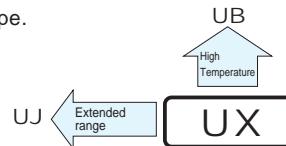




Chip Type, Higher Capacitance Range  
series



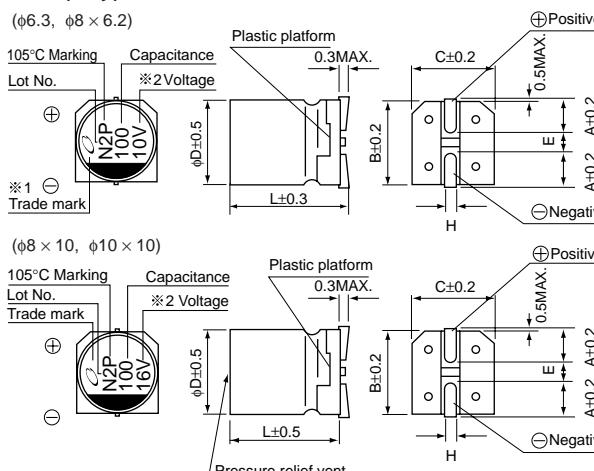
- Chip type, higher capacitance in larger case sizes.
- Designed for surface mounting on high density PC board.
- Applicable to automatic mounting machine using carrier tape.
- Adapted to the RoHS directive (2002/95/EC).



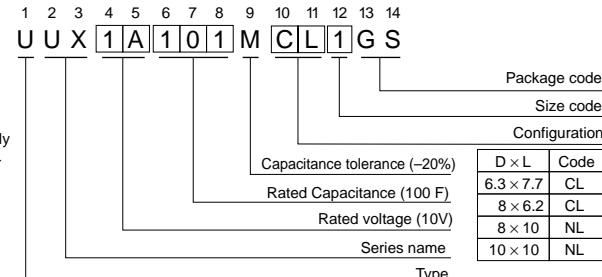
## ■ Specifications

Item	Performance Characteristics																										
Category Temperature Range	-55 ~ +105°C																										
Rated Voltage Range	6.3 ~ 100V																										
Rated Capacitance Range	4.7 ~ 1000μF																										
Capacitance Tolerance	±20% at 120Hz, 20°C																										
Leakage Current	After 1 minute's application of rated voltage, leakage current is not more than 0.03CV (μA).																										
tan δ	<table border="1"> <thead> <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></tr> </thead> <tbody> <tr> <td>tan δ (MAX.)</td><td>0.22</td><td>0.19</td><td>0.16</td><td>0.14</td><td>0.12</td><td>0.10</td><td>0.10</td><td>0.08</td></tr> </tbody> </table>									Rated voltage (V)	6.3	10	16	25	35	50	63	100	tan δ (MAX.)	0.22	0.19	0.16	0.14	0.12	0.10	0.10	0.08
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Stability at Low Temperature	<table border="1"> <thead> <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></tr> </thead> <tbody> <tr> <td>Impedance ratio ZT / Z20 (MAX.)</td><td>Z-55°C / Z+20°C</td><td>4</td><td>4</td><td>3</td><td>3</td><td>2</td><td>3</td><td>4</td></tr> </tbody> </table>									Rated voltage (V)	6.3	10	16	25	35	50	63	100	Impedance ratio ZT / Z20 (MAX.)	Z-55°C / Z+20°C	4	4	3	3	2	3	4
Rated voltage (V)	6.3	10	16	25	35	50	63	100																			
Impedance ratio ZT / Z20 (MAX.)	Z-55°C / Z+20°C	4	4	3	3	2	3	4																			
Endurance	After 2000 hours' application of rated voltage at 105°C, capacitors meet the characteristic requirements listed at right.				Capacitance change	Within ±20% of initial value																					
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.				tan δ	200% or less of initial specified value																					
Resistance to soldering heat	The capacitors shall be kept on the hot plate maintained at 250°C for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the characteristic requirements listed at right.				Leakage current	Initial specified value or less																					
Marking	Black print on the case top.																										

## ■ Chip Type



## Type numbering system (Example : 10V 100μF)



(mm)	ØD x L	6.3 x 7.7	8 x 6.2	8 x 10	10 x 10
A	2.4	3.3	2.9	3.2	
B	6.6	8.3	8.3	10.3	
C	6.6	8.3	8.3	10.3	
E	2.2	2.3	3.1	4.5	
L	7.7	6.2	10	10	
H	0.5 ~ 0.8	0.5 ~ 0.8	0.8 ~ 1.1	0.8 ~ 1.1	

## ■ Dimensions

Cap.(μF)	V	6.3	10	16	25	35	50	63	100
4.7	Code	0J	1A	1C	1E	1V	1H	1J	2A
10	4R7								
22	220								
33	330								
47	470								
100	101	8 x 6.2	90	○ 8 x 10   148(111)	8 x 10	181	■ 10 x 10   304(283)	10 x 10   310	10 x 10   320
220	221	○ 8 x 10   161(121)	8 x 10	173	■ 10 x 10   330(307)	■ 10 x 10   351(283)	10 x 10   450		
330	331	8 x 10   288	■ 10 x 10   318(296)	■ 10 x 10   441(410)	10 x 10   372				
470	471	■ 10 x 10   340(316)	■ 10 x 10   351(326)	10 x 10   489					
680	681	10 x 10   408	10 x 10   392						
1000	102	10 x 10   495							

Size Ø6.3 x 7.7 is available for capacitors marked. "○" / Size Ø8 x 10 is available for capacitors marked. "■"

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

Rated Ripple (mA rms) at 105°C 120Hz

## ● Frequency coefficient of rated ripple current

Cap.(μF)	Frequency	50 Hz	120 Hz	300 Hz	1 kHz	10 kHz~
~ 47		0.80	1.00	1.15	1.40	1.67
100 ~ 1000		0.85	1.00	1.08	1.20	1.30

- Taping specifications are given in page 24.
- Recommended land size, soldering by reflow are given in page 25, 26.
- Please select UJ(p.76) series if high C/V products are required.
- Please refer to page 3 for the minimum order quantity.