

UZS series

Ultra Low ESR Long Life RoHS Compliant

- 105°C 2,000 ~ 5,000hrs assured.
- Non solvent proof
- Very low impedance, Non solvent proof
- For SMPS, IP-Board, Adaptor, Charger
- RoHS compliant
- Halogen-free capacitors are also available.

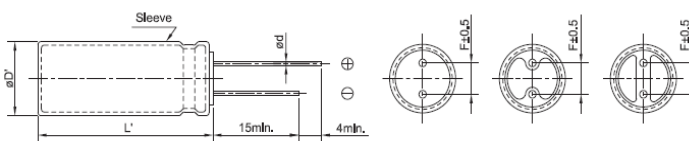


Specifications

Item	Characteristics																											
Rated Voltage Range	6.3 ~ 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>6.3</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>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.09</td> <td>0.08</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)	6.3	10	16	25	35	50	63	100	Tanδ (max.)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08									
Rated voltage (Vdc)	6.3	10	16	25	35	50	63	100																				
Tanδ (max.)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08																				
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>63</td> <td>100</td> </tr> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> </table> <p>(at 120Hz)</p>	Rated voltage (Vdc)	6.3	10	16	25	35	50	63	100	Z(-25°C)/Z(20°C)	2	2	2	2	2	2	2	2	Z(-40°C)/Z(20°C)	3	3	3	3	3	3	3	3
Rated voltage (Vdc)	6.3	10	16	25	35	50	63	100																				
Z(-25°C)/Z(20°C)	2	2	2	2	2	2	2	2																				
Z(-40°C)/Z(20°C)	3	3	3	3	3	3	3	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> <td>5~6.3Ø</td> <td>8Ø</td> <td>10Ø</td> <td>12.5~</td> </tr> <tr> <td>Tan δ</td> <td>≤200% of the initial specified value</td> <td>2,000hrs</td> <td>3,000hrs</td> <td>4,000hrs</td> <td>5,000hrs</td> </tr> <tr> <td>Leakage current</td> <td>≤The initial specified value</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Capacitance change	≤±25% of the initial value	5~6.3Ø	8Ø	10Ø	12.5~	Tan δ	≤200% of the initial specified value	2,000hrs	3,000hrs	4,000hrs	5,000hrs	Leakage current	≤The initial specified value													
Capacitance change	≤±25% of the initial value	5~6.3Ø	8Ø	10Ø	12.5~																							
Tan δ	≤200% of the initial specified value	2,000hrs	3,000hrs	4,000hrs	5,000hrs																							
Leakage current	≤The initial specified value																											
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>≤±20% 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	≤±20% of the initial value	Tanδ	≤200% of the initial specified value	Leakage current	≤200%The initial specified value																					
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Tanδ	≤200% of the initial specified value																											
Leakage current	≤200%The initial specified value																											

Dimensions

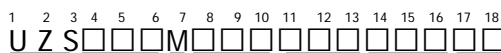
Unit(mm)



	5	6.3	8	10	12.5	16	18
ØD	5	6.3	8	10	12.5	16	18
Ød	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
ØD'	ØD+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 (5X11: D11)
- Capacitance
- Capacitance tolerance(M:±20%, K:±10%, V :-10~20%)
- Rated voltage(ex. 6.3V→6R3, 10V→010,63V→063)
- Series name

