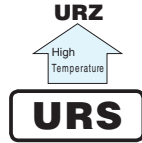


ALUMINUM ELECTROLYTIC CAPACITORS

URS

Compact & Low-profile Sized

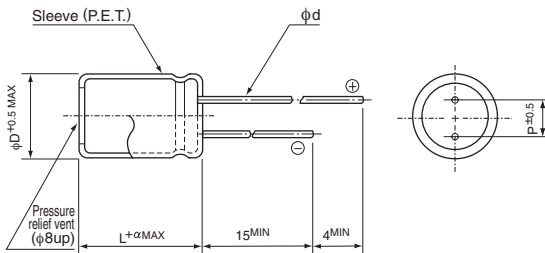


- Compact & low profile case size.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).

Specifications

Item	Performance Characteristics																																						
Category Temperature Range	-40 to +85°C																																						
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)	<p>For capacitance of more than 1000µF, add 0.02 for every increase of 1000µF. Measurement frequency : 120Hz at 20°C</p> <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	<p>Measurement frequency : 120Hz</p> <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>12</td> <td>10</td> <td>8</td> <td>5</td> <td>4</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	12	10	8	5	4	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	12	10	8	5	4	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 2000 hours at 85°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 85°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

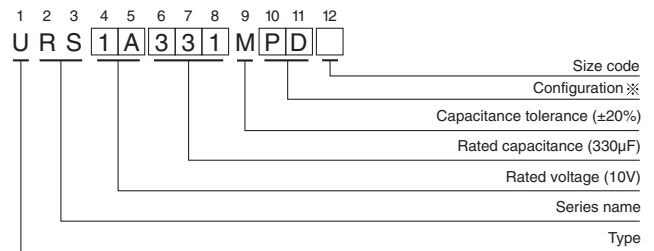


	(mm)							
φD	5	6.3	8	10	12.5	16	18	20
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10.0
φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8	1.0

α	(φD < 20) 1.5
	(φD ≥ 20) 2.0

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

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

Frequency coefficient of rated ripple current

V	Cap.(µF)	Frequency				
		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.

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■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μ F)	Case Size ϕ D×L (mm)	tan δ	Leakage Current (μ A)		Rated Ripple (mArms) (85°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	35	URS0J220MDD
	33	5×9	0.28	6.237	3	55	URS0J330MDD
	47	5×9	0.28	8.883	3	75	URS0J470MDD
	100	5×9	0.28	18.9	6.3	125	URS0J101MDD
	220	6.3×9	0.28	41.58	13.86	200	URS0J221MDD
	330	6.3×9	0.28	62.37	20.79	250	URS0J331MDD
	470	8×9	0.28	88.83	29.61	330	URS0J471MPD
	1000	10×9	0.28	189	63	510	URS0J102MPD
	2200	12.5×15	0.30	415.8	138.6	890	URS0J222MHD
	3300	16×15	0.32	623.7	207.9	1200	URS0J332MHD
	4700	16×15	0.34	888.3	296.1	1410	URS0J472MHD
	6800	18×15	0.38	1285.2	428.4	1660	URS0J682MHD
10000	18×20	0.46	1890	630	2020	URS0J103MHD	
10 (1A)	22	5×9	0.24	6.6	3	55	URS1A220MDD
	33	5×9	0.24	9.9	3.3	75	URS1A330MDD
	47	5×9	0.24	14.1	4.7	90	URS1A470MDD
	100	5×9	0.24	30	10	135	URS1A101MDD
	220	6.3×9	0.24	66	22	220	URS1A221MDD
	330	8×9	0.24	99	33	300	URS1A331MPD
	470	8×9	0.24	141	47	360	URS1A471MPD
	1000	10×12.5	0.24	300	100	620	URS1A102MPD
	2200	12.5×15	0.26	660	220	960	URS1A222MHD
	3300	16×15	0.28	990	330	1300	URS1A332MHD
	4700	18×15	0.30	1410	470	1550	URS1A472MHD
	6800	18×20	0.34	2040	680	1850	URS1A682MHD
10000	18×25	0.42	3000	1000	2350	URS1A103MHD	
16 (1C)	10	5×9	0.20	4.8	3	40	URS1C100MDD
	22	5×9	0.20	10.56	3.52	70	URS1C220MDD
	33	5×9	0.20	15.84	5.28	85	URS1C330MDD
	47	5×9	0.20	22.56	7.52	100	URS1C470MDD
	100	6.3×9	0.20	48	16	160	URS1C101MDD
	220	8×9	0.20	105.6	35.2	290	URS1C221MPD
	330	10×9	0.20	158.4	52.8	360	URS1C331MPD
	470	10×9	0.20	225.6	75.2	410	URS1C471MPD
	1000	12.5×12.5	0.20	480	160	720	URS1C102MHD
	2200	16×15	0.22	1056	352	1160	URS1C222MHD
	3300	18×15	0.24	1584	528	1460	URS1C332MHD
	4700	18×20	0.26	2256	752	1770	URS1C472MHD
6800	18×25	0.30	3264	1088	2170	URS1C682MHD	
25 (1E)	4.7	5×9	0.16	4	3	30	URS1E4R7MDD
	10	5×9	0.16	7.5	3	50	URS1E100MDD
	22	5×9	0.16	16.5	5.5	75	URS1E220MDD
	33	5×9	0.16	24.75	8.25	95	URS1E330MDD
	47	5×9	0.16	35.25	11.75	110	URS1E470MDD
	100	6.3×9	0.16	75	25	180	URS1E101MDD
	220	10×9	0.16	165	55	310	URS1E221MPD

