

- Large Tubulars
- Low Impedance
- Long Life
- +105°C  
Maximum  
Temperature



The URZA series capacitors are designed for high frequency applications, switching power supplies for example. These capacitors have a rated load life of 5,000 hours and an operating temperature of  $-55^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$  for 6.3 to 100 volt products and  $-40^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$  for 160 to 250 volts. The URZA series is available in 2 and 3 lead radial mount or optional 3rd lead axial mount.

The URZA series capacitors are non-solvent proof and are not recommended when halogenated cleaning solvents are used. If solvent proof capacitors are required, this series is available with an optional epoxy end-seal which can withstand HCFC cleaning agents for five minutes by ultrasonic, vapor or immersion. Refer to the Mini-Glossary for recommended cleaning conditions.

## Summary of Specifications

- 2 and 3 radial lead configurations, and optional 3rd lead axial mount.
- Capacitance range: 56 to 33,000 $\mu\text{F}$ .
- Voltage range: 6.3 to 250VDC.
- Operating temperature range:  $-55^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$  for 6.3 to 100V;  $-40^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$  for 160 to 250V.
- Leakage current:  $2\sqrt{\text{CV}}$  ( $\mu\text{A}$ ) after 5 minutes for 6.3 to 100V; or 0.02CV ( $\mu\text{A}$ ) or 3mA, whichever is smaller, after 5 minutes for 160 to 250V at  $+20^{\circ}\text{C}$ .
- Standard capacitance tolerance:  $-10\%$  to  $+75\%$  for 6.3 to 100V;  $\pm 20\%$  for 160 to 250V.
- Nominal case size (D  $\times$  L): 19  $\times$  31mm to 25.4  $\times$  91mm.
- Rated lifetime: 5,000 hours at  $+105^{\circ}\text{C}$ .

