Panasonic INDUSTRY

⚠ Some part numbers are discontinued.

Aluminum Electrolytic Capacitors

Radial Lead Type

EB-A series

■Not available in Japan

Features

- Endurance : 105 ℃ 5000 h to 10000 h
- Hight ripple hight frequency (Hight voltage)
- RoHS compliant

Specifications

Category temp. range	−40 ℃ to +105 ℃	−25 ℃ to +105 ℃
Rated voltage range	10 V to 63 V	160 V to 450 V
Capacitance range	2.2 μF to 3300 μF	10 μF to 330 μF
Capacitance tolerance	±20 % (120 Hz / +20℃)	
Leakage current	I ≦ 0.01 CV or 3 (μA) After 2 minutes (Whichever is greater)	I ≦ 0.06 CV + 10 (μA) After 2 minutes
Dissipation factor (tan δ)	Please see the attached characteristics list	
Endurance	After following life test with DC voltage and +105 ℃±2 ℃ ripple current value applied (The sum of DC and ripple peak voltage shall not exceed the rated working voltage), when the capacitors are restored to 20 ℃, the capacitors shall meet the limits specified bellow.	
	(10 V to 63 V) Duration : ø5×11 to ø8×11.5 : 5000 h, ø8×15 to ø12.5×25 : 10000 h	
	Capacitance change	Within ±30 % of the initial value
	Dissipation factor (tan δ)	≦ 300 % of the initial limit
	DC leakage current	Within the initial limit
	(160 V to 450 V) Duration : 5000 h	
	Capacitance change	Within ±20 % of the initial value
	Dissipation factor (tan δ)	≦ 200 % of the initial limit
	DC leakage current	Within the initial limit
Shelf life	After storage for 1000 h at +105 ℃±2 ℃ with no voltage applied and then being stabilized at +20 ℃, capacitors shall meet the limits specified in endurance. (With voltage treatment)	

Frequency correction factor for ripple current

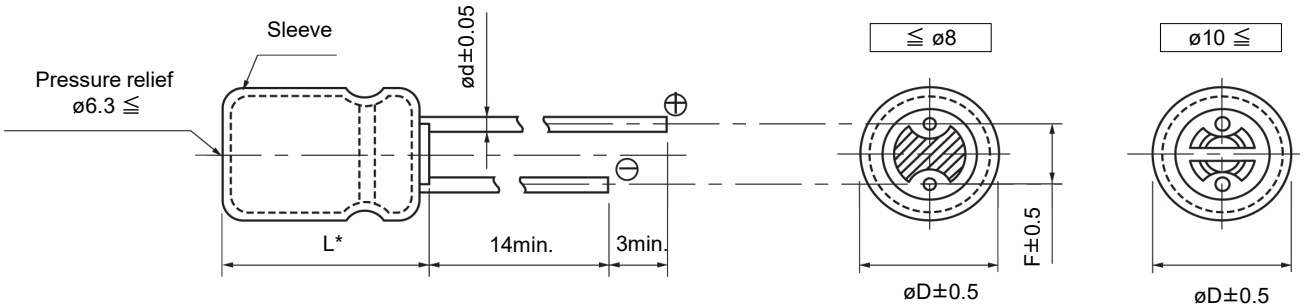
■ 10 V to 63 V

Cap.(μF) \ Freq.(Hz)	60	120	1 k	10 k	100 k
2.2 to 10	0.75	1.00	1.40	1.55	1.65
22 to 470	0.85	1.00	1.20	1.25	1.30
1000 to 3300	0.95	1.00	1.05	1.10	1.15

■ 160 V to 450 V

R. volt.(V) \ Freq.(Hz)	120	1 k	10k to 30k	30k to 100k
160 to 250	0.55	0.85	0.90	1.00
350 to 450	0.50	0.80	0.90	1.00

Dimensions



* L ≦ 16 : L±1.0 (ø8x15 only L±1.5)
L ≧ 20 : L±2.0

Unit : mm

øD	5.0	6.3	8.0	10.0	12.5	16.0	18.0
ød	0.5	0.5	0.6	0.6	0.6	0.8	0.8
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5

