HBZ Series

Features

- 125℃, 4,000 hours assured
- Low ESR and High ripple current
- RoHS compliance
- AEC-Q200 qualified

Marking color: Dark Green

Specifications

Items	Performance
Category Temperature Range	-55℃ ~ +125℃
Capacitance Tolerance	±20% (at 120 Hz, 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 120 Hz, 20℃)	See Standard Ratings
Low Temperature Characteristics (at 100k Hz)	Impedance ratio shall not exceed the values given in the table below

Rated Voltage		25	35	50	63
Impedance ratio	Z (-25℃) / Z (+20℃)	1.5	1.5	1.5	1.5
	Z (-55℃) / Z (+20℃)	2.0	2.0	2.0	2.0

Endurance

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)

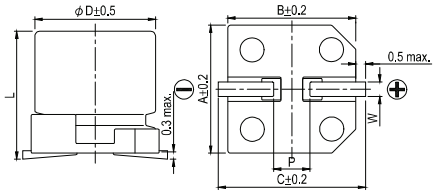
Resistance to Soldering Heat (Please refer to page 15 for reflowsoldering conditions)

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

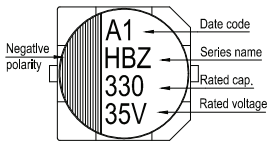
Diagram of Dimensions



Lead Spacing and Diameter — Unit: mm

ϕD	L	A	B	C	W	P ± 0.2
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	0.7 ~ 1.3	4.7

Marking



Dimension: ϕD×L(mm)

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

Standard Ratings

Rated Voltage (V)	Surge Voltage (V)	Capacitance (μF)	Size ϕD×L(mm)	Tanδ (120 Hz, 20℃)	L C (μA)	E S R (mΩ/at 100kHz, 20℃ max.)	Rated R. C. (mA/rms at 100k Hz, 125℃)
25V (1E)	28.8	470	10 × 12.5	0.14	117	14	3,500
		560	10 × 16.5	0.14	140	11	4,000
35V (1V)	40.3	330	10 × 12.5	0.12	115	14	3,500
		470	10 × 16.5	0.12	164	11	4,000
50V (1H)	57.5	150	10 × 12.5	0.10	75.0	17	3,200
		220	10 × 16.5	0.10	110	13	3,700
63V (1J)	72.5	100	10 × 12.5	0.08	63.0	19	3,000
		150	10 × 16.5	0.08	94.5	15	3,500

Part Numbering System

HBZ Series	470μF	±20%	25V	Carrier Tape		10ϕ×12.5L	
HBZ	**471**	**M**	**1E**	**TR**	**-**	**1013**	**XX**
Series Name	Capacitance	Capacitance Tolerance	Rated Voltage	Package Type	Terminal Type	Case Size	S = Standard KS = AEC-Q200 Qualified

https://surgecomponents.com

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