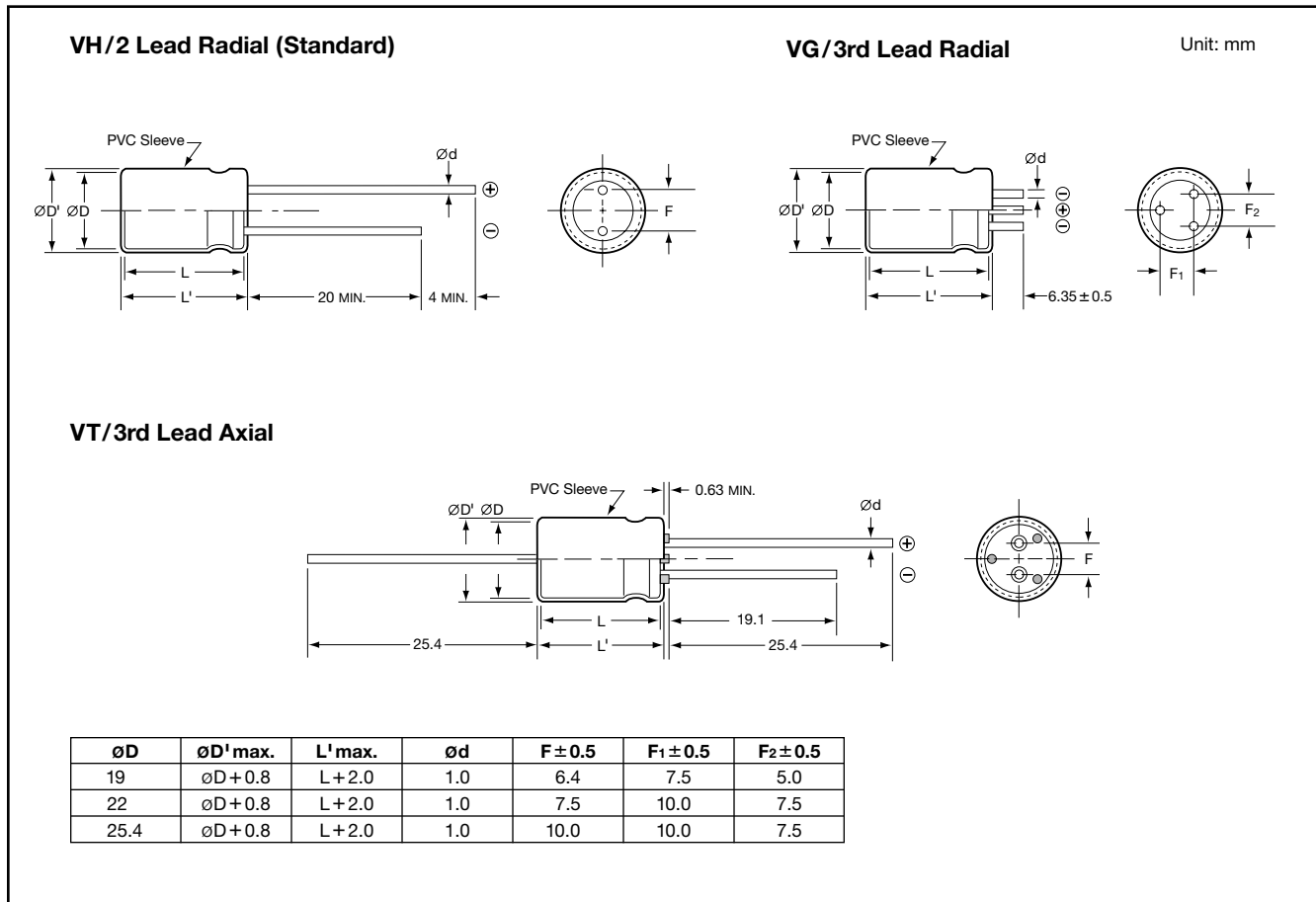
# URZA Series

## URZA Specifications

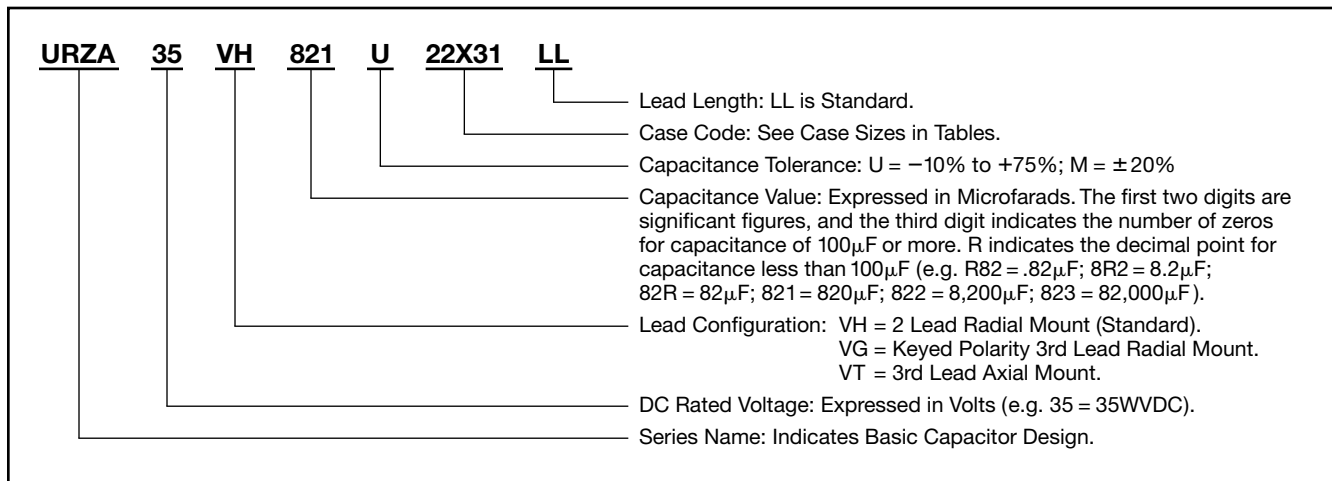
Item	Characteristics																																																							
	6.3 to 100VDC	160 to 250VDC																																																						
Rated Voltage Range	6.3 to 100VDC	160 to 250VDC																																																						
Operating Temperature Range	-55 to +105°C	-40 to +105°C																																																						
Capacitance Range	120 to 33,000μF	56 to 820μF																																																						
Capacitance Tolerance	-10% to +75% (U) at +20°C, 120Hz	±20% (M) at +20°C, 120Hz																																																						
Leakage Current	$I = 2\sqrt{CV}$ (μA) after 5 minutes at +20°C. Where I = Leakage current (μA), C = Nominal capacitance (μF) and V = Rated voltage (V)	$I = 0.02CV$ (μA) or 3mA, whichever is smaller, after 5 minutes at +20°C.																																																						
Equivalent Series Resistance (ESR)	At +20°C, maximum ESR at 120Hz and 10kHz shall not exceed the values given in the Ratings Tables.																																																							
Temperature Characteristics	<p>At 120Hz, -55°C / +20°C for 6.3 to 100V:                      Impedance ratio : 6 max.                      Capacitance change: ±35%                      ESR : ≤ 20 × initial specified value                      Leakage current : &lt; initial specified value</p> <p>At 120Hz, +105°C / +20°C for 6.3 to 100V:                      Impedance ratio : 1 max.                      Capacitance change: ±15%                      ESR : &lt; initial specified value                      Leakage current : ≤ 5 × initial specified value</p>	<p>At 120Hz, -40°C / +20°C for 160 to 250V:                      Impedance ratio : 4 max.                      Capacitance change: ±30%                      ESR : ≤ 10 × initial specified value                      Leakage current : &lt; initial specified value</p> <p>At 120Hz, +105°C / +20°C for 160 to 250V:                      Impedance ratio : 1 max.                      Capacitance change: ±20%                      ESR : &lt; initial specified value                      Leakage current : ≤ 10 × initial specified value</p>																																																						
