

HBW Series

Features

- 125°C, 4,000 hours assured
- Low ESR and High ripple current
- RoHS Compliance

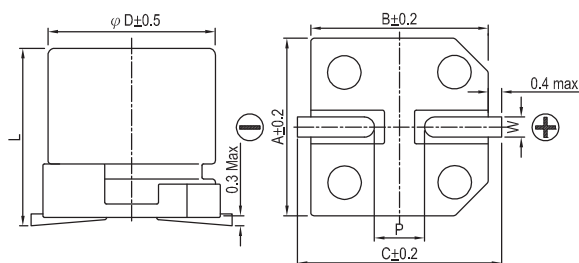


Marking color: Dark Green

Specifications

Items	Performance																													
Category Temperature Range	-55℃ ~ +125℃																													
Capacitance Tolerance	±20% (at 120Hz, 20℃)																													
Leakage Current (at 20℃)	I = 0.01CV or 3 (μA) whichever is greater (after 2 minutes) Where, C = rated capacitance in μF, V = rated DC working voltage in V																													
Tanδ (at 120Hz, 20℃)	See Standard Ratings																													
Endurance	<table><tr><td>Test Time</td><td colspan="4">4,000 Hrs</td></tr><tr><td>Capacitance Change</td><td colspan="4">Within ±30% of initial value</td></tr><tr><td>Tanδ</td><td colspan="4">Less than 200% of specified value</td></tr><tr><td>ESR</td><td colspan="4">Less than 200% of specified value</td></tr><tr><td>Leakage Current</td><td colspan="4">Within specified value</td></tr></table>					Test Time	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			
	Test Time	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℃ after the rated voltage applied with rated ripple current for 4,000 hours at 125℃.																														
Shelf Life Test	* After storage for 1,000 hours at 125 ± 2℃ with no voltage applied and then being stabilized at 20℃,capacitors shall meet the limits specified in Endurance. (With voltage treatment)																													
Resistance to Soldering Heat (Please refer to page 25 for reflowsoldering conditions)	<table><tr><td>Capacitance Change</td><td colspan="4">Within ±10% of initial value</td></tr><tr><td>Tanδ</td><td colspan="4">Within specified value</td></tr><tr><td>ESR</td><td colspan="4">Within specified value</td></tr><tr><td>Leakage Current</td><td colspan="4">Within specified value</td></tr></table>					Capacitance Change	Within ±10% of initial value				Tanδ	Within specified value				ESR	Within specified value				Leakage Current	Within specified value								
	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	<table><tr><td>Frequency (Hz)</td><td>120 ≤ f < 1k</td><td>1k ≤ f < 10k</td><td>10k ≤ f < 100k</td><td>100k ≤ f < 500k</td></tr><tr><td>Multiplier</td><td>0.10</td><td>0.3</td><td>0.6</td><td>1.0</td></tr></table>					Frequency (Hz)	120 ≤ f < 1k	1k ≤ f < 10k	10k ≤ f < 100k	100k ≤ f < 500k	Multiplier	0.10	0.3	0.6	1.0															
	Frequency (Hz)	120 ≤ f < 1k	1k ≤ f < 10k	10k ≤ f < 100k	100k ≤ f < 500k																									
Multiplier	0.10	0.3	0.6	1.0																										

Diagram of Dimensions



Lead Spacing and Diameter

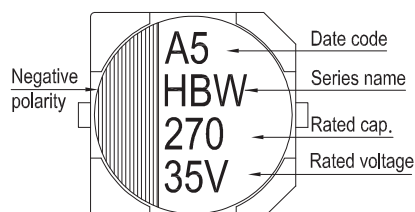
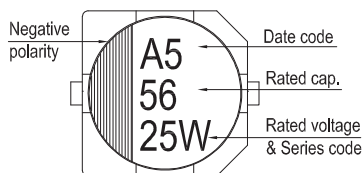
Unit: mm

ϕD	L	A	B	C	W	P ± 0.2
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	8.4	8.4	9.0	0.7 ~ 1.1	3.1
8	12.0 ± 0.5	8.4	8.4	9.0	0.7 ~ 1.1	3.1
10	10.0 ± 0.5	10.4	10.4	11.0	0.7 ~ 1.3	4.7
10	12.5 ± 0.5	10.4	10.4	11.0	0.7 ~ 1.3	4.7

Marking

$\phi D = 6.3$ mm

$\phi D = 8 \sim 10$ mm



Standard Ratings

Dimension: $\phi D \times L$ (mm)

Ripple Current: mA/rms at 100k Hz, 125°C

W. V. (V)	Surge Voltage (V)	Capacitance (μ F)	Size $\phi D \times L$ (mm)	Tan δ (120Hz, 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)
16V (1C)	18.4	82	6.3 $\times$ 5.8	0.16	13.1	50	900
		150	6.3 $\times$ 7.7	0.16	24	30	1,400
		270	8 $\times$ 10	0.16	43.2	27	1,600
		470	10 $\times$ 10	0.16	75.2	20	2,000
25V (1E)	28.8	56	6.3 $\times$ 5.8	0.14	14	50	900
		100	6.3 $\times$ 7.7	0.14	25	30	1,400
		220	8 $\times$ 10	0.14	55	27	1,600
		330	10 $\times$ 10	0.14	82.5	20	2,000
35V (1V)	40.3	27	6.3 $\times$ 5.8	0.12	9.5	60	900
		68	6.3 $\times$ 7.7	0.12	23.8	35	1,400
		150	8 $\times$ 10	0.12	52.5	27	1,600
		270	10 $\times$ 10	0.12	94.5	20	2,000
50V(1H)	57.5	22	6.3 $\times$ 5.8	0.10	11	80	750
		33	6.3 $\times$ 7.7	0.10	16.5	40	1,100
		68	8 $\times$ 10	0.10	34	30	1,250
		100	10 $\times$ 10	0.10	50	28	1,600
63V(1J)	72.5	10	6.3 $\times$ 5.8	0.08	6.3	120	700
		22	6.3 $\times$ 7.7	0.08	13.9	80	900
		27	8 $\times$ 12	0.08	17	40	1,100
		33	8 $\times$ 10	0.08	20.8	40	1,100
		56	10 $\times$ 10	0.08	35.3	30	1,400
		56	10 $\times$ 12.5	0.08	35.3	26	1,500

Part Numbering System

HBW Series	220 μ F	$\pm$ 20%	25V	Carrier Tape	8 ϕ $\times$ 10L	Pb-free and PET coating case
HBW	221	M	1E	TR	-	0810
Series Name	Capacitance	Capacitance Tolerance	Rated Voltage	Package Type	Terminal Type	Case size
						Lead Wire and Coating Type

Note: For more details, please refer to "Part Numbering System (SMD Type)" on page 15.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Lelon:](#)

[HBW101M0J0606-TR0](#) [HBW101M1E0608-TR0](#) [HBW151M1A0608-TR0](#) [HBW151M1V0810-TR0](#) [HBW220M1H0606-TR0](#) [HBW221M0J0608-TR0](#) [HBW221M1E0810-TR0](#) [HBW271M1V1010-TR0](#) [HBW330M1C0606-TR0](#) [HBW330M1H0608-TR0](#) [HBW331M1E1010-TR0](#) [HBW331M1V1013-TR0](#) [HBW470M1V0606-TR0](#) [HBW560M0J0810-TR0](#) [HBW560M1E0606-TR0](#) [HBW680M1A0606-TR0](#) [HBW680M1H0810-TR0](#) [HBW680M1V0608-TR0](#)