

HUW Series

Features

- 135°C, 2,000 ~ 4,000 hours assured
- Low ESR and High ripple current
- RoHS compliant
- AEC-Q200 compliant

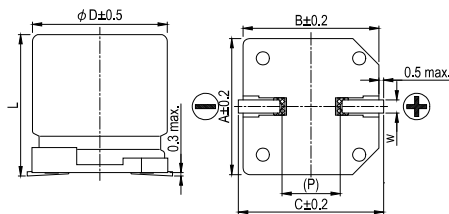


Marking color: Dark Green

Specifications

Items	Performance						
Category Temperature Range	-55°C ~ +135°C						
Capacitance Tolerance	± 20% (at 120 Hz, 20°C)						
Leakage Current (at 20°C)	I = 0.01CV or 3 (μ A) whichever is greater (after 2 minutes) Where, C = rated capacitance in μF, V = rated DC working voltage in V						
Tanδ (at 120 Hz, 20°C)	See Standard Ratings						
Low Temperature Characteristics (at 100k Hz)	Impedance ratio shall not exceed the values given in the table below						
	Rated Voltage		16	25	35	50	63
	Impedance ratio	Z (-25°C) / Z (+20°C)	1.5	1.5	1.5	1.5	1.5
		Z (-55°C) / Z (+20°C)	2.0	2.0	2.0	2.0	2.0
Endurance	Test Time		135°C		125°C		
			2,000 Hrs for ϕ D = 6.3 mm 4,000 Hrs for ϕ D = 8 ~ 10 mm		4,000 Hrs		
	Capacitance Change		Within ± 30% of initial value				
	Tanδ		Less than 200% of specified value				
	ESR		Less than 200% of specified value				
	Leakage Current		Within specified value				
	* The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied with rated ripple current for 2,000 / 4,000 hours at 125 or 135°C.						
Shelf Life Test	* After storage for 1,000 hours at 135 ± 2°C with no voltage applied and then being stabilized at 20°C, capacitors shall meet the limits specified in Endurance. (With voltage treatment)						
Resistance to Soldering Heat (Please refer to page 15 for reflowsoldering conditions)	Capacitance Change		Within ± 10% of initial value				
	Tanδ		Within specified value				
	ESR		Within specified value				
	Leakage Current		Within specified value				
Ripple Current and Frequency Multipliers	Frequency (Hz)		120 ≤ f < 1k	1k ≤ f < 10k	10k ≤ f < 100k	100k ≤ f < 500k	
	Multiplier		0.1	0.3	0.6	1.0	

Diagram of Dimensions



Lead Spacing and Diameter

Unit: mm

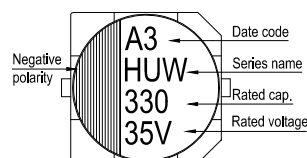
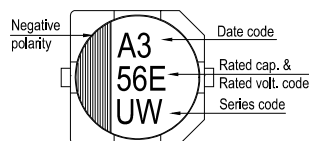
φ D	L	A	B	C	W	P
6.3	5.8 ± 0.3	6.6	6.6	7.2	0.5 ~ 0.8	2.0
6.3	7.7 ± 0.3	6.6	6.6	7.2	0.5 ~ 0.8	2.0
8	10.0 ± 0.5	8.3	8.3	9.0	0.7 ~ 1.1	3.1
10	10.0 ± 0.5	10.3	10.3	11.0	0.7 ~ 1.3	4.7
10	12.5 ± 0.5	10.3	10.3	11.0	0.7 ~ 1.3	4.7
10	16.5 ± 0.5	10.3	10.3	11.0	1.0 ~ 1.4	4.7

The diagram is marking " () " for reference dimension.

Marking

φ D = 6.3

φ D = 8 ~ 10



All product specifications in the catalog are subject to change without notice. (Cat. 2025E3)

Standard Ratings

 Dimension: $\phi D \times L$ (mm)
 Ripple Current: mA/rms at 100k Hz

Rated Voltage (V)	Surge Voltage (V)	Capacitance (μ F)	Size $\phi D \times L$ (mm)	Tan δ (120 Hz, 20°C)	L C (μ A)	E S R (m Ω /at 100kHz, 20°C max.)	Rated R. C. (mA/rms at 100k Hz)	
							125°C	135°C
16V (1C)	18.4	82	6.3 $\times$ 5.8	0.16	13.1	45	1,700	950
		150	6.3 $\times$ 7.7		24.0	27	2,500	1,450
		270	8 $\times$ 10		43.2	20	3,050	1,700
		470	10 $\times$ 10		75.2	18	3,400	2,100
		560	10 $\times$ 12.5		89.6	15	4,200	2,550
25V (1E)	28.8	56	6.3 $\times$ 5.8	0.14	14.0	50	1,400	900
		100	6.3 $\times$ 7.7		25.0	30	2,100	1,400
		220	8 $\times$ 10		55.0	22	2,900	1,600
		330	10 $\times$ 10		82.5	20	3,300	2,000
		470	10 $\times$ 12.5		117	16	4,050	2,500
		560	10 $\times$ 16.5		140	14	4,300	2,500
35V (1V)	40.3	47	6.3 $\times$ 5.8	0.12	16.5	60	1,400	900
		68	6.3 $\times$ 7.7		23.8	35	2,100	1,400
		150	8 $\times$ 10		52.5	22	2,900	1,600
		270	10 $\times$ 10		94.5	20	3,300	2,000
		330	10 $\times$ 12.5		115	17	3,950	2,400
		470	10 $\times$ 16.5		164	14	4,300	2,500
50V (1H)	57.5	33	8 $\times$ 10	0.10	16.5	30	2,400	1,250
		47	8 $\times$ 10		23.5	30	2,400	1,250
		56	10 $\times$ 10		28.0	25	2,900	1,600
		68	8 $\times$ 10		34.0	30	2,400	1,250
		100	10 $\times$ 10		50.0	25	2,900	1,600
		120	10 $\times$ 10		60.0	25	2,900	1,600
		150	10 $\times$ 12.5		75.0	19	3,700	2,250
		220	10 $\times$ 16.5		110	16	4,100	2,400
63V (1J)	72.5	22	8 $\times$ 10	0.08	13.9	40	2,100	1,100
		33	8 $\times$ 10		20.8	40	2,100	1,100
		33	10 $\times$ 10		20.8	30	2,600	1,400
		47	8 $\times$ 10		29.6	40	2,100	1,100
		56	10 $\times$ 10		35.3	30	2,600	1,400
		82	10 $\times$ 10		51.7	30	2,600	1,400
		100	10 $\times$ 12.5		63.0	22	3,450	2,100
		150	10 $\times$ 16.5		94.5	16	4,100	2,400

Part Numbering System

HUW Series	470 μ F	$\pm 20\%$	25V	Carrier Tape	10 ϕ $\times$ 12.5L	Regional Tracking Purpose
HUW	471	M	1E	TR	-	1013
Series Name	Capacitance	Capacitance Tolerance	Rated Voltage	Package Type	Terminal Type	Case Size
						S

Note: For more details, please refer to "Part Numbering System" on page 87.

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