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

UZS 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	220	5 x 11	0.30	250	UZS6R3□221D11CS□□□
	470	6.3 x 11	0.13	405	UZS6R3□471E11CS□□□
	560	6.3 x 15	0.10	646	UZS6R3□561E15CS□□□
	820	8 x 11.5	0.072	760	UZS6R3□821F12CS□□□
	1,200	8 x 15	0.060	818	UZS6R3□122F15CS□□□
		10 x 12.5	0.053	1,030	UZS6R3□122G13CS□□□
	1,500	8 x 20	0.050	1,260	UZS6R3□152F20CS□□□
	1,800	10 x 16	0.038	1,430	UZS6R3□182G16CS□□□
		12.5 x 16	0.031	1,452	UZS6R3□182X16CS□□□
	2,200	10 x 20	0.023	1,820	UZS6R3□222G20CS□□□
	2,700	16 x 15	0.040	1,375	UZS6R3□272J15CS□□□
	3,300	10 x 25	0.022	2,150	UZS6R3□332G25CS□□□
	3,900	12.5 x 20	0.021	2,360	UZS6R3□392X20CS□□□
	4,700	12.5 x 25	0.020	2,770	UZS6R3□472X25CS□□□
5,600	12.5 x 30	0.018	3,290	UZS6R3□562X30CS□□□	
	16 x 20	0.021	3,140	UZS6R3□562J20CS□□□	
	18 x 20	0.023	2,826	UZS6R3□562K20CS□□□	
	6,800	12.5 x 35	0.017	3,400	UZS6R3□682X35CS□□□
		16 x 25	0.019	3,460	UZS6R3□682J25CS□□□
	8,200	16 x 31.5	0.013	3,680	UZS6R3□822J32CS□□□
18 x 25	0.018	3,610	UZS6R3□822K25CS□□□		
	150	5 x 11	0.30	250	UZS010□151D11CS□□□
330	6.3 x 11	0.13	405	UZS010□331E11CS□□□	
	8 x 11.5	0.094	600	UZS010□331F12CS□□□	
470	6.3 x 15	0.10	646	UZS010□471E15CS□□□	
680	8 x 11.5	0.072	760	UZS010□681F12CS□□□	
820	10 x 12.5	0.053	1,030	UZS010□821G13CS□□□	
1,000	8 x 15	0.060	818	UZS010□102F15CS□□□	
	10 x 12.5	0.053	1,030	UZS010□102G13CS□□□	
	10 x 16	0.038	1,430	UZS010□102G16CS□□□	
	1,200	8 x 20	0.050	1,260	UZS010□122F20CS□□□
	1,500	10 x 16	0.038	1,430	UZS010□152G16CS□□□
		10 x 20	0.023	1,820	UZS010□152G20CS□□□
	12.5 x 16	0.031	1,452	UZS010□152X16CS□□□	
	1,800	16 x 15	0.040	1,375	UZS010□182J15CS□□□
	2,200	10 x 25	0.022	2,150	UZS010□222G25CS□□□
	3,300	12.5 x 20	0.021	2,360	UZS010□332X20CS□□□
3,900	12.5 x 25	0.020	2,770	UZS010□392X25CS□□□	
4,700	12.5 x 30	0.018	3,290	UZS010□472X30CS□□□	
	16 x 20	0.021	3,140	UZS010□472J20CS□□□	
	18 x 20	0.023	2,826	UZS010□472K20CS□□□	
	5,600	12.5 x 35	0.017	3,400	UZS010□562X35CS□□□
		16 x 25	0.019	3,460	UZS010□562J25CS□□□
	18 x 25	0.018	3,611	UZS010□562K25CS□□□	
6,800	16 x 31.5	0.013	3,680	UZS010□682J32CS□□□	
16	100	5 x 11	0.30	250	UZS016□101D11CS□□□
	220	6.3 x 11	0.15	385	UZS016□101E11CS□□□
	330	6.3 x 15	0.10	646	UZS016□331E15CS□□□
	470	8 x 11.5	0.072	760	UZS016□471F12CS□□□
	680	8 x 15	0.060	818	UZS016□681F15CS□□□
		10 x 12.5	0.053	1,030	UZS016□681G13CS□□□
	8 x 20	0.050	1,260	UZS016□102F20CS□□□	
	1,000	10 x 16	0.038	1,430	UZS016□102G16CS□□□
		12.5 x 16	0.031	1,452	UZS016□102X16CS□□□
	1,200	16 x 15	0.040	1,375	UZS016□122J15CS□□□
	1,500	10 x 20	0.023	1,820	UZS016□152G20CS□□□
	1,800	10 x 25	0.022	2,150	UZS016□182G25CS□□□

