



**THE DATASHEET OF
URZ1H222MRD**

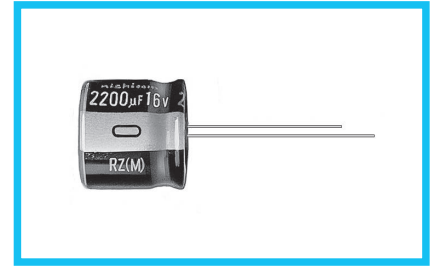


ALUMINUM ELECTROLYTIC CAPACITORS

URZ Compact & Low-Profile Sized,
Wide Temperature Range



Smaller



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

Valued marked with an ※ in the dimension table are scheduled to be discontinued and are not recommended for new designs.

URZ

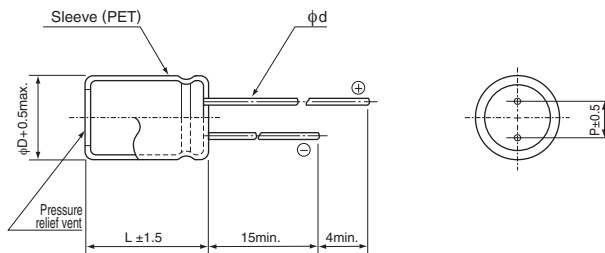


Specifications

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	10 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(µA). After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01CV(µA).</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(µA). After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01CV(µA).	After 1 minute's application of rated voltage at 20°C, I = 0.04CV+100 (µA) or less																																	
	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(µA). After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01CV(µA).	After 1 minute's application of rated voltage at 20°C, I = 0.04CV+100 (µA) or less																																						
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> <td>Impedance ratio 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>3</td> <td>6</td> </tr> <tr> <td>Impedance ratio (max.) 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>6</td> <td>10</td> </tr> </table>	Rated voltage (V)	6.3	10	16	25	35	50	63	100	160	200	250	400	Impedance ratio Z(-25°C) / Z(+20°C)	5	4	3	2	2	2	2	2	3	3	3	6	Impedance ratio (max.) Z(-40°C) / Z(+20°C)	10	8	6	4	3	3	3	3	4	4	6	10
	Rated voltage (V)	6.3	10	16	25	35	50	63	100	160	200	250	400																											
Impedance ratio Z(-25°C) / Z(+20°C)	5	4	3	2	2	2	2	2	3	3	3	6																												
Impedance ratio (max.) Z(-40°C) / Z(+20°C)	10	8	6	4	3	3	3	3	4	4	6	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.																																							

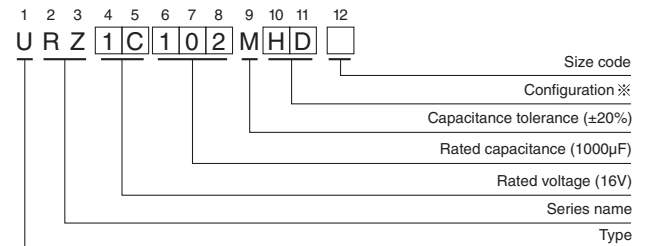
※ I : Leakage Current (µA), C : Rated Capacitance (µF), V : Rated Voltage (V)

Radial Lead Type



	(mm)			
φD	10	12.5	16	18
P	5.0	5.0	7.5	7.5
φd	0.6	0.6	0.8	0.8

Type numbering system (Example : 16V 1000µF)



※ Configuration

φ D	Pb-free leadwire Pb-free PET sleeve
10	PD
12.5 to 18	HD

- Please refer to the Guidelines for Aluminum Electrolytic Capacitors for end seal configuration information.

Frequency coefficient of rated ripple current

V	Cap.(µF)	Frequency				
		50Hz	120Hz	300Hz	1 kHz	10kHz or more
6.3 to 100	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 150	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 \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		
6.3 (0J)	2200	12.5 \times 15	0.30	415.8	138.6	635	※URZ0J222MHD
	3300	16 \times 15	0.32	623.7	207.9	860	※URZ0J332MHD
	4700	16 \times 15	0.34	888.3	296.1	1010	※URZ0J472MHD
	6800	18 \times 15	0.38	1285.2	428.4	1200	※URZ0J682MHD
	10000	18 \times 20	0.46	1890	630	1450	※URZ0J103MHD
10 (1A)	1000	10 \times 12.5	0.24	300	100	450	※URZ1A102MPD
	2200	12.5 \times 15	0.26	660	220	690	※URZ1A222MHD
	3300	16 \times 15	0.28	990	330	940	※URZ1A332MHD
	4700	18 \times 15	0.30	1410	470	1120	※URZ1A472MHD
	6800	18 \times 20	0.34	2040	680	1330	※URZ1A682MHD
	10000	18 \times 25	0.42	3000	1000	1700	※URZ1A103MHD
16 (1C)	1000	12.5 \times 12.5	0.20	480	160	520	URZ1C102MHD
	2200	16 \times 15	0.22	1056	352	830	URZ1C222MHD
	3300	18 \times 15	0.24	1584	528	1050	URZ1C332MHD
	4700	18 \times 20	0.26	2256	752	1260	URZ1C472MHD
	6800	18 \times 25	0.30	3264	1088	1560	URZ1C682MHD
25 (1E)	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)	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
50 (1H)	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
63 (1J)	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)	47	10 \times 12.5	0.08	141	47	165	URZ2A470MPD
	100	12.5 \times 15	0.08	300	100	265	URZ2A101MHD
	220	16 \times 15	0.08	660	220	440	URZ2A221MHD
	330	18 \times 15	0.08	990	330	540	URZ2A331MHD
160 (2C)	47	16 \times 15	0.20	400.8	—	300	※URZ2C470MHD
	68	18 \times 15	0.20	535.2	—	350	※URZ2C680MHD
	68	16 \times 20	0.20	535.2	—	350	※URZ2C680MHD6

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		
160 (2C)	100	18×20	0.20	740	—	420	*URZ2C101MHD
	150	18×25	0.20	1060	—	510	*URZ2C151MHD
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
	100	18×25	0.20	900	—	420	*URZ2D101MHD
	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
	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

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.

- For formed lead or taped product specifications and minimum order quantity, please refer to the Guidelines for Aluminum Electrolytic Capacitors.






Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

 [View URZ1H222MRD](#) on WIN SOURCE

 [Nichicon](#) Information

Optimize Your Supply Chain with WIN SOURCE Solutions

-  Global Sourcing Solution
-  Obsolete Management
-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management