Characteristics list

Endurance : 105 ℃ 5000 h / ø5×11 to ø8×11.5, 105 ℃ 10000 h / ø8×15 to ø12.5×25

Rated voltage (V)	Capacitance (±20 %) (μF)	Case size (mm)		Specification			Lead length (mm)				Part No.	Min. Packaging Q'ty (PCS)	
								Lead space					
		øD	L	Ripple current*1 (mA rms)	tan δ*2	Endu-rance (h)	Lead dia. (ød)	Straight	Taping ✻B	Taping ✻H		Straight leads	Taping
10	100	5.0	11.0	66	0.30	5000	0.5	2.0	5.0	2.5	EEUEB1A101S( )	200	2000
	220	6.3	11.2	100	0.30	5000	0.5	2.5	5.0	2.5	EEUEB1A221S( )	200	2000
	470	8.0	15.0	278	0.30	10000	0.6	3.5	5.0	—	EEUEB1A471( )	200	1000
		8.0	11.5	180	0.30	5000	0.6	3.5	5.0	—	EEUEB1A471S( )	200	1000
	2200	12.5	20.0	540	0.32	10000	0.6	5.0	5.0	—	EEUEB1A222( )	200	500
	3300	12.5	25.0	802	0.34	10000	0.6	5.0	5.0	—	EEUEB1A332( )	200	500
16	1000	10.0	20.0	430	0.25	10000	0.6	5.0	5.0	—	EEUEB1C102( )	200	500
	2200	12.5	25.0	706	0.27	10000	0.6	5.0	5.0	—	EEUEB1C222( )	200	500
25	47	5.0	11.0	55	0.22	5000	0.5	2.0	5.0	2.5	EEUEB1E470S( )	200	2000
	100	6.3	11.2	95	0.22	5000	0.5	2.5	5.0	2.5	EEUEB1E101S( )	200	2000
	220	8.0	11.5	125	0.22	5000	0.6	3.5	5.0	—	EEUEB1E221S( )	200	1000
	330	8.0	15.0	255	0.22	10000	0.6	3.5	5.0	—	EEUEB1E331( )	200	1000
	470	10.0	16.0	321	0.22	10000	0.6	5.0	5.0	—	EEUEB1E471( )	200	500
	1000	12.5	20.0	498	0.22	10000	0.6	5.0	5.0	—	EEUEB1E102( )	200	500
35	33	5.0	11.0	46	0.18	5000	0.5	2.0	5.0	2.5	EEUEB1V330S( )	200	2000
	220	8.0	15.0	197	0.18	10000	0.6	3.5	5.0	—	EEUEB1V221( )	200	1000
	330	10.0	16.0	278	0.18	10000	0.6	5.0	5.0	—	EEUEB1V331( )	200	500
	470	10.0	20.0	349	0.18	10000	0.6	5.0	5.0	—	EEUEB1V471( )	200	500
	1000	12.5	25.0	586	0.18	10000	0.6	5.0	5.0	—	EEUEB1V102( )	200	500
50	2.2	5.0	11.0	15	0.15	5000	0.5	2.0	5.0	2.5	EEUEB1H2R2S( )	200	2000
	3.3	5.0	11.0	18	0.15	5000	0.5	2.0	5.0	2.5	EEUEB1H3R3S( )	200	2000
	4.7	5.0	11.0	18	0.15	5000	0.5	2.0	5.0	2.5	EEUEB1H4R7S( )	200	2000
	10	5.0	11.0	27	0.15	5000	0.5	2.0	5.0	2.5	EEUEB1H100S( )	200	2000
	22	5.0	11.0	39	0.15	5000	0.5	2.0	5.0	2.5	EEUEB1H220S( )	200	2000
	47	6.3	11.2	61	0.15	5000	0.5	2.5	5.0	2.5	EEUEB1H470S( )	200	2000
	100	8.0	11.5	99	0.15	5000	0.6	3.5	5.0	—	EEUEB1H101S( )	200	1000
	220	10.0	16.0	234	0.15	10000	0.6	5.0	5.0	—	EEUEB1H221( )	200	500
	330	10.0	20.0	293	0.15	10000	0.6	5.0	5.0	—	EEUEB1H331( )	200	500
	470	12.5	20.0	370	0.15	10000	0.6	5.0	5.0	—	EEUEB1H471( )	200	500
63	2.2	5.0	11.0	16.5	0.12	5000	0.5	2.0	5.0	2.5	EEUEB1J2R2S( )	200	2000
	3.3	5.0	11.0	20	0.12	5000	0.5	2.0	5.0	2.5	EEUEB1J3R3S( )	200	2000
	4.7	5.0	11.0	23	0.12	5000	0.5	2.0	5.0	2.5	EEUEB1J4R7S( )	200	2000
	10	5.0	11.0	30	0.12	5000	0.5	2.0	5.0	2.5	EEUEB1J100S( )	200	2000
	22	6.3	11.2	40	0.12	5000	0.5	2.5	5.0	2.5	EEUEB1J220S( )	200	2000
	33	6.3	11.2	50	0.12	5000	0.5	2.5	5.0	2.5	EEUEB1J330S( )	200	2000
	47	8.0	15.0	94	0.12	10000	0.6	3.5	5.0	—	EEUEB1J470( )	200	1000
		8.0	11.5	80	0.12	5000	0.6	3.5	5.0	—	EEUEB1J470S( )	200	1000
	100	8.0	15.0	180	0.12	10000	0.6	3.5	5.0	—	EEUEB1J101( )	200	1000
	220	10.0	20.0	292	0.12	10000	0.6	5.0	5.0	—	EEUEB1J221( )	200	500
	330	12.5	20.0	381	0.12	10000	0.6	5.0	5.0	—	EEUEB1J331( )	200	500
	470	12.5	25.0	454	0.12	10000	0.6	5.0	5.0	—	EEUEB1J471( )	200	500