WV (Vdc)	Cap (uF)	Size ØxL (mm)	Imp. ¹⁾	Ripple ²⁾	Code No
16	2,200	12.5 x 20	0.021	2,360	UZS016□222X20CS□□□
	2,700	12.5 x 25	0.020	2,770	UZS016□272X25CS□□□
	3,300	12.5 x 30	0.018	3,290	UZS016□332X30CS□□□
		16 x 20	0.021	3,140	UZS016□332J20CS□□□
		18 x 20	0.023	2,826	UZS016□332K20CS□□□
	3,900	12.5 x 35	0.017	3,400	UZS016□392X35CS□□□
		18 x 25	0.018	3,611	UZS016□392K25CS□□□
	4,700	16 x 25	0.019	3,460	UZS016□472J25CS□□□
	5,600	16 x 31.5	0.013	3,680	UZS016□562J32CS□□□
	25	68	5 x 11	0.30	250
150		6.3 x 11	0.13	405	UZS025□151E11CS□□□
220		6.3 x 15	0.10	646	UZS025□221E15CS□□□
		8 x 11.5	0.072	760	UZS025□221F12CS□□□
330		10 x 12.5	0.053	1,030	UZS025□331G13CS□□□
390		8 x 15	0.060	818	UZS025□391F15CS□□□
470		10 x 12.5	0.053	1,030	UZS025□471G13CS□□□
		10 x 16	0.038	1,430	UZS025□471G16CS□□□
560		8 x 20	0.050	1,260	UZS025□561F20CS□□□
680		10 x 16	0.038	1,430	UZS025□681G16CS□□□
		10 x 20	0.023	1,820	UZS025□681G20CS□□□
		12.5 x 16	0.031	1,452	UZS025□681X16CS□□□
820		10 x 20	0.023	2,000	UZS025□821G20CS□□□
		16 x 15	0.040	1,375	UZS025□821J15CS□□□
1,000		10 x 20	0.025	1,900	UZS025□102G20CS□□□
		10 x 25	0.022	2,150	UZS025□102G25CS□□□
1,500		12.5 x 25	0.021	2,360	UZS025□152X25CS□□□
1,800		12.5 x 25	0.020	2,770	UZS025□182X25CS□□□
2,200	12.5 x 25	0.020	3,000	UZS025□222X25CS□□□	
	12.5 x 30	0.018	3,290	UZS025□222X30CS□□□	
	16 x 20	0.021	3,140	UZS025□222J20CS□□□	
	18 x 20	0.023	2,860	UZS025□222K20CS□□□	
	2,700	12.5 x 35	0.021	2,930	UZS025□272X35CS□□□
		18 x 25	0.017	3,450	UZS025□272K25CS□□□
3,300	16 x 25	0.019	3,460	UZS025□332J25CS□□□	
	16 x 31.5	0.013	3,680	UZS025□332J32CS□□□	
35	47	5 x 11	0.30	250	UZS035□470D11CS□□□
	100	6.3 x 11	0.13	405	UZS035□101E11CS□□□
	150	6.3 x 15	0.10	646	UZS035□151E15CS□□□
		8 x 11.5	0.072	760	UZS035□151F12CS□□□
	220	10 x 12.5	0.053	840	UZS035□221G13CS□□□
	270	8 x 15	0.060	818	UZS035□271F15CS□□□
	330	10 x 12.5	0.053	1,030	UZS035□331G13CS□□□
	390	8 x 20	0.050	1,260	UZS035□391F20CS□□□
	470	10 x 16	0.038	1,430	UZS035□471G16CS□□□
		12.5 x 16	0.031	1,452	UZS035□471X16CS□□□
	560	10 x 20	0.023	1,820	UZS035□561G20CS□□□
		16 x 15	0.040	1,375	UZS035□561J15CS□□□
	680	10 x 20	0.023	1,820	UZS035□681G20CS□□□
		10 x 25	0.022	2,150	UZS035□681G25CS□□□
	1,000	12.5 x 20	0.021	2,360	UZS035□102X20CS□□□
		12.5 x 25	0.020	2,770	UZS035□102X25CS□□□
	1,200	12.5 x 25	0.020	2,770	UZS035□122X25CS□□□
	1,500	12.5 x 30	0.018	3,290	UZS035□152X30CS□□□
16 x 20		0.021	3,140	UZS035□152J20CS□□□	
18 x 20		0.023	2,860	UZS035□152K20CS□□□	
1,800	12.5 x 35	0.017	3,400	UZS035□182X35CS□□□	
	16 x 25	0.019	3,460	UZS035□182J25CS□□□	
	18 x 25	0.018	3,611	UZS035□182K25CS□□□	
2,200	16 x 25	0.019	3,460	UZS035□222J25CS□□□	
	16 x 31.5	0.013	3,680	UZS035□222J32CS□□□	

