

# Panasonic

## Aluminum Electrolytic Capacitor/EB

### Radial Lead Type

Series: EB Type : A

Country of Origin

Japan  
Malaysia  
China



- Features Endurance:105°C 5000 to 10000 h  
High Ripple High Frequency(High Voltage)

#### ■ Specifications

Category temp. range	-40 to +105°C	-25 to +105°C
Rated W.V. Range	10 to 63 V .DC	160 to 450 V .DC
Nominal Cap. Range	0.47 to 3300 μ F	10 to 330 μ F
Capacitance Tolerance	±20 % (120Hz/+20°C)	
DC Leakage Current	$I \leq 0.01 CV$ or $3(\mu A)$ after 2 minutes application of rated working voltage at +20°C(Whichever, greater)	$I \leq 0.06 CV + 10(\mu A)$ application of rated working voltage at +20°C after 2 minutes
tan δ	Please see the attached standard products list	
Endurance	After following life test with DC voltage and +105±2°C ripple current value applied (The sum of DC and ripple peak voltage shall not exceed the rated working voltage), the capacitors shall meet the limits specified below. (10 to 63V.DC ) Duration : 5000 hours (φ5×11 to 8×11.5), 7000hours (φ5×15 to φ6.3×15) 10000 hours (φ8×15 to 12.5×25) Post test requirement at +20 °C	
	Capacitance change	±30% of initial measured value
	tan δ	≤ 300 % of initial specified value
	DC leakage current	≤ initial specified value
	(160 to 450V.DC ) Duration : 5000hours	
	Capacitance change	±20% of initial measured value
tan δ	≤ 200 % of initial specified value	
DC leakage current	≤ initial specified value	
Shelf Life	After storage for 1000 hours at +105±2 °C with no voltage applied and then being stabilized at +20 °C, capacitors shall meet the limits specified in Endurance. (With voltage treatment)	

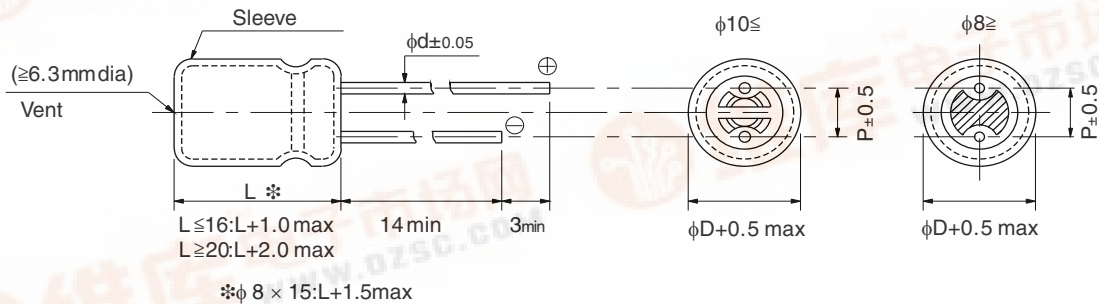
#### ■ Frequency corection factor for ripple current (10 to 63 V. DC )

Capacitance (μF)	Frequency(Hz)				
	60	120	1k	10k	100k
0.47 to 10	0.75	1	1.40	1.55	1.65
22 to 470	0.85	1	1.20	1.25	1.30
1000 to 3300	0.95	1	1.05	1.10	1.15

#### (160 to 450 V. DC )

W.V.(V.DC)	Frequency(Hz)			
	120	1k	10k to 30k	30k to100k
160 to 250	0.55	0.85	0.90	1.00
350 to 450	0.50	0.80	0.90	1.00

#### ■ Dimensions in mm (not to scale)



Body Dia. φD	5	6.3	8	10	12.5	16	18
Lead Dia. φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8
Lead space P	2.0	2.5	3.5	5.0	5.0	7.5	7.5

■ Standard Products(Low Voltage)

