



**THE DATASHEET OF  
URS1H471MHD**



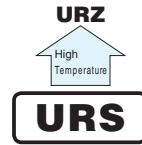
# URS

Compact & Low-profile Sized



- Compact & low profile case size.
- 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.

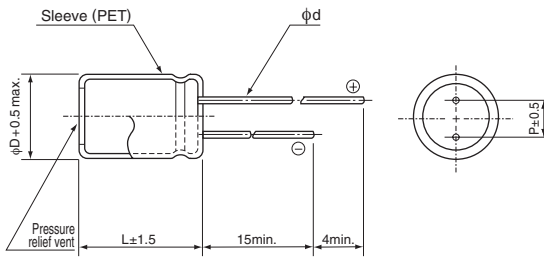


## Specifications

Item	Performance Characteristics																																								
Category Temperature Range	-40 to +85°C																																								
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																																		
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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														
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Stability at Low Temperature	Measurement frequency : 120Hz																																								
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Impedance ratio (max.)	Z(-25°C) / Z(+20°C)	5	4	3	2	2	2	2	2	3	3	3	6																												
	Z(-40°C) / Z(+20°C)	12	10	8	5	4	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 2000 hours at 85°C.																																								
	Capacitance change	Within ±20% of the initial capacitance value																																							
	tan δ	200% or less than the initial specified value																																							
Shelf Life	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.																																								
		Leakage current	Less than or equal to the initial specified value																																						
Marking	Printed with white color letter on black sleeve.																																								

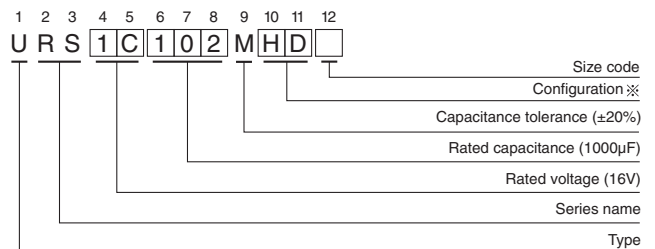
※ I : Leakage Current (µA), C : Rated Capacitance (µF), V : Rated Voltage (V)

## 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.

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## ■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance ( $\mu$ F)	Case Size $\phi$ D $\times$ L (mm)	tan $\delta$	Leakage Current ( $\mu$ A)		Rated Ripple (mArms) (85°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	890	※URS0J222MHD	
	3300	16 $\times$ 15	0.32	623.7	207.9	1200	※URS0J332MHD	
	4700	16 $\times$ 15	0.34	888.3	296.1	1410	※URS0J472MHD	
	6800	18 $\times$ 15	0.38	1285.2	428.4	1660	※URS0J682MHD	
	10000	18 $\times$ 20	0.46	1890	630	2020	※URS0J103MHD	
10 (1A)	1000	10 $\times$ 12.5	0.24	300	100	620	※URS1A102MPD	
	2200	12.5 $\times$ 15	0.26	660	220	960	※URS1A222MHD	
	3300	16 $\times$ 15	0.28	990	330	1300	※URS1A332MHD	
	4700	18 $\times$ 15	0.30	1410	470	1550	※URS1A472MHD	
	6800	18 $\times$ 20	0.34	2040	680	1850	※URS1A682MHD	
10000	18 $\times$ 25	0.42	3000	1000	2350	※URS1A103MHD		
	16 (1C)	1000	12.5 $\times$ 12.5	0.20	480	160	720	URS1C102MHD
		2200	16 $\times$ 15	0.22	1056	352	1160	URS1C222MHD
		3300	18 $\times$ 15	0.24	1584	528	1460	URS1C332MHD
		4700	18 $\times$ 20	0.26	2256	752	1770	URS1C472MHD
6800		18 $\times$ 25	0.30	3264	1088	2170	URS1C682MHD	
25 (1E)	470	10 $\times$ 12.5	0.16	352.5	117.5	530	URS1E471MPD	
	1000	12.5 $\times$ 15	0.16	750	250	830	URS1E102MHD	
	2200	18 $\times$ 15	0.18	1650	550	1360	URS1E222MHD	
	3300	18 $\times$ 20	0.20	2475	825	1720	URS1E332MHD	
	4700	18 $\times$ 25	0.22	3525	1175	2050	URS1E472MHD	
35 (1V)	330	10 $\times$ 12.5	0.14	346.5	115.5	480	URS1V331MPD	
	470	12.5 $\times$ 12.5	0.14	493.5	164.5	590	URS1V471MHD	
	1000	16 $\times$ 15	0.14	1050	350	1010	URS1V102MHD	
	2200	18 $\times$ 20	0.16	2310	770	1560	URS1V222MHD	
50 (1H)	220	10 $\times$ 12.5	0.12	330	110	420	URS1H221MPD	
	330	12.5 $\times$ 12.5	0.12	495	165	530	URS1H331MHD	
	470	16 $\times$ 15	0.12	705	235	750	URS1H471MHD	
	1000	18 $\times$ 20	0.12	1500	500	1160	URS1H102MHD	
63 (1J)	220	12.5 $\times$ 12.5	0.10	415.8	138.6	490	URS1J221MHD	
	330	12.5 $\times$ 15	0.10	623.7	207.9	710	URS1J331MHD	
	470	16 $\times$ 15	0.10	888.3	296.1	900	URS1J471MHD	
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	

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 ( $\mu$ F)	Case Size $\phi$ D $\times$ L (mm)	tan $\delta$	Leakage Current ( $\mu$ A)		Rated Ripple (mArms) (85°C/120Hz)	Part Number
				at 20°C after 1 minute	at 20°C after 2 minutes		
160 (2C)	100	18 $\times$ 20	0.20	740	—	590	※URS2C101MHD
	150	18 $\times$ 25	0.20	1060	—	710	※URS2C151MHD
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
	100	18 $\times$ 25	0.20	900	—	590	※URS2D101MHD
	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
	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

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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.

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