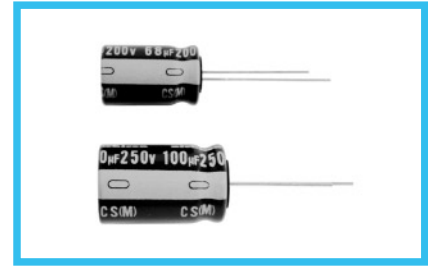
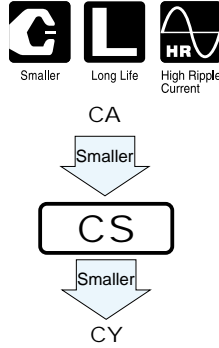


CS series Miniature Sized, High Ripple Current, High Reliability

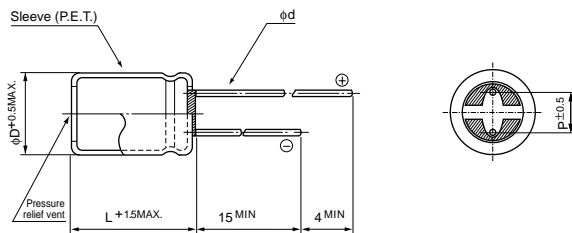


- High ripple current and Long Life product withstanding load life of 8000 to 10000 hours at +105°C.
- Suited for ballast application.
- Compliant to the RoHS directive (2002/95/EC).

Specifications

Item	Performance Characteristics																							
Category Temperature Range	-40 to +105°C (160 to 400V) , -25 to +105°C (450V)																							
Rated Voltage Range	160 to 450V																							
Rated Capacitance Range	6.8 to 330µF																							
Capacitance Tolerance	±20% at 120Hz, 20°C																							
Leakage Current	After 1 minute's application of rated voltage, leakage current is not more than 0.04CV+100 (µA)																							
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz, Temperature : 20°C <table border="1"> <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> <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> </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"> <tr> <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> <td rowspan="2">Impedance ratio ZT / Z20 (MAX.)</td> <td>Z-25°C / Z+20°C</td> <td>3</td> <td>3</td> <td>3</td> <td>5</td> <td>5</td> <td>6</td> </tr> <tr> <td>Z-40°C / Z+20°C</td> <td>6</td> <td>6</td> <td>6</td> <td>6</td> <td>6</td> <td>-</td> </tr> </table>	Rated voltage (V)		160	200	250	350	400	450	Impedance ratio ZT / Z20 (MAX.)	Z-25°C / Z+20°C	3	3	3	5	5	6	Z-40°C / Z+20°C	6	6	6	6	6	-
Rated voltage (V)		160	200	250	350	400	450																	
Impedance ratio ZT / Z20 (MAX.)	Z-25°C / Z+20°C	3	3	3	5	5	6																	
	Z-40°C / Z+20°C	6	6	6	6	6	-																	
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after D.C. bias plus rated ripple current is applied for 10000 hours (8000 hours for φD=10) at 105°C, the peak voltage shall not exceed the rated voltage. <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 dark brown sleeve.																							

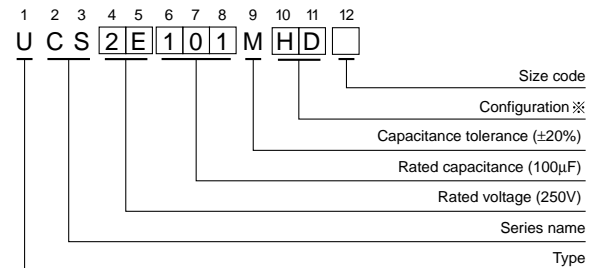
Radial Lead Type



	(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

• Please refer to page 20 about the end seal configuration.

Type numbering system (Example : 250V 100µF)



※ Configuration

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

Please refer to page 20, 21, 22 about the formed or taped product spec.
 Please refer to page 4 for the minimum order quantity.

- Dimension table in next page.



■ Dimensions

Cap	Code	V											
		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						
330	331	18 × 31.5	3130	18 × 35.5	3220								
												Case size φD × L (mm)	※

※: Rated ripple current (mA_{rms}) at 105°C 100kHz

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

• Frequency coefficient of rated ripple current

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