Ripple Current Multipliers <i>Refer to Section 4 of the Mini-Glossary for explanation of Ripple Current Multipliers.</i>	<p>Ambient Temperature (°C)</p> <table border="1"> <thead> <tr> <th>+65°C</th> <th>+85°C</th> <th>+105°C</th> </tr> </thead> <tbody> <tr> <td>1.36</td> <td>1.00</td> <td>0.35</td> </tr> </tbody> </table> <p>Frequency (Hz)</p> <table border="1"> <thead> <tr> <th>DC Voltage</th> <th>60Hz</th> <th>120Hz</th> <th>300Hz</th> <th>1kHz</th> <th>20kHz</th> </tr> </thead> <tbody> <tr> <td>6.3-16V</td> <td>0.65</td> <td>0.75</td> <td>0.78</td> <td>0.80</td> <td>1.00</td> </tr> <tr> <td>25-50V</td> <td>0.45</td> <td>0.60</td> <td>0.70</td> <td>0.75</td> <td>1.00</td> </tr> <tr> <td>63-100V</td> <td>0.28</td> <td>0.50</td> <td>0.65</td> <td>0.75</td> <td>1.00</td> </tr> </tbody> </table>	+65°C	+85°C	+105°C	1.36	1.00	0.35	DC Voltage	60Hz	120Hz	300Hz	1kHz	20kHz	6.3-16V	0.65	0.75	0.78	0.80	1.00	25-50V	0.45	0.60	0.70	0.75	1.00	63-100V	0.28	0.50	0.65	0.75	1.00	<p>Ambient Temperature (°C)</p> <table border="1"> <thead> <tr> <th>+65°C</th> <th>+85°C</th> <th>+105°C</th> </tr> </thead> <tbody> <tr> <td>1.23</td> <td>1.00</td> <td>0.60</td> </tr> </tbody> </table> <p>Frequency (Hz)</p> <table border="1"> <thead> <tr> <th>DC Voltage</th> <th>60Hz</th> <th>120Hz</th> <th>300Hz</th> <th>1kHz</th> <th>20kHz</th> </tr> </thead> <tbody> <tr> <td>160-200V</td> <td>0.75</td> <td>1.00</td> <td>1.20</td> <td>1.30</td> <td>1.50</td> </tr> <tr> <td>250V</td> <td>0.83</td> <td>1.00</td> <td>1.10</td> <td>1.20</td> <td>1.30</td> </tr> </tbody> </table>	+65°C	+85°C	+105°C	1.23	1.00	0.60	DC Voltage	60Hz	120Hz	300Hz	1kHz	20kHz	160-200V	0.75	1.00	1.20	1.30	1.50	250V	0.83	1.00	1.10	1.20	1.30
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Load Life	<p>The following specifications shall be satisfied when the capacitors are restored to +20°C after subjecting them to the DC rated voltage for 5,000 hours at +105°C.</p> <p>Capacitance change: ≤ ±20% of initial measured value                      ESR : ≤ 300% of initial specified value                      Impedance : ≤ 200% of initial specified value                      Leakage current : ≤ initial specified value</p>																																																							
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 initial measured value                      ESR : ≤ 200% of initial specified value                      Impedance : ≤ 200% of initial specified value                      Leakage current : ≤ 5 × initial specified value</p>																																																							
Others	Satisfies characteristic C of JIS C5141																																																							

