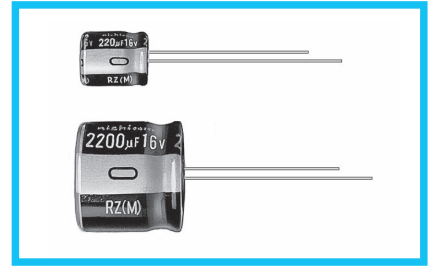


ALUMINUM ELECTROLYTIC CAPACITORS

URZ Compact & Low-Profile Sized,
Wide Temperature Range



URZ

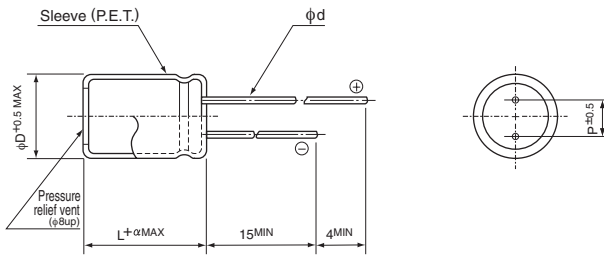


- Wide temperature range and same size as URS.
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).

Specifications

Item	Performance Characteristics																																						
Category Temperature Range	-55 to +105°C (6.3 to 100V), -40 to +105°C (160 to 400V)																																						
Rated Voltage Range	6.3 to 400V																																						
Rated Capacitance Range	1 to 10000µF																																						
Capacitance Tolerance	±20% at 120Hz, 20°C																																						
Leakage Current	<table border="1"> <tr> <th>Rated voltage (V)</th> <th>6.3 to 100</th> <th>160 to 400</th> </tr> <tr> <td></td> <td>After 1 minute's application of rated voltage at 20°C, leakage current is not more than 0.03CV or 4 (µA), whichever is greater. After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01CV or 3 (µA), whichever is greater.</td> <td>After 1 minute's application of rated voltage at 20°C, I = 0.04CV+100 (µA) or less</td> </tr> </table>	Rated voltage (V)	6.3 to 100	160 to 400		After 1 minute's application of rated voltage at 20°C, leakage current is not more than 0.03CV or 4 (µA), whichever is greater. After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01CV or 3 (µA), whichever is greater.	After 1 minute's application of rated voltage at 20°C, I = 0.04CV+100 (µA) or less																																
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Tangent of loss angle (tan δ)	For capacitance of more than 1000µF, add 0.02 for every increase of 1000µF. Measurement frequency : 120Hz at 20°C <table border="1"> <tr> <th>Rated voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160</th> <th>200</th> <th>250</th> <th>400</th> </tr> <tr> <td>tan δ (MAX.)</td> <td>0.28</td> <td>0.24</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> <td>0.25</td> </tr> </table>	Rated voltage (V)	6.3	10	16	25	35	50	63	100	160	200	250	400	tan δ (MAX.)	0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.20	0.20	0.20	0.25												
Rated voltage (V)	6.3	10	16	25	35	50	63	100	160	200	250	400																											
tan δ (MAX.)	0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.20	0.20	0.20	0.25																											
Stability at Low Temperature	Measurement frequency : 120Hz <table border="1"> <tr> <th>Rated voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160</th> <th>200</th> <th>250</th> <th>400</th> </tr> <tr> <th rowspan="2">Impedance ratio (MAX.)</th> <td>Z-25°C / Z+20°C</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>3</td> <td>3</td> <td>6</td> </tr> <tr> <td>Z-40°C / Z+20°C</td> <td>10</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>4</td> <td>4</td> <td>10</td> </tr> </table>	Rated voltage (V)	6.3	10	16	25	35	50	63	100	160	200	250	400	Impedance ratio (MAX.)	Z-25°C / Z+20°C	5	4	3	2	2	2	2	2	3	3	6	Z-40°C / Z+20°C	10	8	6	4	3	3	3	3	4	4	10
	Rated voltage (V)	6.3	10	16	25	35	50	63	100	160	200	250	400																										
Impedance ratio (MAX.)	Z-25°C / Z+20°C	5	4	3	2	2	2	2	2	3	3	6																											
	Z-40°C / Z+20°C	10	8	6	4	3	3	3	3	4	4	10																											
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 105°C.																																						
	<table border="1"> <tr> <td>Capacitance change</td> <td>Within ±20% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>200% or less than the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>	Capacitance change	Within ±20% of the initial capacitance value	tan δ	200% or less than the initial specified value	Leakage current	Less than or equal to the initial specified value																																
Capacitance change	Within ±20% of the initial capacitance value																																						
tan δ	200% or less than the initial specified value																																						
Leakage current	Less than or equal to the initial specified value																																						
Shelf Life	After storing the capacitors under no load at 105°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above.																																						
Marking	Printed with white color letter on black sleeve.																																						

