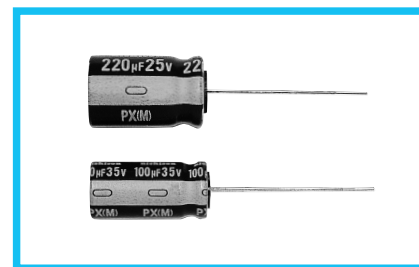


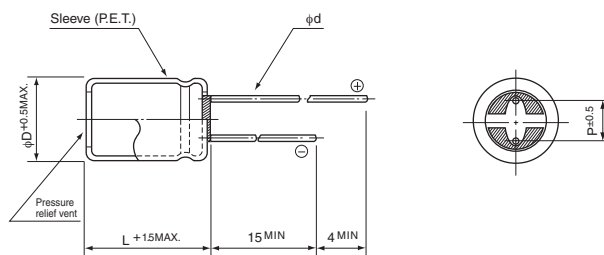
- Load life of 20000 hours at 105°C.
- Compliant to the RoHS directive (2011/65/EU).



Specifications

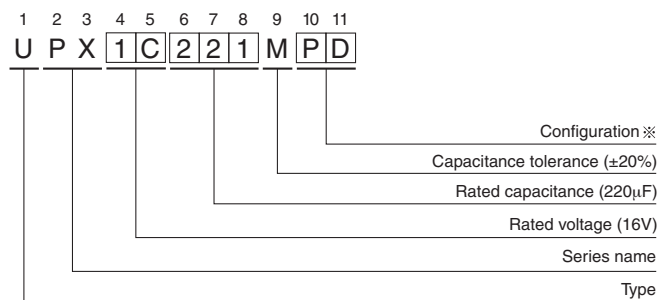
Item	Performance Characteristics						
Category Temperature Range	-55 to +105°C						
Rated Voltage Range	10 to 35V						
Rated Capacitance Range	1 to 4700μF						
Capacitance Tolerance	±20% (120Hz, 20°C)						
Leakage Current	After 1 minute's application of rated voltage at 20°C, leakage current is not more than 0.03CV or 4 (μA), whichever is greater.						
Tangent of loss angle (tan δ)	Rated voltage (V)	10	16	25	35	Measurement frequency : 120Hz	
	tan δ (MAX)	0.20	0.16	0.14	0.12	Temperature : 20°C	
	For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF.						
Stability at Low Temperature	Rated voltage (V)		10	16	25	35	Measurement frequency : 120Hz
	Impedance ratio (MAX.)	Z-25°C / Z+20°C	3	2	2	2	
		Z-40°C / Z+20°C	4	4	4	4	
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 20000 hours at 105°C, the peak voltage shall not exceed the rated voltage.					Capacitance change	Within ±30% of the initial capacitance value
						tan δ	300% 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



	10	12.5	16	18
φD	5.0	5.0	7.5	7.5
P	5.0	5.0	7.5	7.5
φd	0.6	0.6	0.8	0.8

Type numbering system (Example : 16V 220µF)



※ Configuration

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

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

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. (μ F)	V (Code) Item Code	10 (1A)		16 (1C)		25 (1E)		35 (1V)	
		Case size ϕ D $\times$ L (mm)	Rated ripple (mArms) 105°C / 100kHz	Case size ϕ D $\times$ L (mm)	Rated ripple (mArms) 105°C / 100kHz	Case size ϕ D $\times$ L (mm)	Rated ripple (mArms) 105°C / 100kHz	Case size ϕ D $\times$ L (mm)	Rated ripple (mArms) 105°C / 100kHz
1	010							10 $\times$ 12.5	59
2.2	2R2							10 $\times$ 12.5	84
3.3	3R3							10 $\times$ 12.5	101
4.7	4R7							10 $\times$ 12.5	143
10	100							10 $\times$ 12.5	294
22	220							10 $\times$ 12.5	336
33	330							10 $\times$ 12.5	378
47	470							10 $\times$ 12.5	420
100	101					10 $\times$ 12.5	420	10 $\times$ 20	672
220	221			10 $\times$ 16	504	12.5 $\times$ 20	840	12.5 $\times$ 25	1008
330	331	10 $\times$ 16	504	10 $\times$ 20	672	12.5 $\times$ 25	1008	16 $\times$ 25	1344
470	471	10 $\times$ 20	672	12.5 $\times$ 20	1008	16 $\times$ 25	1344	16 $\times$ 31.5	1680
1000	102	12.5 $\times$ 25	1008	16 $\times$ 25	1344	16 $\times$ 31.5	1680	18 $\times$ 40	2184
2200	222	16 $\times$ 31.5	1680	18 $\times$ 35.5	2016				
3300	332	18 $\times$ 35.5	2016	18 $\times$ 40	2184				
4700	472	18 $\times$ 40	2184						

• Frequency coefficient of rated ripple current

Frequency	120Hz	1kHz	10kHz	100kHz or more
Coefficient	0.75	0.80	0.90	1.00