W.V. (V)	Cap. (±20%) (μF)	Case size		Specification			Lead Length			Part No.	Min. Packaging Qty		
		Dia. (mm)	Length (mm)	Ripple current (120Hz) (+105°C) (mA)	tan δ (120Hz) (+20°C)	Endurance (mm)	Lead Dia. (mm)	Lead Space			Straight Leads (pcs)	Taping (pcs)	
								Straight	Taping *B (mm)				Taping *H
10	100	5	15	105	0.30	7000	0.5	2.0	5.0	2.5	EEUEB1A101( )	200	2000
		5	11	66	0.30	5000	0.5	2.0	5.0	2.5	EEUEB1A101S( )	200	2000
	220	6.3	15	152	0.30	7000	0.5	2.5	5.0	2.5	EEUEB1A221( )	200	2000
		6.3	11.2	100	0.30	5000	0.5	2.5	5.0	2.5	EEUEB1A221S( )	200	2000
	470	8	15	278	0.30	10000	0.6	3.5	5.0		EEUEB1A471( )	200	1000
		8	11.5	180	0.30	5000	0.6	3.5	5.0		EEUEB1A471S( )	200	1000
	2200	12.5	20	540	0.32	10000	0.6	5.0	5.0		EEUEB1A222( )	200	500
3300	12.5	25	802	0.34	10000	0.6	5.0	5.0		EEUEB1A332( )	200	500	
16	1000	10	20	430	0.25	10000	0.6	5.0	5.0		EEUEB1C102( )	200	500
	2200	12.5	25	706	0.27	10000	0.6	5.0	5.0		EEUEB1C222( )	200	500
25	47	5	15	78	0.22	7000	0.5	2.0	5.0	2.5	EEUEB1E470( )	200	2000
		5	11	55	0.22	5000	0.5	2.0	5.0	2.5	EEUEB1E470S( )	200	2000
	100	6.3	15	135	0.22	7000	0.5	2.5	5.0	2.5	EEUEB1E101( )	200	2000
		6.3	11.2	95	0.22	5000	0.5	2.5	5.0	2.5	EEUEB1E101S( )	200	2000
	220	8	11.5	125	0.22	5000	0.6	3.5	5.0		EEUEB1E221S( )	200	1000
	330	8	15	255	0.22	10000	0.6	3.5	5.0		EEUEB1E331( )	200	1000
	470	10	16	321	0.22	10000	0.6	5.0	5.0		EEUEB1E471( )	200	500
1000	12.5	20	498	0.22	10000	0.6	5.0	5.0		EEUEB1E102( )	200	500	
35	33	5	15	66	0.18	7000	0.5	2.0	5.0	2.5	EEUEB1V330( )	200	2000
		5	11	46	0.18	5000	0.5	2.0	5.0	2.5	EEUEB1V330S( )	200	2000
	220	8	15	197	0.18	10000	0.6	3.5	5.0		EEUEB1V221( )	200	1000
	330	10	16	278	0.18	10000	0.6	5.0	5.0		EEUEB1V331( )	200	500
	470	10	20	349	0.18	10000	0.6	5.0	5.0		EEUEB1V471( )	200	500
	1000	12.5	25	586	0.18	10000	0.6	5.0	5.0		EEUEB1V102( )	200	500
50	0.47	5	11	4	0.15	5000	0.5	2.0	5.0	2.5	EEUEB1HR47S( )	200	2000
	1	5	11	8	0.15	5000	0.5	2.0	5.0	2.5	EEUEB1H1R0S( )	200	2000
	2.2	5	11	15	0.15	5000	0.5	2.0	5.0	2.5	EEUEB1H2R2S( )	200	2000
	3.3	5	11	18	0.15	5000	0.5	2.0	5.0	2.5	EEUEB1H3R3S( )	200	2000
	4.7	5	11	18	0.15	5000	0.5	2.0	5.0	2.5	EEUEB1H4R7S( )	200	2000
	10	5	11	27	0.15	5000	0.5	2.0	5.0	2.5	EEUEB1H100S( )	200	2000
	22	5	15	55	0.15	7000	0.5	2.0	5.0	2.5	EEUEB1H220( )	200	2000
		5	11	39	0.15	5000	0.5	2.0	5.0	2.5	EEUEB1H220S( )	200	2000
	47	6.3	15	87	0.15	7000	0.5	2.5	5.0	2.5	EEUEB1H470( )	200	2000
		6.3	11.2	61	0.15	5000	0.5	2.5	5.0	2.5	EEUEB1H470S( )	200	2000
	100	8	11.5	99	0.15	5000	0.6	3.5	5.0		EEUEB1H101S( )	200	1000
	220	10	16	234	0.15	10000	0.6	5.0	5.0		EEUEB1H221( )	200	500
	330	10	20	293	0.15	10000	0.6	5.0	5.0		EEUEB1H331( )	200	500
470	12.5	20	370	0.15	10000	0.6	5.0	5.0		EEUEB1H471( )	200	500	
63	0.47	5	15	6	0.12	7000	0.5	2.0	5.0	2.5	EEUEB1JR47( )	200	2000
		5	11	4.5	0.12	5000	0.5	2.0	5.0	2.5	EEUEB1JR47S( )	200	2000
	1	5	15	12	0.12	7000	0.5	2.0	5.0	2.5	EEUEB1J1R0( )	200	2000
		5	11	9	0.12	5000	0.5	2.0	5.0	2.5	EEUEB1J1R0S( )	200	2000

