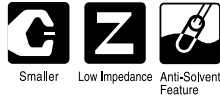
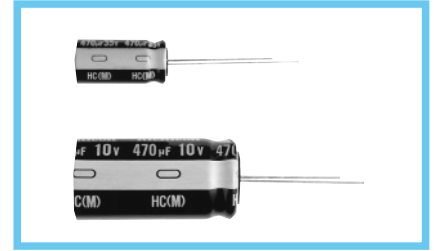


**HC** Low Impedance series



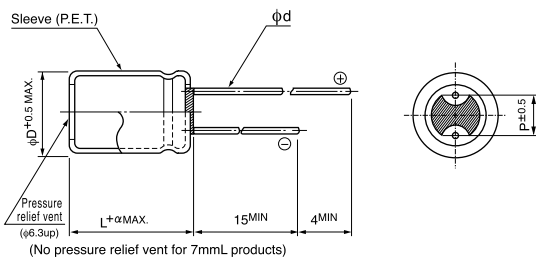
- Lower impedance than HD series.
- Adapted to the RoHS directive (2002/95/EC).



## Specifications

Item	Performance Characteristics						
Category Temperature Range	-40 ~ +105°C						
Rated Voltage Range	6.3 ~ 35V						
Rated Capacitance Range	4.7 ~ 1000μF						
Capacitance Tolerance	±20% at 120Hz, 20°C						
Leakage Current	After 2 minutes' application of rated voltage, leakage current is less than 0.01CV or 3 (μA), whichever is greater.						
tan δ	Rated voltage (V)	6.3	10	16	25	35	120Hz 20°C
	tan δ (MAX.)	0.15	0.13	0.12	0.10	0.10	
Stability at Low Temperature	Rated voltage (V)	6.3	10	16	25	35	120Hz
	Impedance ratio ZT / Z20 (MAX.) Z-40°C / Z+20°C	2	2	2	2	2	
Endurance	After an application of D.C. bias voltage plus the rated ripple current for 2000 hours (φD ≤ 6.3 : 1000 hours ) at 105°C the peak voltage shall not exceed the rated D.C. voltage, capacitors meet the characteristic requirements listed below.						
	Capacitance change	Within ± 20% of initial value					
	tan δ	200% or less of initial specified value					
	Leakage current	Initial specified value or less					
Marking	Printed with white color letter on black sleeve.						

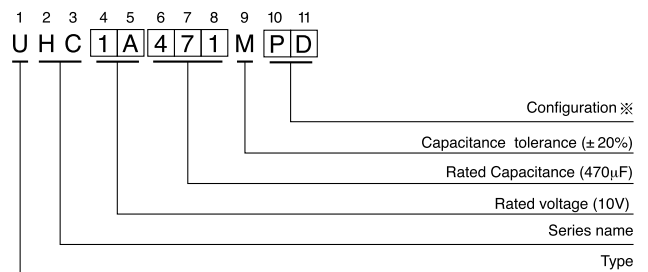
## Radial Lead Type



α	(L = 7) 1.0		(mm)				
	(L ≥ 11) 1.5		φD	4	5	6.3	8
P	1.5	2.0	2.5	3.5	5.0		
φd	0.45	0.45	0.5 (0.45)	0.6	0.6		

( ) : Applied to 7mmL products

## Type numbering system (Example : 10V 470μF)



### ※ Configuration

φ D	Pb-free leadwire Pb-free FET sleeve
4	DD
5	
6.3 (7L)	ED
6.3 (11L)	
8 · 10	PD

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

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

• Dimension table in next page.

## ■ Standard ratings

V (Code)		6.3 (0J)			10 (1A)			16 (1C)		
Cap. (μF)	Item	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C / 100kHz	Rated ripple (mA rms) 105°C / 100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C / 100kHz	Rated ripple (mA rms) 105°C / 100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C / 100kHz	Rated ripple (mA rms) 105°C / 100kHz
	Code									
22	220				4 × 7	0.49	230	5 × 7	0.26	350
33	330	4 × 7	0.48	230	5 × 7	0.26	350	5 × 7	0.26	350
47	470	5 × 7	0.26	350	5 × 7	0.26	350	6.3 × 7	0.15	480
100	101	6.3 × 7	0.15	480	6.3 × 7	0.15	480	6.3 × 11	0.078	640
220	221	6.3 × 11	0.077	640	8 × 11.5	0.044	910	8 × 11.5	0.044	910
330	331	8 × 11.5	0.043	910	8 × 11.5	0.043	910	10 × 12.5	0.030	1230
470	471	8 × 11.5	0.043	910	10 × 12.5	0.030	1230	10 × 16	0.025	1650
1000	102	10 × 16	0.024	1650						

V (Code)		25 (1E)			35 (1V)		
Cap. (μF)	Item	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C / 100kHz	Rated ripple (mA rms) 105°C / 100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C / 100kHz	Rated ripple (mA rms) 105°C / 100kHz
	Code						
4.7	4R7				4 × 7	0.64	230
10	100	4 × 7	0.52	230	5 × 7	0.33	350
22	220	5 × 7	0.27	350	6.3 × 7	0.17	480
33	330	6.3 × 7	0.16	480	6.3 × 7	0.16	480
47	470	6.3 × 7	0.15	480	6.3 × 11	0.089	640
100	101	6.3 × 11	0.078	640	8 × 11.5	0.048	910
220	221	10 × 12.5	0.031	1230	10 × 16	0.026	1650
330	331	10 × 16	0.026	1650			

## ● Frequency coefficient of rated ripple current

Cap. (μF)	Frequency	120Hz	1kHz	10kHz	100kHz
4.7 ~ 33		0.40	0.68	0.90	1.00
47 ~ 330		0.47	0.75	0.95	1.00
470 ~ 1000		0.55	0.85	0.98	1.00