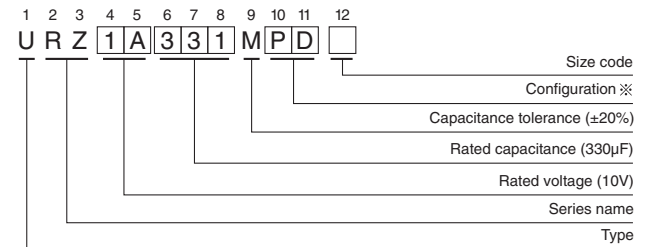
Radial Lead Type



α	(φD < 20) 1.5
	(φD ≥ 20) 2.0

	(mm)										
φD	5	6.3	8	10	12.5	16	18	20			
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10.0			
φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8	1.0			

Type numbering system (Example : 10V 330µF)



※ Configuration

φ D	Pb-free leadwire Pb-free PET sleeve
5 - 6.3	DD
8 - 10	PD
12.5 to 18	HD
20	RD

● Please refer to page 18 about the end seal configuration.

Frequency coefficient of rated ripple current

V	Frequency					
	Cap. (µF)	50Hz	120Hz	300Hz	1 kHz	10kHz or more
6.3 to 100	1 to 47	0.75	1.00	1.35	1.57	2.00
	100 to 470	0.80	1.00	1.23	1.34	1.50
	1000 to 10000	0.85	1.00	1.10	1.13	1.15
160 to 400	10 to 220	0.80	1.00	1.25	1.40	1.60

● Dimension table in next page.

URZ

■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μ F)	Case Size ϕ D×L (mm)	tan δ	Leakage Current (μ A)		Rated Ripple (mArms) (105°C/120Hz)	Part Number
				at 20°C after 1 minute	at 20°C after 2 minutes		
6.3 (0J)	22	5×9	0.28	4.158	3	25	URZ0J220MDD
	33	5×9	0.28	6.237	3	40	URZ0J330MDD
	47	5×9	0.28	8.883	3	55	URZ0J470MDD
	100	5×9	0.28	18.9	6.3	90	URZ0J101MDD
	220	6.3×9	0.28	41.58	13.86	145	URZ0J221MDD
	330	6.3×9	0.28	62.37	20.79	180	URZ0J331MDD
	470	8×9	0.28	88.83	29.61	235	URZ0J471MPD
	1000	10×9	0.28	189	63	370	URZ0J102MPD
	2200	12.5×15	0.30	415.8	138.6	635	URZ0J222MHD
	3300	16×15	0.32	623.7	207.9	860	URZ0J332MHD
	4700	16×15	0.34	888.3	296.1	1010	URZ0J472MHD
	6800	18×15	0.38	1285.2	428.4	1200	URZ0J682MHD
10000	18×20	0.46	1890	630	1450	URZ0J103MHD	
10 (1A)	22	5×9	0.24	6.6	3	40	URZ1A220MDD
	33	5×9	0.24	9.9	3.3	55	URZ1A330MDD
	47	5×9	0.24	14.1	4.7	65	URZ1A470MDD
	100	5×9	0.24	30	10	95	URZ1A101MDD
	220	6.3×9	0.24	66	22	155	URZ1A221MDD
	330	8×9	0.24	99	33	210	URZ1A331MPD
	470	8×9	0.24	141	47	275	URZ1A471MPD
	1000	10×12.5	0.24	300	100	450	URZ1A102MPD
	2200	12.5×15	0.26	660	220	690	URZ1A222MHD
	3300	16×15	0.28	990	330	940	URZ1A332MHD
	4700	18×15	0.30	1410	470	1120	URZ1A472MHD
	6800	18×20	0.34	2040	680	1330	URZ1A682MHD
10000	18×25	0.42	3000	1000	1700	URZ1A103MHD	
16 (1C)	10	5×9	0.20	4.8	3	30	URZ1C100MDD
	22	5×9	0.20	10.56	3.52	50	URZ1C220MDD
	33	5×9	0.20	15.84	5.28	60	URZ1C330MDD
	47	5×9	0.20	22.56	7.52	70	URZ1C470MDD
	100	6.3×9	0.20	48	16	115	URZ1C101MDD
	220	8×9	0.20	105.6	35.2	205	URZ1C221MPD
	330	10×9	0.20	158.4	52.8	240	URZ1C331MPD
	470	10×9	0.20	225.6	75.2	290	URZ1C471MPD
	1000	12.5×12.5	0.20	480	160	520	URZ1C102MHD
	2200	16×15	0.22	1056	352	830	URZ1C222MHD
	3300	18×15	0.24	1584	528	1050	URZ1C332MHD
	4700	18×20	0.26	2256	752	1260	URZ1C472MHD
6800	18×25	0.30	3264	1088	1560	URZ1C682MHD	
25 (1E)	4.7	5×9	0.16	4	3	20	URZ1E4R7MDD
	10	5×9	0.16	7.5	3	35	URZ1E100MDD
	22	5×9	0.16	16.5	5.5	55	URZ1E220MDD
	33	5×9	0.16	24.75	8.25	70	URZ1E330MDD
	47	5×9	0.16	35.25	11.75	80	URZ1E470MDD
	100	6.3×9	0.16	75	25	130	URZ1E101MDD
	220	10×9	0.16	165	55	220	URZ1E221MPD

