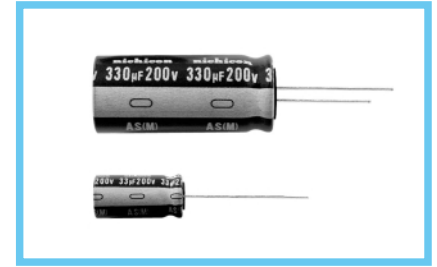
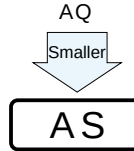


AS

Wide Temperature Range, Miniature Type Permissible
Abnormal Voltage
series

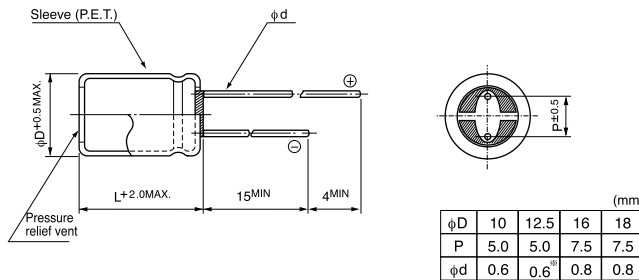


- Improved safety feature for abnormally excessive voltage.
- High ripple current product.
- Adapted to the RoHS directive (2002/95/EC).

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	Measurement frequency:120Hz, Temperature:20°C		
	tan δ (MAX.)	0.15			
Stability at Low Temperature	Rated voltage (V)		200	Measurement frequency : 120Hz	
	Impedance ratio ZT / Z20 (MAX.)	Z-25°C / Z+20°C			3
		Z-40°C / Z+20°C			6
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)	
Marking	Printed with white color letter on dark brown sleeve.				

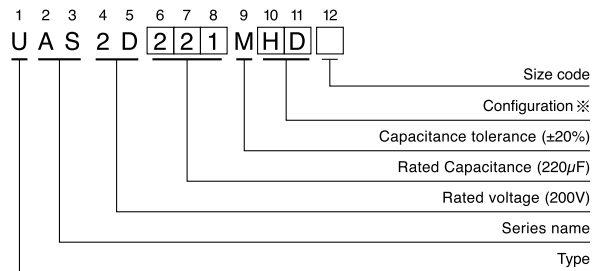
Radial Lead Type



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

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

Type numbering system (Example : 200V 220µF)



※ Configuration

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

Dimensions

		200 (2D)					
Cap.(µF)	Code	φ10	φ12.5	φ16	φ18	Case size φD × L (mm)	Rated ripple
33	330	10 × 20	160			Case size φD × L (mm)	Rated ripple
47	470	10 × 25	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	460
220	221			16 × 31.5	600	▲ 18 × 25	600
270	271					18 × 31.5	710
330	331					18 × 35.5	890
						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.