# URZA Series

## Diagram of Dimensions



**Part Numbering System for URZA Series** When ordering, always specify complete catalog number for URZA Series.



# URZA Series

## Standard Voltage Ratings - VH/Radial Lead

Rated Voltage (VWDC)	Capacitance (μF)	Catalog Part Number	Nominal Case Size* D × L (mm)	Maximum ESR (Ω) at +20°C		Maximum Impedance (Ω) at +20°C, 100kHz	Maximum Ripple Current (A rms) at +85°C, 20kHz
				120Hz	10kHz		
<b>6.3 Volts 8 Volts Surge</b>	3,300	URZA6.3VH332U19X31LL	19 × 31	0.068	0.0486	0.0455	3.48
	5,600	URZA6.3VH562U19X41LL	19 × 41	0.045	0.0252	0.0260	5.17
	6,800	URZA6.3VH682U19X51LL	19 × 51	0.033	0.0189	0.0212	6.12
	10,000	URZA6.3VH103U19X64LL	19 × 64	0.022	0.0143	0.0174	7.44
	15,000	URZA6.3VH153U19X81LL	19 × 81	0.019	0.0112	0.0147	9.11
	4,700	URZA6.3VH472U22X31LL	22 × 31	0.045	0.0303	0.0299	4.57
	6,800	URZA6.3VH682U22X41LL	22 × 41	0.038	0.0157	0.0174	6.65
	10,000	URZA6.3VH103U22X51LL	22 × 51	0.024	0.0117	0.0144	8.09
	15,000	URZA6.3VH153U22X64LL	22 × 64	0.016	0.0089	0.0120	9.94
	22,000	URZA6.3VH223U22X81LL	22 × 81	0.011	0.0070	0.0102	12.00
	6,800	URZA6.3VH682U25X31LL	25.4 × 31	0.030	0.0267	0.0268	5.09
	10,000	URZA6.3VH103U25X41LL	25.4 × 41	0.017	0.0138	0.0167	7.48
	15,000	URZA6.3VH153U25X51LL	25.4 × 51	0.017	0.0103	0.0145	9.10
	22,000	URZA6.3VH223U25X64LL	25.4 × 64	0.011	0.0078	0.0126	11.15
27,000	URZA6.3VH273U25X81LL	25.4 × 81	0.011	0.0061	0.0111	13.66	
33,000	URZA6.3VH333U25X91LL	25.4 × 91	0.009	0.0055	0.0110	15.00	
<b>10 Volts 13 Volts Surge</b>	2,200	URZA10VH222U19X31LL	19 × 31	0.079	0.0496	0.0464	3.45
	3,900	URZA10VH392U19X41LL	19 × 41	0.045	0.0257	0.0265	5.12
	5,600	URZA10VH562U19X51LL	19 × 51	0.033	0.0192	0.0216	6.06
	8,200	URZA10VH822U19X64LL	19 × 64	0.022	0.0146	0.0178	7.36
	10,000	URZA10VH103U19X81LL	19 × 81	0.019	0.0114	0.0149	9.02
	3,300	URZA10VH332U22X31LL	22 × 31	0.054	0.0309	0.0305	4.53
	5,600	URZA10VH562U22X41LL	22 × 41	0.027	0.0160	0.0177	6.58
	8,200	URZA10VH822U22X51LL	22 × 51	0.018	0.0120	0.0147	8.01
	10,000	URZA10VH103U22X64LL	22 × 64	0.015	0.0091	0.0122	9.84
	15,000	URZA10VH153U22X81LL	22 × 81	0.012	0.0071	0.0104	11.88
	4,700	URZA10VH472U25X31LL	25.4 × 31	0.039	0.0272	0.0273	5.04
	6,800	URZA10VH682U25X41LL	25.4 × 41	0.030	0.0141	0.0170	7.40
	10,000	URZA10VH103U25X51LL	25.4 × 51	0.017	0.0105	0.0148	9.01
	15,000	URZA10VH153U25X64LL	25.4 × 64	0.012	0.0080	0.0129	11.04
18,000	URZA10VH183U25X81LL	25.4 × 81	0.011	0.0063	0.0113	13.52	
22,000	URZA10VH223U25X91LL	25.4 × 91	0.010	0.0056	0.0112	14.85	
<b>16 Volts 20 Volts Surge</b>	1,500	URZA16VH152U19X31LL	19 × 31	0.097	0.0501	0.0469	3.43
	2,200	URZA16VH222U19X41LL	19 × 41	0.066	0.0260	0.0267	5.10
	3,300	URZA16VH332U19X51LL	19 × 51	0.044	0.0194	0.0218	6.03
	4,700	URZA16VH472U19X64LL	19 × 64	0.028	0.0147	0.0179	7.33
	6,800	URZA16VH682U19X81LL	19 × 81	0.026	0.0115	0.0151	8.98
	2,200	URZA16VH222U22X31LL	22 × 31	0.072	0.0312	0.0308	4.50
	3,300	URZA16VH332U22X41LL	22 × 41	0.048	0.0162	0.0179	6.55
	4,700	URZA16VH472U22X51LL	22 × 51	0.031	0.0121	0.0148	7.97
	6,800	URZA16VH682U22X64LL	22 × 64	0.024	0.0092	0.0123	9.79
	10,000	URZA16VH103U22X81LL	22 × 81	0.016	0.0072	0.0105	11.83
	2,700	URZA16VH272U25X31LL	25.4 × 31	0.058	0.0274	0.0276	5.01
	4,700	URZA16VH472U25X41LL	25.4 × 41	0.038	0.0142	0.0172	7.37
	6,800	URZA16VH682U25X51LL	25.4 × 51	0.026	0.0106	0.0150	8.97
	10,000	URZA16VH103U25X64LL	25.4 × 64	0.017	0.0081	0.0130	10.98
12,000	URZA16VH123U25X81LL	25.4 × 81	0.015	0.0063	0.0114	13.46	
15,000	URZA16VH153U25X91LL	25.4 × 91	0.010	0.0056	0.0113	14.78	
<b>25 Volts 32 Volts Surge</b>	820	URZA25VH821U19X31LL	19 × 31	0.129	0.0506	0.0473	3.41
	1,200	URZA25VH122U19X41LL	19 × 41	0.088	0.0262	0.0270	5.07
	1,800	URZA25VH182U19X51LL	19 × 51	0.049	0.0196	0.0220	6.00
	2,700	URZA25VH272U19X64LL	19 × 64	0.039	0.0149	0.0181	7.29
	3,900	URZA25VH392U19X81LL	19 × 81	0.032	0.0116	0.0152	8.93
	1,000	URZA25VH102U22X31LL	22 × 31	0.111	0.0315	0.0311	4.48
	1,800	URZA25VH182U22X41LL	22 × 41	0.062	0.0163	0.0181	6.52
	2,700	URZA25VH272U22X51LL	22 × 51	0.042	0.0122	0.0150	7.93