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.

URS

■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μ F)	Case Size ϕ D×L (mm)	tan δ	Leakage Current (μ A)		Rated Ripple (mArms) (85°C/120Hz)	Part Number
				at 20°C after 1 minute	at 20°C after 2 minutes		
25 (1E)	330	10×9	0.16	247.5	82.5	380	URS1E331MPD
	470	10×12.5	0.16	352.5	117.5	530	URS1E471MPD
	1000	12.5×15	0.16	750	250	830	URS1E102MHD
	2200	18×15	0.18	1650	550	1360	URS1E222MHD
	3300	18×20	0.20	2475	825	1720	URS1E332MHD
	4700	18×25	0.22	3525	1175	2050	URS1E472MHD
35 (1V)	4.7	5×9	0.14	4.935	3	35	URS1V4R7MDD
	10	5×9	0.14	10.5	3.5	55	URS1V100MDD
	22	5×9	0.14	23.1	7.7	95	URS1V220MDD
	33	5×9	0.14	34.65	11.55	100	URS1V330MDD
	47	6.3×9	0.14	49.35	16.45	130	URS1V470MDD
	100	8×9	0.14	105	35	220	URS1V101MPD
	220	10×9	0.14	231	77	340	URS1V221MPD
	330	10×12.5	0.14	346.5	115.5	480	URS1V331MPD
	470	12.5×12.5	0.14	493.5	164.5	590	URS1V471MHD
	1000	16×15	0.14	1050	350	1010	URS1V102MHD
	2200	18×20	0.16	2310	770	1560	URS1V222MHD
	3300	20×25	0.18	3465	1155	2000	URS1V332MRD
50 (1H)	2.2	5×9	0.12	4	3	26	URS1H2R2MDD
	3.3	5×9	0.12	4.95	3	35	URS1H3R3MDD
	4.7	5×9	0.12	7.05	3	40	URS1H4R7MDD
	10	5×9	0.12	15	5	65	URS1H100MDD
	22	5×9	0.12	33	11	90	URS1H220MDD
	33	6.3×9	0.12	49.5	16.5	120	URS1H330MDD
	47	6.3×9	0.12	70.5	23.5	140	URS1H470MDD
	100	10×9	0.12	150	50	240	URS1H101MPD
	220	10×12.5	0.12	330	110	420	URS1H221MPD
	330	12.5×12.5	0.12	495	165	530	URS1H331MHD
	470	16×15	0.12	705	235	750	URS1H471MHD
	1000	18×20	0.12	1500	500	1160	URS1H102MHD
2200	20×25	0.14	3300	1100	1750	URS1H222MRD	
63 (1J)	10	5×9	0.10	18.9	6.3	60	URS1J100MDD
	22	6.3×9	0.10	41.58	13.86	100	URS1J220MDD
	33	8×9	0.10	62.37	20.79	140	URS1J330MPD
	47	8×9	0.10	88.83	29.61	170	URS1J470MPD
	100	10×9	0.10	189	63	250	URS1J101MPD
	220	12.5×12.5	0.10	415.8	138.6	490	URS1J221MHD
	330	12.5×15	0.10	623.7	207.9	710	URS1J331MHD
	470	16×15	0.10	888.3	296.1	900	URS1J471MHD
100 (2A)	1	5×9	0.08	4	3	17	URS2A010MDD
	2.2	5×9	0.08	6.6	3	26	URS2A2R2MDD
	3.3	5×9	0.08	9.9	3.3	35	URS2A3R3MDD
	4.7	6.3×9	0.08	14.1	4.7	45	URS2A4R7MDD
	10	6.3×9	0.08	30	10	70	URS2A100MDD
	22	8×9	0.08	66	22	130	URS2A220MPD
	33	10×9	0.08	99	33	180	URS2A330MPD

