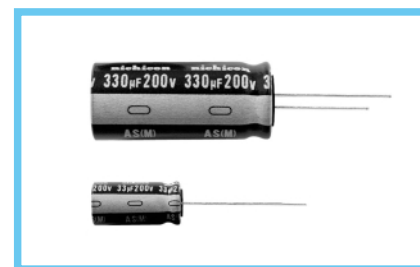
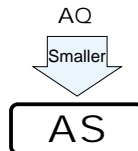


AS

Wide Temperature Range, Miniature Type Permissible
Abnormal Voltage
series



Smaller

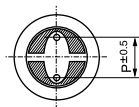
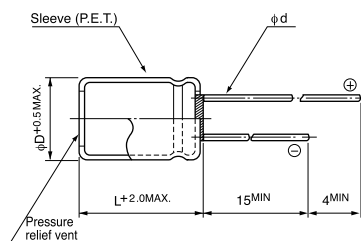


- Improved safety feature for abnormally excessive voltage.
- High ripple current product.
- Adapted to the RoHS directive (2002/95/EC).

Specifications

Item	Performance Characteristics		
Category Temperature Range	-40 ~ +105°C		
Rated Voltage Range	200V		
Rated Capacitance Range	33 ~ 330μF		
Capacitance Tolerance	±20% at 120Hz, 20°C		
Leakage Current	After 1 minute's application of rated voltage, leakage current is 0.04CV+100 (μA) or less.		
tan δ	Rated voltage (V)	200	
	tan δ (MAX.)	0.15	
Measurement frequency:120Hz, Temperature:20°C			
Stability at Low Temperature	Rated voltage (V)	200	
	Impedance ratio ZT / Z20 (MAX.)	Z-25°C / Z+20°C	3
		Z-40°C / Z+20°C	6
Measurement frequency : 120Hz			
Endurance	After an application of D.C. bias voltage plus the rated ripple current for 2000 hours at 105°C the peak voltage shall not exceed the rated D.C. voltage, capacitors meet the characteristic requirements listed at right.		
	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 leaving capacitors under no load at 105°C for 1000 hours, they meet the specified value for endurance characteristics listed above.		
Safety Performance	The pressure relief vent will operate in normal conditions, with no dangerous conditons such as flames, ignitions or dispersion of pieces of the capacitor and / or case.		
	voltage (V)	Test conditions	
		Limited DC current	Test Voltage
200	4A (5A : 330μF)	300VDC and 375VDC	
Marking	Printed with white color letter on dark brown sleeve.		

Radial Lead Type

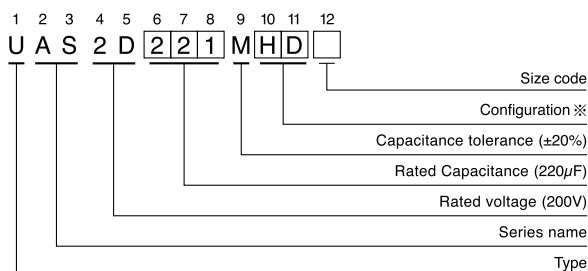


	(mm)			
φD	10	12.5	16	18
P	5.0	5.0	7.5	7.5
φd	0.6	0.6	0.8	0.8

※ In case L>25 for φ12.5 (D) case sizes, lead diameter φ0.8 (d) will be applied.

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

Type numbering system (Example : 200V 220μF)



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

Dimensions

Cap. (μF)	Code	200 (2D)				Case size φD × L (mm)	Rated ripple
		φ10	φ12.5	φ16	φ18		
33	330	10 × 20	160				
47	470	10 × 25	195	▲ 12.5 × 20	195		
56	560			12.5 × 20	210		
68	680			12.5 × 25	320		
82	820			12.5 × 25	360		
100	101			12.5 × 31.5	430		
150	151			▲ 16 × 20	430		
180	181			16 × 25	460	▲ 18 × 20	
220	221			16 × 31.5	600	▲ 18 × 25	
270	271					18 × 31.5	
330	331					18 × 35.5	
						18 × 40	
						910	

Rated Ripple (mArms) at 105°C 120Hz

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

Frequency coefficient of rated ripple current

Frequency	50, 60Hz	120Hz	300Hz	1kHz	10kHz ~
Coefficient	0.80	1.00	1.25	1.40	1.60

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