□122J36CS□□□	
1,500	18 x 31.5	0.028	2,200	ZLV050□152K32CS□□□	
1,800	18 x 35.5	0.024	2,400	ZLV050□182K36CS□□□	
2,200	18 x 40	0.022	2,610	ZLV050□222K40CS□□□	

VV (Vdc)	Cap (uF)	Size ØxL(mm)	Imp. ¹⁾	Ripple ²⁾	Code No
63	0.47	5 x 11	65.2	38	ZLV063□R47D11CS□□□
	0.68	5 x 11	47.0	45	ZLV063□R68D11CS□□□
	1.0	5 x 11	31.8	53	ZLV063□1R0D11CS□□□
	1.5	5 x 11	22.6	65	ZLV063□1R5D11CS□□□
	2.2	5 x 11	15.1	78	ZLV063□2R2D11CS□□□
	3.3	5 x 11	11.1	98	ZLV063□3R3D11CS□□□
	4.7	5 x 11	10.8	115	ZLV063□4R7D11CS□□□
	6.8	5 x 11	4.3	120	ZLV063□6R8D11CS□□□
	10	5 x 11	2.9	134	ZLV063□100D11CS□□□
	15	6.3 x 11	2.7	188	ZLV063□150E11CS□□□
	22	6.3 x 11	1.36	228	ZLV063□220E11CS□□□
	33	8 x 11.5	0.66	330	ZLV063□330F11CS□□□
	47	10 x 12.5	0.58	327	ZLV063□470G13CS□□□
	68	10 x 16	0.36	431	ZLV063□680G16CS□□□
	82	10 x 20	0.32	506	ZLV063□820G20CS□□□
	100	10 x 20	0.29	570	ZLV063□101G20CS□□□
	150	10 x 25	0.20	765	ZLV063□151G25CS□□□
	220	12.5 x 20	0.16	994	ZLV063□221X20CS□□□
	330	12.5 x 25	0.10	1,327	ZLV063□331X25CS□□□
	470	16 x 31.5	0.091	1,518	ZLV063□471J32CS□□□
680	16 x 35.5	0.065	2,060	ZLV063□681J36CS□□□	
1,000	16 x 35.5	0.049	2,250	ZLV063□102J36CS□□□	
100	0.47	5 x 11	31.2	38	ZLV100□R47D11CS□□□
	0.68	5 x 11	22.1	45	ZLV100□R68D11CS□□□
	1.0	5 x 11	14.7	53	ZLV100□1R0D11CS□□□
	1.5	5 x 11	9.8	65	ZLV100□1R5D11CS□□□
	2.2	5 x 11	5.4	78	ZLV100□2R2D11CS□□□
	3.3	5 x 11	4.6	98	ZLV100□3R3D11CS□□□
	4.7	5 x 11	3.9	115	ZLV100□4R7D11CS□□□
	6.8	6.3 x 11	3.2	128	ZLV100□6R8E11CS□□□
	10	6.3 x 11	1.7	154	ZLV100□100E11CS□□□
	15	8 x 11.5	1.2	222	ZLV100□150F11CS□□□
	22	8 x 11.5	0.82	270	ZLV100□220F11CS□□□
	33	10 x 12.5	0.41	384	ZLV100□330G13CS□□□
	47	10 x 16	0.37	400	ZLV100□470G16CS□□□
	68	10 x 20	0.27	470	ZLV100□680G20CS□□□
	82	10 x 25	0.26	572	ZLV100□820G25CS□□□
	100	12.5 x 20	0.27	670	ZLV100□101X20CS□□□
	150	12.5 x 25	0.21	894	ZLV100□151X25CS□□□
	220	16 x 25	0.17	1,200	ZLV100□221J25CS□□□
	330	16 x 31.5	0.11	1,470	ZLV100□331J32CS□□□
	470	16 x 35.5	0.091	1,680	ZLV100□471J36CS□□□
680	18 x 40	0.071	2,120	ZLV100□681K40CS□□□	
1,000	18 x 40	0.051	2,900	ZLV100□102K40CS□□□	

Rated ripple current multipliers

Rated voltage (Vdc)	ØD (mm)	Frequency (Hz)				
		120	1K	10K	50K	100K
6.3 - 10	Ø5 - Ø8	0.65	0.83	0.95	0.97	1.00
	Ø10 - Ø12.5	0.70	0.85	0.96	0.98	1.00
	Ø16 - Ø18	0.85	0.92	0.97	0.99	1.00
16 - 25	Ø5 - Ø8	0.55	0.76	0.91	0.95	1.00
	Ø10 - Ø12.5	0.65	0.83	0.93	0.96	1.00
	Ø16 - Ø18	0.70	0.87	0.96	0.98	1.00
35 - 50	Ø5 - Ø8	0.40	0.66	0.85	0.90	1.00
	Ø10 - Ø12.5	0.50	0.73	0.89	0.94	1.00
	Ø16 - Ø18	0.60	0.81	0.94	0.97	1.00
63 - 100	Ø5 - Ø8	0.20	0.55	0.80	0.88	1.00
	Ø10 - Ø12.5	0.35	0.65	0.85	0.92	1.00
	Ø16 - Ø18	0.50	0.75	0.90	0.95	1.00