*1: Ripple current (120 Hz / +105 ℃)

*2: tan δ (120 Hz / +20 ℃)

・When requesting taped product, please put the letter "B" or "H" be tween the "( )".
Lead wire pitch ✻B=5 mm, H=2.5 mm.

・Please refer to the page of “Taping dimensions”.

Characteristics list

Endurance : 105 ℃ 5000 h

Rated voltage (V)	Capacitance (±20 %) (μF)	Case size (mm)		Specification			Lead length (mm)			Part No.	Min. Packaging Q'ty (PCS)	
								Lead space				
		øD	L	Ripple current*1 (mA rms)	tan δ*2	Endu-rance (h)	Lead dia. (ød)	Straight	Taping ✻B		Straight leads	Taping
160	22	10.0	20.0	470	0.15	5000	0.6	5.0	5.0	EEUEB2C220( )	200	500
	33	10.0	20.0	470	0.15	5000	0.6	5.0	5.0	EEUEB2C330( )	200	500
	47	12.5	20.0	600	0.15	5000	0.6	5.0	5.0	EEUEB2C470( )	200	500
	68	12.5	25.0	750	0.15	5000	0.6	5.0	5.0	EEUEB2C680( )	200	500
		16.0	20.0	750	0.15	5000	0.8	7.5	7.5	EEUEB2C680S( )	100	250
	100	16.0	25.0	1060	0.15	5000	0.8	7.5	7.5	EEUEB2C101( )	100	250
		18.0	20.0	1060	0.15	5000	0.8	7.5	7.5	EEUEB2C101S( )	100	250
	150	16.0	31.5	1280	0.15	5000	0.8	7.5	—	EEUEB2C151	100	—
		18.0	25.0	1280	0.15	5000	0.8	7.5	7.5	EEUEB2C151S( )	100	250
	220	16.0	31.5	1280	0.15	5000	0.8	7.5	—	EEUEB2C221	100	—
		18.0	25.0	1280	0.15	5000	0.8	7.5	7.5	EEUEB2C221S( )	100	250
EOL	330	18.0	31.5	1690	0.15	5000	0.8	7.5	—	EEUEB2C331	50	—
200	22	10.0	20.0	470	0.15	5000	0.6	5.0	5.0	EEUEB2D220( )	200	500
	33	12.5	20.0	600	0.15	5000	0.6	5.0	5.0	EEUEB2D330( )	200	500
	47	12.5	20.0	600	0.15	5000	0.6	5.0	5.0	EEUEB2D470( )	200	500
	68	12.5	25.0	750	0.15	5000	0.6	5.0	5.0	EEUEB2D680( )	200	500
		16.0	20.0	750	0.15	5000	0.8	7.5	7.5	EEUEB2D680S( )	100	250
	100	16.0	25.0	1060	0.15	5000	0.8	7.5	7.5	EEUEB2D101( )	100	250
		18.0	20.0	1060	0.15	5000	0.8	7.5	7.5	EEUEB2D101S( )	100	250
	150	16.0	31.5	1280	0.15	5000	0.8	7.5	—	EEUEB2D151	100	—
		18.0	25.0	1280	0.15	5000	0.8	7.5	7.5	EEUEB2D151S( )	100	250
EOL	220	18.0	31.5	1690	0.15	5000	0.8	7.5	—	EEUEB2D221	50	—
250	22	12.5	20.0	560	0.15	5000	0.6	5.0	5.0	EEUEB2E220( )	200	500