\*The case sizes in table are with no sleeve, refer to diagrams for case sizes with sleeve.

# URZA Series

## Standard Voltage Ratings - VH/Radial Lead

Rated Voltage (WVDC)	Capacitance (µF)	Catalog Part Number	Nominal Case Size* D × L (mm)	Maximum ESR (Ω) at +20°C		Maximum Impedance (Ω) at +20°C, 100kHz	Maximum Ripple Current (A rms) at +85°C, 20kHz
				120Hz	10kHz		
<b>25 Volts</b> 32 Volts Surge	3,900	URZA25VH392U22X64LL	22 × 64	0.024	0.0093	0.0125	9.74
	4,700	URZA25VH472U22X81LL	22 × 81	0.024	0.0072	0.0106	11.77
	1,500	URZA25VH152U25X31LL	25.4 × 31	0.078	0.0277	0.0279	4.99
	2,700	URZA25VH272U25X41LL	25.4 × 41	0.046	0.0144	0.0173	7.33
	3,900	URZA25VH392U25X51LL	25.4 × 51	0.030	0.0108	0.0151	8.93
	4,700	URZA25VH472U25X64LL	25.4 × 64	0.025	0.0082	0.0131	10.93
	6,800	URZA25VH682U25X81LL	25.4 × 81	0.018	0.0064	0.0115	13.39
	8,200	URZA25VH822U25X91LL	25.4 × 91	0.010	0.0057	0.0114	14.71
<b>35 Volts</b> 44 Volts Surge	560	URZA35VH561U19X31LL	19 × 31	0.130	0.0511	0.0478	3.40
	1,000	URZA35VH102U19X41LL	19 × 41	0.088	0.0265	0.0273	5.05
	1,500	URZA35VH152U19X51LL	19 × 51	0.049	0.0198	0.0222	5.97
	1,800	URZA35VH182U19X64LL	19 × 64	0.039	0.0150	0.0183	7.26
	2,700	URZA35VH272U19X81LL	19 × 81	0.032	0.0117	0.0154	8.89
	820	URZA35VH821U22X31LL	22 × 31	0.111	0.0318	0.0314	4.46
	1,500	URZA35VH152U22X41LL	22 × 41	0.062	0.0165	0.0182	6.49
	1,800	URZA35VH182U22X51LL	22 × 51	0.042	0.0123	0.0151	7.89
	2,700	URZA35VH272U22X64LL	22 × 64	0.026	0.0094	0.0126	9.70
	3,900	URZA35VH392U22X81LL	22 × 81	0.025	0.0073	0.0107	11.71
	1,200	URZA35VH122U25X31LL	25.4 × 31	0.078	0.0280	0.0281	4.97
	1,800	URZA35VH182U25X41LL	25.4 × 41	0.046	0.0145	0.0175	7.30
	2,700	URZA35VH272U25X51LL	25.4 × 51	0.030	0.0109	0.0153	8.88
	3,900	URZA35VH392U25X64LL	25.4 × 64	0.025	0.0082	0.0132	10.88
	4,700	URZA35VH472U25X81LL	25.4 × 81	0.018	0.0064	0.0116	13.33
5,600	URZA35VH562U25X91LL	25.4 × 91	0.014	0.0057	0.0115	14.64	
<b>50 Volts</b> 63 Volts Surge	390	URZA50VH391U19X31LL	19 × 31	0.237	0.1261	0.1196	2.16
	560	URZA50VH561U19X41LL	19 × 41	0.166	0.0654	0.0630	3.21
	820	URZA50VH821U19X51LL	19 × 51	0.113	0.0489	0.0478	3.80
	1,200	URZA50VH122U19X64LL	19 × 64	0.077	0.0371	0.0368	4.62
	1,500	URZA50VH152U19X81LL	19 × 81	0.062	0.0290	0.0292	5.66
	560	URZA50VH561U22X31LL	22 × 31	0.173	0.0832	0.0780	2.76
	820	URZA50VH821U22X41LL	22 × 41	0.118	0.0432	0.0411	4.01
	1,200	URZA50VH122U22X51LL	22 × 51	0.081	0.0323	0.0312	4.88
	1,800	URZA50VH182U22X64LL	22 × 64	0.054	0.0245	0.0240	6.00
	2,200	URZA50VH222U22X81LL	22 × 81	0.044	0.0191	0.0190	7.24
	680	URZA50VH681U25X31LL	25.4 × 31	0.146	0.0767	0.0715	3.00
	1,200	URZA50VH122U25X41LL	25.4 × 41	0.083	0.0398	0.0389	4.41
	1,500	URZA50VH152U25X51LL	25.4 × 51	0.066	0.0298	0.0305	5.37
	2,200	URZA50VH222U25X64LL	25.4 × 64	0.045	0.0226	0.0242	6.57
	3,300	URZA50VH332U25X81LL	25.4 × 81	0.030	0.0176	0.0197	8.05
	3,900	URZA50VH392U25X91LL	25.4 × 91	0.025	0.0157	0.0183	8.84
<b>63 Volts</b> 79 Volts Surge	220	URZA63VH221U19X31LL	19 × 31	0.289	0.1299	0.1213	2.13
	390	URZA63VH391U19X41LL	19 × 41	0.163	0.0674	0.0639	3.16
	560	URZA63VH561U19X51LL	19 × 51	0.114	0.0504	0.0485	3.74
	820	URZA63VH821U19X64LL	19 × 64	0.077	0.0383	0.0373	4.55
	1,000	URZA63VH102U19X81LL	19 × 81	0.064	0.0299	0.0296	5.57
	330	URZA63VH331U22X31LL	22 × 31	0.201	0.0857	0.0791	2.72
	560	URZA63VH561U22X41LL	22 × 41	0.118	0.0445	0.0417	3.95
	820	URZA63VH821U22X51LL	22 × 51	0.081	0.0332	0.0316	4.81
	1,200	URZA63VH122U22X64LL	22 × 64	0.055	0.0252	0.0244	5.91
	1,500	URZA63VH152U22X81LL	22 × 81	0.044	0.0197	0.0193	7.14
	470	URZA63VH471U25X31LL	25.4 × 31	0.146	0.0790	0.0736	2.96
	680	URZA63VH681U25X41LL	25.4 × 41	0.104	0.0410	0.0401	4.34
	1,000	URZA63VH102U25X51LL	25.4 × 51	0.071	0.0306	0.0314	5.29
	1,500	URZA63VH152U25X64LL	25.4 × 64	0.047	0.0233	0.0249	6.47
	1,800	URZA63VH182U25X81LL	25.4 × 81	0.039	0.0182	0.0203	7.93
	2,200	URZA63VH222U25X91LL	25.4 × 91	0.032	0.0162	0.0189	8.71