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### ■ Standard Products(Low Voltage)

W.V. (V)	Cap. (±20%) (μF)	Case size		Specification			Lead Length			Part No.	Min. Packaging Q'ty		
		Dia. (mm)	Length (mm)	Ripple current (120Hz) (+105°C) (mA)	tan δ (120Hz) (+20°C)	Endurance (mm)	Lead Dia. (mm)	Lead Space			Straight Leads (pcs)	Taping (pcs)	
								Straight	Taping *B (mm)				Taping *H (mm)
63	2.2	5	15	22	0.12	7000	0.5	2.0	5.0	2.5	EEUEB1J2R2( )	200	2000
		5	11	16.5	0.12	5000	0.5	2.0	5.0	2.5	EEUEB1J2R2S( )	200	2000
	3.3	5	15	30	0.12	7000	0.5	2.0	5.0	2.5	EEUEB1J3R3( )	200	2000
		5	11	20	0.12	5000	0.5	2.0	5.0	2.5	EEUEB1J3R3S( )	200	2000
	4.7	5	15	30	0.12	7000	0.5	2.0	5.0	2.5	EEUEB1J4R7( )	200	2000
		5	11	23	0.12	5000	0.5	2.0	5.0	2.5	EEUEB1J4R7S( )	200	2000
	10	5	15	46	0.12	7000	0.5	2.0	5.0	2.5	EEUEB1J100( )	200	2000
		5	11	30	0.12	5000	0.5	2.0	5.0	2.5	EEUEB1J100S( )	200	2000
	22	6.3	15	55	0.12	7000	0.5	2.5	5.0	2.5	EEUEB1J220( )	200	2000
	33	6.3	15	71	0.12	7000	0.5	2.5	5.0	2.5	EEUEB1J330( )	200	2000
		6.3	11.2	50	0.12	5000	0.5	2.5	5.0	2.5	EEUEB1J330S( )	200	2000
	47	8	15	94	0.12	10000	0.6	3.5	5.0		EEUEB1J470( )	200	1000
		8	11.5	80	0.12	5000	0.6	3.5	5.0		EEUEB1J470S( )	200	1000
	100	8	15	180	0.12	10000	0.6	3.5	5.0		EEUEB1J101( )	200	1000
	220	10	20	292	0.12	10000	0.6	5.0	5.0		EEUEB1J221( )	200	500
	330	12.5	20	381	0.12	10000	0.6	5.0	5.0		EEUEB1J331( )	200	500
470	12.5	25	454	0.12	10000	0.6	5.0	5.0		EEUEB1J471( )	200	500	