	33	12.5	20.0	560	0.15	5000	0.6	5.0	5.0	EEUEB2E330( )	200	500
	47	12.5	25.0	710	0.15	5000	0.6	5.0	5.0	EEUEB2E470( )	200	500
		16.0	20.0	710	0.15	5000	0.8	7.5	7.5	EEUEB2E470S( )	100	250
	68	16.0	25.0	990	0.15	5000	0.8	7.5	7.5	EEUEB2E680( )	100	250
		18.0	20.0	990	0.15	5000	0.8	7.5	7.5	EEUEB2E680S( )	100	250
	100	16.0	31.5	1200	0.15	5000	0.8	7.5	—	EEUEB2E101	100	—
		18.0	25.0	1200	0.15	5000	0.8	7.5	7.5	EEUEB2E101S( )	100	250
EOL	150	18.0	31.5	1470	0.15	5000	0.8	7.5	—	EEUEB2E151	50	—
350	10	10.0	20.0	270	0.20	5000	0.6	5.0	5.0	EEUEB2V100( )	200	500
	22	12.5	20.0	350	0.20	5000	0.6	5.0	5.0	EEUEB2V220( )	200	500
	33	16.0	20.0	480	0.20	5000	0.8	7.5	7.5	EEUEB2V330S( )	100	250
	47	16.0	25.0	640	0.20	5000	0.8	7.5	7.5	EEUEB2V470( )	100	250
		18.0	20.0	640	0.20	5000	0.8	7.5	7.5	EEUEB2V470S( )	100	250
	68	16.0	31.5	780	0.20	5000	0.8	7.5	—	EEUEB2V680	100	—
		18.0	25.0	780	0.20	5000	0.8	7.5	7.5	EEUEB2V680S( )	100	250
EOL	100	18.0	31.5	970	0.20	5000	0.8	7.5	—	EEUEB2V101	50	—
400	10	10.0	20.0	250	0.24	5000	0.6	5.0	5.0	EEUEB2G100( )	200	500
	22	12.5	25.0	410	0.24	5000	0.6	5.0	5.0	EEUEB2G220( )	200	500
		16.0	20.0	410	0.24	5000	0.8	7.5	7.5	EEUEB2G220S( )	100	250
	33	16.0	25.0	600	0.24	5000	0.8	7.5	7.5	EEUEB2G330( )	100	250
		18.0	20.0	600	0.24	5000	0.8	7.5	7.5	EEUEB2G330S( )	100	250
	47	16.0	31.5	730	0.24	5000	0.8	7.5	—	EEUEB2G470	100	—
		18.0	25.0	730	0.24	5000	0.8	7.5	7.5	EEUEB2G470S( )	100	250
450	10	12.5	20.0	310	0.24	5000	0.6	5.0	5.0	EEUEB2W100( )	200	500
	22	16.0	25.0	560	0.24	5000	0.8	7.5	7.5	EEUEB2W220( )	100	250
		18.0	20.0	560	0.24	5000	0.8	7.5	7.5	EEUEB2W220S( )	100	250
	33	16.0	31.5	680	0.24	5000	0.8	7.5	—	EEUEB2W330( )	100	—
		18.0	25.0	680	0.24	5000	0.8	7.5	7.5	EEUEB2W330S( )	100	250
EOL	47	18.0	31.5	850	0.24	5000	0.8	7.5	—	EEUEB2W470	50	—

*1: Ripple current (100 kHz / +105 ℃)

*2: tan δ (120 Hz / +20 ℃)

EOL End of life

・When requesting taped product, please put the letter "B" be tween the "( )".
Lead wire pitch ✻B=5 mm.

・Please refer to the page of “Taping dimensions”.