\*The case sizes in table are with no sleeve, refer to diagrams for case sizes with sleeve.

URZA  
LARGE TUBULARS - 105°C

# URZA Series

## Standard Voltage Ratings - VH/Radial Lead

Rated Voltage (WVDC)	Capacitance (μF)	Catalog Part Number	Nominal Case Size* D × L (mm)	Maximum ESR (Ω) at +20°C		Maximum Impedance (Ω) at +20°C, 100kHz	Maximum Ripple Current (A rms) at +85°C, 20kHz
				120Hz	10kHz		

<b>80 Volts 100 Volts Surge</b>	150	URZA80VH151U19X31LL	19 × 31	0.424	0.1337	0.1230	2.10
	220	URZA80VH221U19X41LL	19 × 41	0.289	0.0693	0.0648	3.12
	330	URZA80VH331U19X51LL	19 × 51	0.193	0.0518	0.0491	3.69
	470	URZA80VH471U19X64LL	19 × 64	0.135	0.0394	0.0378	4.49
	680	URZA80VH681U19X81LL	19 × 81	0.114	0.0307	0.0300	5.50
	220	URZA80VH221U22X31LL	22 × 31	0.302	0.0882	0.0802	2.68
	330	URZA80VH331U22X41LL	22 × 41	0.201	0.0458	0.0422	3.90
	470	URZA80VH471U22X51LL	22 × 51	0.141	0.0342	0.0320	4.74
	680	URZA80VH681U22X64LL	22 × 64	0.098	0.0260	0.0247	5.82
	820	URZA80VH821U22X81LL	22 × 81	0.080	0.0203	0.0196	7.03
	270	URZA80VH271U25X31LL	25.4 × 31	0.222	0.0813	0.0758	2.91
	470	URZA80VH471U25X41LL	25.4 × 41	0.150	0.0422	0.0413	4.28
	680	URZA80VH681U25X51LL	25.4 × 51	0.104	0.0315	0.0323	5.21
	820	URZA80VH821U25X64LL	25.4 × 64	0.086	0.0239	0.0257	6.38
	1,200	URZA80VH122U25X81LL	25.4 × 81	0.059	0.0187	0.0209	7.82
1,500	URZA80VH152U25X91LL	25.4 × 91	0.046	0.0167	0.0194	8.59	

