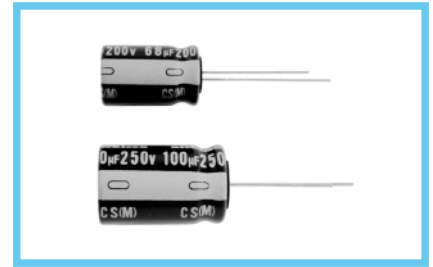
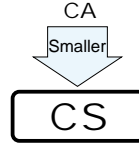


**CS** series Miniature Sized, High Ripple Current, Long Life



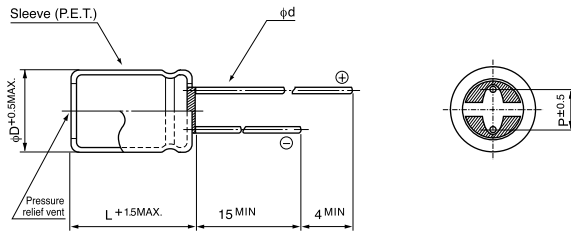
- High ripple current and Long Life product withstanding load life of 8000 to 10000 hours at +105°C.
- Suited for ballast application.
- Adapted to the RoHS directive (2002/95/EC).



## Specifications

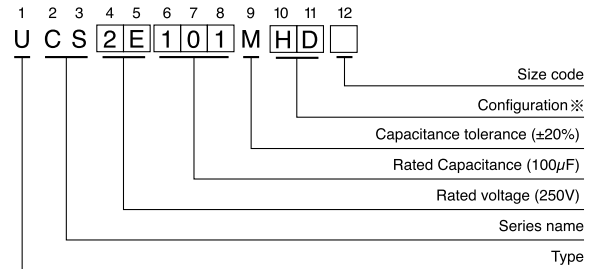
Item	Performance Characteristics																									
Category Temperature Range	-40 ~ +105°C (160 ~ 400V) , -25 ~ +105°C (450V)																									
Rated Voltage Range	160 ~ 450V																									
Rated Capacitance Range	6.8 ~ 330μF																									
Capacitance Tolerance	±20% at 120Hz, 20°C																									
Leakage Current	After 1 minutes' application of rated voltage, leakage current is not more than 0.04CV+100 (μA)																									
tan δ	Measurement frequency : 120Hz, Temperature : 20°C																									
	<table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>tan δ (MAX.)</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> <td>0.24</td> <td>0.24</td> <td>0.24</td> </tr> </tbody> </table>	Rated voltage (V)	160	200	250	350	400	450	tan δ (MAX.)	0.20	0.20	0.20	0.24	0.24	0.24											
Rated voltage (V)	160	200	250	350	400	450																				
tan δ (MAX.)	0.20	0.20	0.20	0.24	0.24	0.24																				
Stability at Low Temperature	Measurement frequency : 120Hz																									
	<table border="1"> <thead> <tr> <th rowspan="2">Impedance ratio ZT / Z20 (MAX.)</th> <th colspan="2">Rated voltage (V)</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> </tr> <tr> <th>Z-25°C / Z+20°C</th> <th>Z-40°C / Z+20°C</th> <td>3</td> <td>3</td> <td>3</td> <td>5</td> <td>5</td> <td>6</td> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td>6</td> <td>6</td> <td>6</td> <td>6</td> <td>6</td> <td>-</td> </tr> </tbody> </table>	Impedance ratio ZT / Z20 (MAX.)	Rated voltage (V)		160	200	250	350	400	450	Z-25°C / Z+20°C	Z-40°C / Z+20°C	3	3	3	5	5	6				6	6	6	6	6
Impedance ratio ZT / Z20 (MAX.)	Rated voltage (V)		160	200	250	350	400	450																		
	Z-25°C / Z+20°C	Z-40°C / Z+20°C	3	3	3	5	5	6																		
			6	6	6	6	6	-																		
Endurance	<p>After an application of D.C. bias voltage plus the rated ripple current for 10000 hours (8000 hours for φ D =10) at 105°C the peak voltage shall not exceed the rated D.C. voltage, capacitors meet the characteristic requirements listed at right.</p> <table border="1"> <tbody> <tr> <td>Capacitance change</td> <td>Within ±20% of initial value</td> </tr> <tr> <td>tan δ</td> <td>200% or less of initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Initial specified value or less</td> </tr> </tbody> </table>	Capacitance change	Within ±20% of initial value	tan δ	200% or less of initial specified value	Leakage current	Initial specified value or less																			
Capacitance change	Within ±20% of initial value																									
tan δ	200% or less of initial specified value																									
Leakage current	Initial specified value or less																									
Shelf Life	After storing the capacitors under no load at 105°C for 1000 hours, and after performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they will meet the specified value for endurance characteristics listed above.																									
Marking	Printed with white color letter on dark brown sleeve.																									

## 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 : 250V 100μF)



### ※ Configuration

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

- Please refer to page 21 about the end seal configuration.

Please refer to page 21, 22, 23 about the formed or taped product spec.  
Please refer to page 3 for the minimum order quantity.

- Dimension table in next page.

## ■ Dimensions

Cap	V Code	160		200		250		350		400		450	
		2C		2D		2E		2V		2G		2W	
6.8	6R8							10 × 16	280	10 × 16	280	10 × 20	280
10	100	10 × 16	320	10 × 16	320	10 × 20	350	10 × 20	350	10 × 20	350	12.5 × 20	450
15	150									12.5 × 20	550	12.5 × 25	600
22	220	10 × 20	500	10 × 20	500	10 × 20	500	12.5 × 20	650	12.5 × 20	760	16 × 20	730
33	330	10 × 20	650	10 × 20	650	12.5 × 20	800	16 × 20	900	16 × 20	900	16 × 25	980
												▲ 18 × 20	980
47	470	10 × 20	750	12.5 × 20	980	12.5 × 20	980	16 × 20	1080	16 × 25	1180	18 × 25	1200
										▲ 18 × 20	1180		
68	680	12.5 × 20	1180	12.5 × 20	1300	16 × 20	1300	16 × 25	1400	18 × 25	1470	18 × 31.5	1575
								▲ 18 × 20	1375				
82	820	12.5 × 20	1275	16 × 20	1380	16 × 20	1380	18 × 25	1530	18 × 25	1525		
100	101	12.5 × 25	1420	16 × 20	1420	16 × 25	1530	18 × 25	1575				
		▲ 16 × 20	1420										
150	151	16 × 20	1890	16 × 25	1890	18 × 25	1940						
220	221	16 × 25	2370	18 × 25	2365	18 × 31.5	3130					Case size	※
330	331	18 × 31.5	3130	18 × 35.5	3220							φD × L (mm)	

※ : Rated Ripple (mArms) at 105°C 100kHz

▲ : In this case, [6] will be put at 12th digit of type numbering system.

## • Frequency coefficient of rated ripple current

Frequency	50Hz	120Hz	1kHz	10kHz	100kHz ~
Coefficient	0.40	0.50	0.80	0.90	1.00