For cut leads, formed leads or taped parts, please add the appropriate code after the size code (12th digit).
If there is no size code in the part number, please add size code "1" and then add the appropriate code.

URZ

■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μ F)	Case Size ϕ D \times L (mm)	tan δ	Leakage Current (μ A)		Rated Ripple (mArms) (105°C/120Hz)	Part Number
				at 20°C after 1 minute	at 20°C after 2 minutes		
25 (1E)	330	10 \times 9	0.16	247.5	82.5	270	URZ1E331MPD
	470	10 \times 12.5	0.16	352.5	117.5	370	URZ1E471MPD
	1000	12.5 \times 15	0.16	750	250	590	URZ1E102MHD
	2200	18 \times 15	0.18	1650	550	970	URZ1E222MHD
	3300	18 \times 20	0.20	2475	825	1220	URZ1E332MHD
	4700	18 \times 25	0.22	3525	1175	1470	URZ1E472MHD
35 (1V)	4.7	5 \times 9	0.14	4.935	3	25	URZ1V4R7MDD
	10	5 \times 9	0.14	10.5	3.5	40	URZ1V100MDD
	22	5 \times 9	0.14	23.1	7.7	60	URZ1V220MDD
	33	5 \times 9	0.14	34.65	11.55	75	URZ1V330MDD
	47	6.3 \times 9	0.14	49.35	16.45	95	URZ1V470MDD
	100	8 \times 9	0.14	105	35	155	URZ1V101MPD
	220	10 \times 9	0.14	231	77	235	URZ1V221MPD
	330	10 \times 12.5	0.14	346.5	115.5	340	URZ1V331MPD
	470	12.5 \times 12.5	0.14	493.5	164.5	420	URZ1V471MHD
	1000	16 \times 15	0.14	1050	350	720	URZ1V102MHD
	2200	18 \times 20	0.16	2310	770	1110	URZ1V222MHD
3300	20 \times 25	0.18	3465	1155	1430	URZ1V332MRD	
50 (1H)	2.2	5 \times 9	0.12	4	3	18	URZ1H2R2MDD
	3.3	5 \times 9	0.12	4.95	3	25	URZ1H3R3MDD
	4.7	5 \times 9	0.12	7.05	3	30	URZ1H4R7MDD
	10	5 \times 9	0.12	15	5	46	URZ1H100MDD
	22	5 \times 9	0.12	33	11	65	URZ1H220MDD
	33	6.3 \times 9	0.12	49.5	16.5	85	URZ1H330MDD
	47	6.3 \times 9	0.12	70.5	23.5	100	URZ1H470MDD
	100	10 \times 9	0.12	150	50	170	URZ1H101MPD
	220	10 \times 12.5	0.12	330	110	290	URZ1H221MPD
	330	12.5 \times 12.5	0.12	495	165	370	URZ1H331MHD
	470	16 \times 15	0.12	705	235	540	URZ1H471MHD
	1000	18 \times 20	0.12	1500	500	830	URZ1H102MHD
2200	20 \times 25	0.14	3300	1100	1250	URZ1H222MRD	
63 (1J)	10	5 \times 9	0.10	18.9	6.3	42	URZ1J100MDD
	22	6.3 \times 9	0.10	41.58	13.86	71	URZ1J220MDD
	33	8 \times 9	0.10	62.37	20.79	100	URZ1J330MPD
	47	8 \times 9	0.10	88.83	29.61	120	URZ1J470MPD
	100	10 \times 9	0.10	189	63	215	URZ1J101MPD
	220	12.5 \times 12.5	0.10	415.8	138.6	335	URZ1J221MHD
	330	12.5 \times 15	0.10	623.7	207.9	510	URZ1J331MHD
	470	16 \times 15	0.10	888.3	296.1	640	URZ1J471MHD
100 (2A)	1	5 \times 9	0.08	4	3	12	URZ2A010MDD
	2.2	5 \times 9	0.08	6.6	3	17	URZ2A2R2MDD
	3.3	5 \times 9	0.08	9.9	3.3	25	URZ2A3R3MDD
	4.7	6.3 \times 9	0.08	14.1	4.7	32	URZ2A4R7MDD
	10	6.3 \times 9	0.08	30	10	50	URZ2A100MDD
	22	8 \times 9	0.08	66	22	93	URZ2A220MPD
	33	10 \times 9	0.08	99	33	130	URZ2A330MPD

