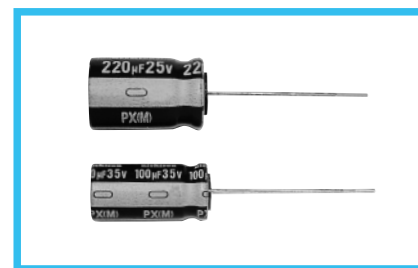


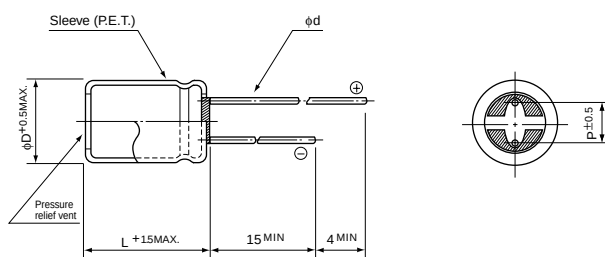
- Load life of 20000 hours at 105°C.
- Compliant to the RoHS directive (2011/65/EU).



Specifications

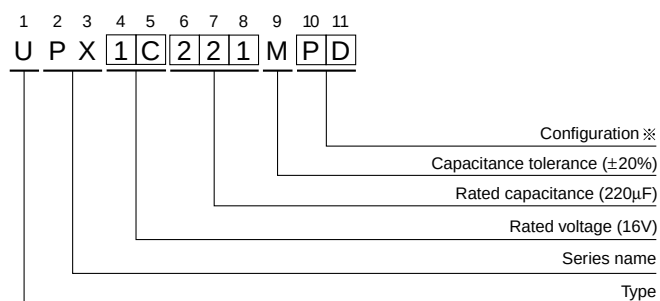
Item	Performance Characteristics					
Category Temperature Range	-55 to +105°C					
Rated Voltage Range	10 to 35V					
Rated Capacitance Range	1 to 4700µF					
Capacitance Tolerance	±20% (120Hz, 20°C)					
Leakage Current	After 1 minute's application of rated voltage, leakage current is not more than 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	Z-25°C / Z+20°C	3	2	2	
	(MAX.)	Z-40°C / Z+20°C	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
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.					300% or less than the initial specified value
						Leakage current
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 : 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 (mA _{rms}) 105°C / 100kHz	Case size ϕ D $\times$ L (mm)	Rated ripple (mA _{rms}) 105°C / 100kHz	Case size ϕ D $\times$ L (mm)	Rated ripple (mA _{rms}) 105°C / 100kHz	Case size ϕ D $\times$ L (mm)	Rated ripple (mA _{rms}) 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