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## ■ Standard Products

W.V. (V)	Cap. (±20%) (μF)	Case size		Specification		Lead Length			Part No.	Min. Packaging Qty	
		Dia. (mm)	Length (mm)	Ripple current (100kHz) (+105°C) (mA)	tan δ (120Hz) (+20°C)	Lead Dia. (mm)	Lead Space			Straight Leads (pcs)	Taping (pcs)
							Straight (mm)	Taping *B (mm)			
160	22	10	20	470	0.15	0.6	5.0	5.0	EEUEB2C220( )	200	500
	33	10	20	470	0.15	0.6	5.0	5.0	EEUEB2C330( )	200	500
	47	12.5	20	600	0.15	0.6	5.0	5.0	EEUEB2C470( )	200	500
	68	12.5	25	750	0.15	0.6	5.0	5.0	EEUEB2C680( )	200	500
			16	20	750	0.15	0.8	7.5	7.5	EEUEB2C680S( )	100
	100	16	25	1060	0.15	0.8	7.5	7.5	EEUEB2C101( )	100	250
			18	20	1060	0.15	0.8	7.5	7.5	EEUEB2C101S( )	100
	150	16	31.5	1280	0.15	0.8	7.5		EEUEB2C151	100	
			18	25	1280	0.15	0.8	7.5	7.5	EEUEB2C151S( )	100
	220	16	31.5	1280	0.15	0.8	7.5		EEUEB2C221	100	
18			25	1280	0.15	0.8	7.5	7.5	EEUEB2C221S( )	100	250
330	18	31.5	1690	0.15	0.8	7.5		EEUEB2C331	50		
200	22	10	20	470	0.15	0.6	5.0	5.0	EEUEB2D220( )	200	500
	33	12.5	20	600	0.15	0.6	5.0	5.0	EEUEB2D330( )	200	500
	47	12.5	20	600	0.15	0.6	5.0	5.0	EEUEB2D470( )	200	500
	68	12.5	25	750	0.15	0.6	5.0	5.0	EEUEB2D680( )	200	500
			16	20	750	0.15	0.8	7.5	7.5	EEUEB2D680S( )	100
	100	16	25	1060	0.15	0.8	7.5	7.5	EEUEB2D101( )	100	250
			18	20	1060	0.15	0.8	7.5	7.5	EEUEB2D101S( )	100
	150	16	31.5	1280	0.15	0.8	7.5		EEUEB2D151	100	
			18	25	1280	0.15	0.8	7.5	7.5	EEUEB2D151S( )	100
	220	18	31.5	1690	0.15	0.8	7.5		EEUEB2D221	100	
250	22	12.5	20	560	0.15	0.6	5.0	5.0	EEUEB2E220( )	200	500
	33	12.5	20	560	0.15	0.6	5.0	5.0	EEUEB2E330( )	200	500
	47	12.5	25	710	0.15	0.6	5.0	5.0	EEUEB2E470( )	200	500
			16.0	20	710	0.15	0.8	7.5	7.5	EEUEB2E470S( )	100
	68	16	25	990	0.15	0.8	7.5	7.5	EEUEB2E680( )	100	250
			18	20	990	0.15	0.8	7.5	7.5	EEUEB2E680S( )	100
	100	16	31.5	1200	0.15	0.8	7.5		EEUEB2E101	100	
			18	25	1200	0.15	0.8	7.5	7.5	EEUEB2E101S( )	100
	150	18	31.5	1470	0.15	0.8	7.5		EEUEB2E151	50	
	350	10	10	20	270	0.20	0.6	5.0	5.0	EEUEB2V100( )	200
22		12.5	20	350	0.20	0.6	5.0	5.0	EEUEB2V220( )	200	500
33		16	20	480	0.20	0.8	7.5	7.5	EEUEB2V330S( )	100	250
47		16	25	640	0.20	0.8	7.5	7.5	EEUEB2V470( )	100	250
			18	20	640	0.20	0.8	7.5	7.5	EEUEB2V470S( )	100
68		16	31.5	780	0.20	0.8	7.5		EEUEB2V680	100	
			18	25	780	0.20	0.8	7.5	7.5	EEUEB2V680S( )	100
100		18	31.5	970	0.20	0.8	7.5		EEUEB2V101	50	
400	10	10	20	250	0.24	0.6	5.0	5.0	EEUEB2G100( )	200	500
	22	12.5	25	410	0.24	0.6	5.0	5.0	EEUEB2G220( )	200	500
			16	20	410	0.24	0.8	7.5	7.5	EEUEB2G220S( )	100

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Endurance : 105°C 5000 h

### ■ Standard Products

W.V. (V)	Cap. (±20%) (μF)	Case size		Specification		Lead Length			Part No.	Min. Packaging Qty	
		Dia. (mm)	Length (mm)	Ripple current (100kHz) (+105°C) (mA)	tan δ (120Hz) (+20°C)	Lead Dia. (mm)	Lead Space			Straight Leads (pcs)	Taping (pcs)
							Straight (mm)	Taping *B (mm)			
400	33	16	25	600	0.24	0.8	7.5	7.5	EEUEB2G330( )	100	250
		18	20	600	0.24	0.8	7.5	7.5	EEUEB2G330S( )	100	250
	47	16	31.5	730	0.24	0.8	7.5		EEUEB2G470	100	
		18	25	730	0.24	0.8	7.5	7.5	EEUEB2G470S( )	100	250
450	10	12.5	20	310	0.24	0.6	5.0	5.0	EEUEB2W100( )	200	500
	22	16	25	560	0.24	0.8	7.5	7.5	EEUEB2W220( )	100	250
		18	20	560	0.24	0.8	7.5	7.5	EEUEB2W220S( )	100	250
	33	16	31.5	680	0.24	0.8	7.5		EEUEB2W330	100	
		18	25	680	0.24	0.8	7.5	7.5	EEUEB2W330S( )	100	250
	47	18	31.5	850	0.24	0.8	7.5		EEUEB2W470	50	

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