For cut leads, formed leads or taped parts, please add the appropriate code after the size code (12th digit).
If there is no size code in the part number, please add size code "1" and then add the appropriate code.

URZ

■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μF)	Case Size $\phi\text{D}\times\text{L}$ (mm)	tan δ	Leakage Current (μA)		Rated Ripple (mArms) (105°C/120Hz)	Part Number
				at 20°C after 1 minute	at 20°C after 2 minutes		
100 (2A)	47	10×12.5	0.08	141	47	165	URZ2A470MPD
	100	12.5×15	0.08	300	100	265	URZ2A101MHD
	220	16×15	0.08	660	220	440	URZ2A221MHD
	330	18×15	0.08	990	330	540	URZ2A331MHD
160 (2C)	47	16×15	0.20	400.8	—	300	URZ2C470MHD
	68	18×15	0.20	535.2	—	350	URZ2C680MHD
	68	16×20	0.20	535.2	—	350	URZ2C680MHD6
	100	18×20	0.20	740	—	420	URZ2C101MHD
	100	20×15	0.20	740	—	420	URZ2C101MRD6
	150	18×25	0.20	1060	—	510	URZ2C151MHD
	150	20×20	0.20	1060	—	510	URZ2C151MRD6
	220	20×25	0.20	1508	—	550	URZ2C221MRD
200 (2D)	33	16×15	0.20	364	—	250	URZ2D330MHD
	47	18×15	0.20	476	—	300	URZ2D470MHD
	47	16×20	0.20	476	—	300	URZ2D470MHD6
	68	18×20	0.20	644	—	350	URZ2D680MHD
	68	20×15	0.20	644	—	350	URZ2D680MRD6
	100	18×25	0.20	900	—	420	URZ2D101MHD
	100	20×20	0.20	900	—	420	URZ2D101MRD6
	150	18×25	0.20	1300	—	510	URZ2D151MHD
250 (2E)	22	16×15	0.20	320	—	200	URZ2E220MHD
	33	18×15	0.20	430	—	250	URZ2E330MHD
	33	16×20	0.20	430	—	250	URZ2E330MHD6
	47	18×20	0.20	570	—	300	URZ2E470MHD
	47	20×15	0.20	570	—	300	URZ2E470MRD6
	68	18×20	0.20	780	—	350	URZ2E680MHD
	100	18×25	0.20	1100	—	420	URZ2E101MHD
400 (2G)	10	16×15	0.25	260	—	100	URZ2G100MHD
	22	18×15	0.25	452	—	200	URZ2G220MHD
	22	16×20	0.25	452	—	200	URZ2G220MHD6
	33	18×20	0.25	628	—	250	URZ2G330MHD
	47	18×25	0.25	852	—	300	URZ2G470MHD
	47	20×20	0.25	852	—	300	URZ2G470MRD6
	68	20×25	0.25	1188	—	350	URZ2G680MRD

For cut leads, formed leads or taped parts, please add the appropriate code after the size code (12th digit).
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Please refer to page 18, 19 about the formed or taped product spec.
Please refer to page 4 for the minimum order quantity.