



HHU Series HIGH VOLTAGE LONG LIFE ELECTROLYTIC CAPACITOR

Operating with wide temperature range -40~+105°C

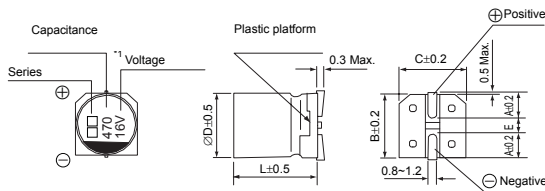
Load life of 5000 hours

RoHS & REACH compliant, Halogen-free

SPECIFICATIONS

Items	Characteristics			
Operation Temperature Range	-40 ~ +105°C			
Voltage Range	160 ~ 450V			
Capacitance Range	3.3 ~ 47μF			
Capacitance Tolerance	±20% at 120Hz, 20°C			
Leakage Current	Leakage current ≤0.04CV + 100μA, whichever is greater (after 2 minutes application of rated voltage at 20°C) C: Nominal capacitance (μF), V: Rated voltage (V)			
Dissipation Factor (tan δ)	Measurement frequency : 120Hz, Temperature : 20°C			
	Rated Voltage (V)	160 ~ 250	400, 500	
Stability at Low Temperature	Measurement frequency : 120Hz			
	Rated Voltage (V)	160 ~ 250	400, 500	
	Impedance Ratio	Z(-25°C) / Z(20°C)	3	6
	ZT/Z20 (max.)	Z(-40°C) / Z(20°C)	6	10
Load Life	After 5000 hours application of the rated voltage at 105°C, they meet the characteristics listed below.			
	Capacitance Change	Within ±20% of initial value		
	Dissipation Factor	200% or less of initial specified value		
Shelf Life	After leaving capacitors under no load at 105°C for 1000 hours, they meet the specified value for load life characteristics listed above.			
	Leakage Current	initial specified value or less		
Resistance to Soldering Heat	After reflow soldering and restored at room temperature, they meet the characteristics listed below.			
	Capacitance Change	Within ±10% of initial value		
	Dissipation Factor	initial specified value or less		
Marking	Black print on the case top.			
	Leakage Current	initial specified value or less		

DRAWING (Unit: mm)



● A pressure relief vent is attached to products over ØD=12.5

DIMENSIONS (Unit: mm)

ØD x L	8 x 12.5	10 x 10.5/13.5	12.5 x 13.5	12.5 x 16
A	3.0	3.3	4.9	4.9
B	8.4	10.4	13.0	13.0
C	8.4	10.4	13.0	13.0
E ± 0.2	3.1	4.7	4.7	4.7
L	12.5	13.5	13.5	16.0



DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

μF	WV Code	160		200		250		400		450	
		Case size	Ripple current	Case size	Ripple current	Case size	Ripple current	Case size	Ripple current	Case size	Ripple current
3.3	335									10 × 13.5	40
4.7	475					10 × 10.5	65	8 × 12.5 (10 × 10.5) (10 × 13.5)	45 (48) (50)	10 × 13.5	50
6.8	685					10 × 10.5	70	10 × 10.5 (10 × 13.5)	45 (60)	10 × 13.5	50
10	106			10 × 10.5 (10 × 13.5)	70 (80)	10 × 13.5	105	10 × 13.5 (12.5 × 13.5)	65 (85)	12.5 × 13.5	85
22	226	12.5 × 13.5	85	10 × 13.5 (12.5 × 13.5)	95 (110)	12.5 × 13.5 (12.5 × 16)	120 (180)	16 × 16.5	95		
33	336	12.5 × 13.5	95	12.5 × 16	220						
47	476	12.5 × 13.5 (12.5 × 16)	110 (260)								

•Case size ØD×L(mm), ripple current (mA rms) at 105°C, 120Hz

FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT

Frequency	50Hz	120Hz	300Hz	1KHz	10KHz~
Coefficient	0.80	1.00	1.25	1.40	1.60

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5~10°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.

◆ How to order

HHU	106	M	0160	1013	R	-
↓	↓	↓	↓	↓	↓	↓
<u>Type</u>	<u>Capacitance code</u>	<u>Tolerance</u>	<u>Rated Voltage</u>	<u>Size Code</u>	<u>Package</u>	<u>Additional characters may be added for special requirements</u>
HHU	pF Code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow) 106 = 10uF 107 = 100uF	M: +/-20%	Code 0160: 160VDC For DC Voltage 0160: 160VDC 0250: 250VDC 0450: 450VDC	Code 1013: Size 10x13.5mm Size for V-chip E-cap 0812: Size 8x12.5mm 1013: Size 10x13.5mm 1216: Size 12.5x16mm	R: Tape & Reel	

Note: Specification is subject to change without further notice. For more details and updates, please visit our website.