<b>100 Volts 125 Volts Surge</b>	120	URZA100VH121U19X31LL	19 × 31	0.530	0.1374	0.1245	2.07
	220	URZA100VH221U19X41LL	19 × 41	0.312	0.0713	0.0656	3.08
	270	URZA100VH271U19X51LL	19 × 51	0.250	0.0533	0.0497	3.64
	390	URZA100VH391U19X64LL	19 × 64	0.176	0.0405	0.0383	4.42
	560	URZA100VH561U19X81LL	19 × 81	0.136	0.0316	0.0304	5.42
	180	URZA100VH181U22X31LL	22 × 31	0.302	0.0907	0.0812	2.64
	270	URZA100VH271U22X41LL	22 × 41	0.201	0.0470	0.0428	3.84
	390	URZA100VH391U22X51LL	22 × 51	0.145	0.0352	0.0324	4.67
	560	URZA100VH561U22X64LL	22 × 64	0.104	0.0267	0.0250	5.74
	820	URZA100VH821U22X81LL	22 × 81	0.080	0.0209	0.0198	6.94
	220	URZA100VH221U25X31LL	25.4 × 31	0.273	0.0836	0.0779	2.87
	390	URZA100VH391U25X41LL	25.4 × 41	0.156	0.0434	0.0425	4.22
	560	URZA100VH561U25X51LL	25.4 × 51	0.104	0.0324	0.0333	5.14
	820	URZA100VH821U25X64LL	25.4 × 64	0.086	0.0246	0.0264	6.29
	1,000	URZA100VH102U25X81LL	25.4 × 81	0.059	0.0192	0.0215	7.71
1,200	URZA100VH122U25X91LL	25.4 × 91	0.046	0.0171	0.0200	8.47	

## Standard Voltage Ratings - VH/Radial Lead

Rated Voltage (WVDC)	Capacitance (μF)	Catalog Part Number	Nominal Case Size* D × L (mm)	Maximum ESR (Ω) at +20°C		Maximum Impedance (Ω) at +20°C, 100kHz	Maximum Ripple Current (A rms) at +85°C, 120Hz
				120Hz	10kHz		

<b>160 Volts 200 Volts Surge</b>	82	URZA160VH82RM19X31LL	19 × 31	1.230	0.4719	0.4186	0.60
	150	URZA160VH151M19X41LL	19 × 41	0.670	0.2448	0.2165	0.86
	180	URZA160VH181M19X51LL	19 × 51	0.560	0.1831	0.1614	0.99
	270	URZA160VH271M19X64LL	19 × 64	0.380	0.1390	0.1222	1.20
	390	URZA160VH391M19X81LL	19 × 81	0.300	0.1085	0.0951	1.50
	120	URZA160VH121M22X31LL	22 × 31	0.884	0.3458	0.2951	0.74
	180	URZA160VH181M22X41LL	22 × 41	0.589	0.1794	0.1540	0.95
	270	URZA160VH271M22X51LL	22 × 51	0.393	0.1341	0.1158	1.20
	390	URZA160VH391M22X64LL	22 × 64	0.272	0.1018	0.0885	1.40
	560	URZA160VH561M22X81LL	22 × 81	0.189	0.0795	0.0695	2.00
	180	URZA160VH181M25X31LL	25.4 × 31	0.589	0.2925	0.2678	0.93
	270	URZA160VH271M25X41LL	25.4 × 41	0.393	0.1517	0.1387	1.20
	390	URZA160VH391M25X51LL	25.4 × 51	0.272	0.1135	0.1035	1.50
	560	URZA160VH561M25X64LL	25.4 × 64	0.189	0.0861	0.0784	1.90
	680	URZA160VH681M25X81LL	25.4 × 81	0.156	0.0673	0.0611	2.30
820	URZA160VH821M25X91LL	25.4 × 91	0.129	0.0600	0.0544	2.60	

\*The case sizes in table are with no sleeve, refer to diagrams for case sizes with sleeve.