UZS 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
50	1.0	5 x 11	2.5	53	UZS050□1R0D11CS□□□
	2.2	5 x 11	2.5	56	UZS050□2R2D11CS□□□
	4.7	5 x 11	1.5	82	UZS050□4R7D11CS□□□
	10	5 x 11	1.0	250	UZS050□100D11CS□□□
	22	5 x 11	0.30	250	UZS050□220D11CS□□□
	27	5 x 11	0.30	250	UZS050□270D11CS□□□
	47	6.3 x 11	0.14	350	UZS050□470E11CS□□□
	56	6.3 x 11	0.14	385	UZS050□560E11CS□□□
	100	6.3 x 15	0.10	646	UZS050□101E15CS□□□
		8 x 11.5	0.072	724	UZS050□101F12CS□□□
	120	8 x 15	0.060	818	UZS050□121F15CS□□□
	150	10 x 12.5	0.061	979	UZS050□151G13CS□□□
	180	8 x 20	0.050	1,260	UZS050□181F20CS□□□
	220	10 x 16	0.042	1,370	UZS050□221G16CS□□□
	270	12.5 x 16	0.042	1,071	UZS050□271X16CS□□□
	330	10 x 20	0.030	1,220	UZS050□331G20CS□□□
	390	16 x 15	0.046	1,196	UZS050□391J15CS□□□
	470	10 x 25	0.028	1,870	UZS050□471G25CS□□□
		12.5 x 20	0.027	2,050	UZS050□471X20CS□□□
	560	12.5 x 25	0.023	2,410	UZS050□561X25CS□□□
680	12.5 x 30	0.021	2,860	UZS050□681X30CS□□□	
820	12.5 x 35	0.019	2,960	UZS050□821X35CS□□□	
	16 x 20	0.023	2,730	UZS050□821J20CS□□□	
1,000	16 x 25	0.021	3,010	UZS050□102J25CS□□□	
	18 x 20	0.022	2,850	UZS050□102K20CS□□□	
1,200	18 x 25	0.020	3,140	UZS050□122K25CS□□□	
1,500	16 x 31.5	0.014	3,201	UZS050□152J32CS□□□	
63	10	5 x 11	0.45	165	UZS063□100D11CS□□□
	33	6.3 x 11	0.30	265	UZS063□330E11CS□□□
	47	6.3 x 15	0.25	420	UZS063□470E15CS□□□
		8 x 11.5	0.20	500	UZS063□470F12CS□□□
	68	8 x 11.5	0.20	500	UZS063□680F12CS□□□
		10 x 12.5	0.16	600	UZS063□680G13CS□□□
	100	10 x 16	0.10	945	UZS063□101G16CS□□□
	150	10 x 20	0.080	1,100	UZS063□151G20CS□□□
	220	10 x 25	0.070	1,300	UZS063□221G25CS□□□
	330	12.5 x 20	0.040	1,495	UZS063□331X20CS□□□
	470	16 x 20	0.035	1,990	UZS063□471J20CS□□□
	680	16 x 25	0.030	2,780	UZS063□681J25CS□□□
	1,000	16 x 35.5	0.020	2,835	UZS063□102J36CS□□□

WV (Vdc)	Cap (uF)	Size ØxL (mm)	Imp. ¹⁾	Ripple ²⁾	Code No
100	3.3	5 x 11	2.0	125	UZS100□3R3D11CS□□□
	4.7	5 x 11	2.0	125	UZS100□4R7D11CS□□□
	10	6.3 x 11	0.50	205	UZS100□100E11CS□□□
	22	6.3 x 15	0.40	300	UZS100□220E15CS□□□
		8 x 11.5	0.30	355	UZS100□220F12CS□□□
	33	10 x 12.5	0.25	450	UZS100□330G13CS□□□
	47	10 x 16	0.20	580	UZS100□470G16CS□□□
	100	12.5 x 20	0.10	1,045	UZS100□101X20CS□□□
	150	12.5 x 25	0.070	1,195	UZS100□151X25CS□□□
	220	16 x 25	0.060	1,600	UZS100□221J25CS□□□
	330	16 x 31.5	0.040	1,750	UZS100□331J32CS□□□
470	16 x 31.5	0.040	1,750	UZS100□471J32CS□□□	
120	22	8 x 11.5	0.30	472	UZS120□220F12CS□□□
	33	10 x 12	0.25	559	UZS120□330G12CS□□□
		10 x 12.5	0.25	559	UZS120□330G13CS□□□
	47	10 x 16	0.20	771	UZS120□470G16CS□□□
	100	12.5 x 20	0.10	1,400	UZS120□101X20CS□□□
	120	12.5 x 25	0.070	1,589	UZS120□121X25CS□□□
	220	16 x 25	0.060	2,128	UZS120□221J25CS□□□
	270	16 x 31.5	0.040	2,328	UZS120□271J32CS□□□
	560	18 x 40	0.036	2,740	UZS120□561K40CS□□□

■ **Rated ripple current multipliers.**

Capacitance (uF)	Frequency (Hz)				
	120	1K	10K	50K	100K
1 ~ 180	0.40	0.75	0.90	0.95	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