For cut leads, formed leads or taped parts, please add the appropriate code after the size code (12th digit).
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URS

■ 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) (85°C/120Hz)	Part Number
				at 20°C after 1 minute	at 20°C after 2 minutes		
100 (2A)	47	10 \times 12.5	0.08	141	47	230	URS2A470MPD
	100	12.5 \times 15	0.08	300	100	370	URS2A101MHD
	220	16 \times 15	0.08	660	220	620	URS2A221MHD
	330	18 \times 15	0.08	990	330	760	URS2A331MHD
160 (2C)	47	16 \times 15	0.20	400.8	—	420	URS2C470MHD
	68	18 \times 15	0.20	535.2	—	490	URS2C680MHD
	68	16 \times 20	0.20	535.2	—	490	URS2C680MHD6
	100	18 \times 20	0.20	740	—	590	URS2C101MHD
	100	20 \times 15	0.20	740	—	590	URS2C101MRD6
	150	18 \times 25	0.20	1060	—	710	URS2C151MHD
	150	20 \times 20	0.20	1060	—	710	URS2C151MRD6
	220	20 \times 25	0.20	1508	—	770	URS2C221MRD
200 (2D)	33	16 \times 15	0.20	364	—	350	URS2D330MHD
	47	18 \times 15	0.20	476	—	420	URS2D470MHD
	47	16 \times 20	0.20	476	—	420	URS2D470MHD6
	68	18 \times 20	0.20	644	—	490	URS2D680MHD
	68	20 \times 15	0.20	644	—	490	URS2D680MRD6
	100	18 \times 25	0.20	900	—	590	URS2D101MHD
	100	20 \times 20	0.20	900	—	590	URS2D101MRD6
	150	18 \times 25	0.20	1300	—	710	URS2D151MHD
250 (2E)	22	16 \times 15	0.20	320	—	280	URS2E220MHD
	33	18 \times 15	0.20	430	—	350	URS2E330MHD
	33	16 \times 20	0.20	430	—	350	URS2E330MHD6
	47	18 \times 20	0.20	570	—	420	URS2E470MHD
	47	20 \times 15	0.20	570	—	420	URS2E470MRD6
	68	18 \times 20	0.20	780	—	490	URS2E680MHD
	100	18 \times 25	0.20	1100	—	590	URS2E101MHD
400 (2G)	10	16 \times 15	0.25	260	—	140	URS2G100MHD
	22	18 \times 15	0.25	452	—	280	URS2G220MHD
	22	16 \times 20	0.25	452	—	280	URS2G220MHD6
	33	18 \times 20	0.25	628	—	350	URS2G330MHD
	47	18 \times 25	0.25	852	—	420	URS2G470MHD
	47	20 \times 20	0.25	852	—	420	URS2G470MRD6
	68	20 \times 25	0.25	1188	—	490	URS2G680MRD

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.