# URZA Series

## Standard Voltage Ratings - VH/Radial Lead

Rated Voltage (WVDC)	Capacitance (µF)	Catalog Part Number	Nominal Case Size* D × L (mm)	Maximum ESR (Ω) at +20°C		Maximum Impedance (Ω) at +20°C, 100kHz	Maximum Ripple Current (A rms) at +85°C, 120Hz
				120Hz	10kHz		
<b>180 Volts</b> 225 Volts Surge	82	URZA180VH82RM19X31LL	19 × 31	1.230	0.4813	0.4270	0.60
	120	URZA180VH121M19X41LL	19 × 41	0.830	0.2497	0.2208	0.78
	180	URZA180VH181M19X51LL	19 × 51	0.560	0.1867	0.1646	0.99
	220	URZA180VH221M19X64LL	19 × 64	0.450	0.1418	0.1246	1.10
	330	URZA180VH331M19X81LL	19 × 81	0.300	0.1107	0.0970	1.50
	100	URZA180VH101M22X31LL	22 × 31	1.060	0.3527	0.3010	0.67
	180	URZA180VH181M22X41LL	22 × 41	0.589	0.1830	0.1571	0.95
	270	URZA180VH271M22X51LL	22 × 51	0.393	0.1368	0.1182	1.20
	350	URZA180VH351M22X64LL	22 × 64	0.322	0.1039	0.0902	1.40
	470	URZA180VH471M22X81LL	22 × 81	0.226	0.0811	0.0709	1.80
	150	URZA180VH151M25X31LL	25.4 × 31	0.707	0.2984	0.2732	0.85
	220	URZA180VH221M25X41LL	25.4 × 41	0.482	0.1548	0.1414	1.10
	330	URZA180VH331M25X51LL	25.4 × 51	0.322	0.1157	0.1055	1.40
	470	URZA180VH471M25X64LL	25.4 × 64	0.226	0.0879	0.0800	1.80
	560	URZA180VH561M25X81LL	25.4 × 81	0.189	0.0686	0.0623	2.10
680	URZA180VH681M25X91LL	25.4 × 91	0.156	0.0612	0.0554	2.40	
<b>200 Volts</b> 250 Volts Surge	68	URZA200VH68RM19X31LL	19 × 31	1.460	0.4908	0.4353	0.55
	120	URZA200VH121M19X41LL	19 × 41	0.830	0.2546	0.2252	0.78
	150	URZA200VH151M19X51LL	19 × 51	0.670	0.1904	0.1679	0.90
	220	URZA200VH221M19X64LL	19 × 64	0.450	0.1445	0.1271	1.10
	270	URZA200VH271M19X81LL	19 × 81	0.370	0.1129	0.0989	1.30
	100	URZA200VH101M22X31LL	22 × 31	1.060	0.3596	0.3069	0.67
	150	URZA200VH151M22X41LL	22 × 41	0.707	0.1866	0.1602	0.87
	220	URZA200VH221M22X51LL	22 × 51	0.482	0.1395	0.1205	1.10
	330	URZA200VH331M22X64LL	22 × 64	0.322	0.1059	0.0920	1.40
	390	URZA200VH391M22X81LL	22 × 81	0.272	0.0827	0.0723	1.60
	120	URZA200VH121M25X31LL	25.4 × 31	0.884	0.3042	0.2785	0.76
	220	URZA200VH221M25X41LL	25.4 × 41	0.482	0.1578	0.1442	1.10
	330	URZA200VH331M25X51LL	25.4 × 51	0.322	0.1180	0.1076	1.40
	470	URZA200VH471M25X64LL	25.4 × 64	0.226	0.0896	0.0815	1.80
	560	URZA200VH561M25X81LL	25.4 × 81	0.189	0.0700	0.0635	2.10
680	URZA200VH681M25X91LL	25.4 × 91	0.156	0.0624	0.0565	2.40	
<b>250 Volts</b> 300 Volts Surge	56	URZA250VH56RM19X31LL	19 × 31	1.710	0.8164	0.7553	0.51
	82	URZA250VH82RM19X41LL	19 × 41	1.160	0.4235	0.3801	0.66
	120	URZA250VH121M19X51LL	19 × 51	0.800	0.3167	0.2754	0.82
	180	URZA250VH181M19X64LL	19 × 64	0.530	0.2404	0.2024	1.00
	220	URZA250VH221M19X81LL	19 × 81	0.430	0.1878	0.1529	1.20
	68	URZA250VH68RM22X31LL	22 × 31	1.560	0.6305	0.5642	0.55
	120	URZA250VH121M22X41LL	22 × 41	0.884	0.3271	0.2839	0.78
	180	URZA250VH181M22X51LL	22 × 51	0.589	0.2446	0.2057	1.00
	220	URZA250VH221M22X64LL	22 × 64	0.482	0.1857	0.1512	1.10
	330	URZA250VH331M22X81LL	22 × 81	0.322	0.1450	0.1142	1.50
	100	URZA250VH101M25X31LL	25.4 × 31	1.060	0.5616	0.4524	0.69
	150	URZA250VH151M25X41LL	25.4 × 41	0.707	0.2914	0.2338	0.91
	220	URZA250VH221M25X51LL	25.4 × 51	0.482	0.2178	0.1741	1.10
	330	URZA250VH331M25X64LL	25.4 × 64	0.322	0.1654	0.1316	1.50
	470	URZA250VH471M25X81LL	25.4 × 81	0.226	0.1292	0.1024	1.90
560	URZA250VH561M25X91LL	25.4 × 91	0.189	0.1151	0.0909	2.20	

\*The case sizes in table are with no sleeve, refer to diagrams for case sizes with sleeve.