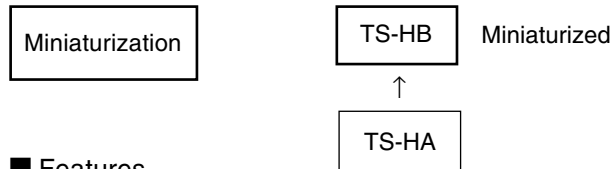


Aluminium Electrolytic Capacitors (Type Snap-in Series HB)

Japan
U.S.A.
Malaysia

Series: **HB**
Type: **TS (Snap-in)**



■ Features

- Lifetime: 105 °C 2000 h
- Snap-in terminals
- 20 to 25 % smaller than series TS-HA

■ Recommended Applications

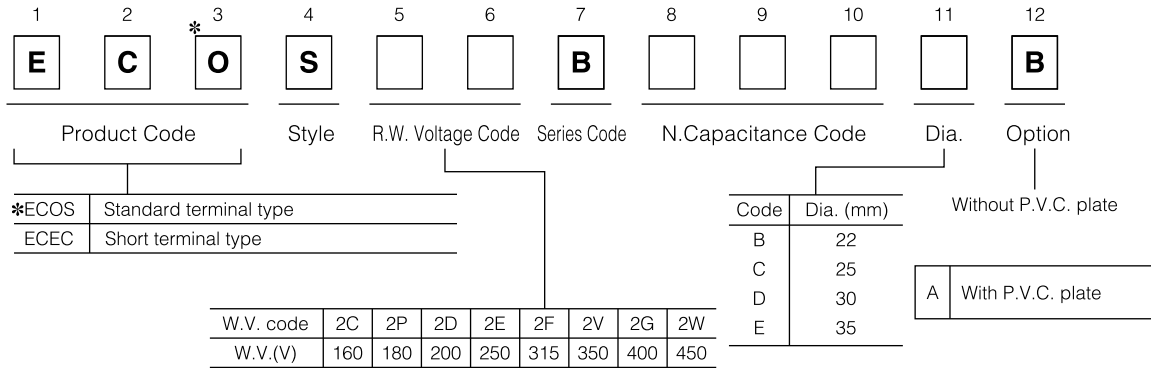
- Smoothing circuits, AC adaptor, Inverter lighting system

■ Specifications

Operating Temp. Range	-40 to +105 °C		-25 to +105 °C					
Rated W.V. Range	160 to 250 V.DC		315 to 450 V.DC					
Nominal Cap. Range	330 to 2700 µF		82 to 820 µF					
Capacitance Tolerance	±20 % (120 Hz/+20 °C)							
DC Leakage Current	3√CV (µA) max. after 5 minutes application of rated working voltage at +20 °C. C: Capacitance (µF) V: W.V. (V.DC)							
Dissipation Factor	W.V. (V)	160 to 400	450	(120 Hz/+20 °C)				
	D.F.	0.15	0.20	(max.)				
Frequency Correction Factor for Ripple Current	Frequency (Hz)	50	60	100	120	500	1 k	10 k ~
	C.F.	0.75	0.80	0.95	1.00	1.20	1.25	1.40
Endurance	After 2000 hours application of DC voltage with specified ripple current (≤ rated DC working voltage) at +105 °C, the capacitor shall meet the following limits.							
	Capacitance change	±20 % of initial measured value						
	D.F.	≤ 200 % of initial specified value						
	DC leakage current	≤ Initial specified value						
Shelf Life	After storage for 1000 hours at +105 °C with no voltage applied, the capacitor shall meet the specified limits for "Endurance".							

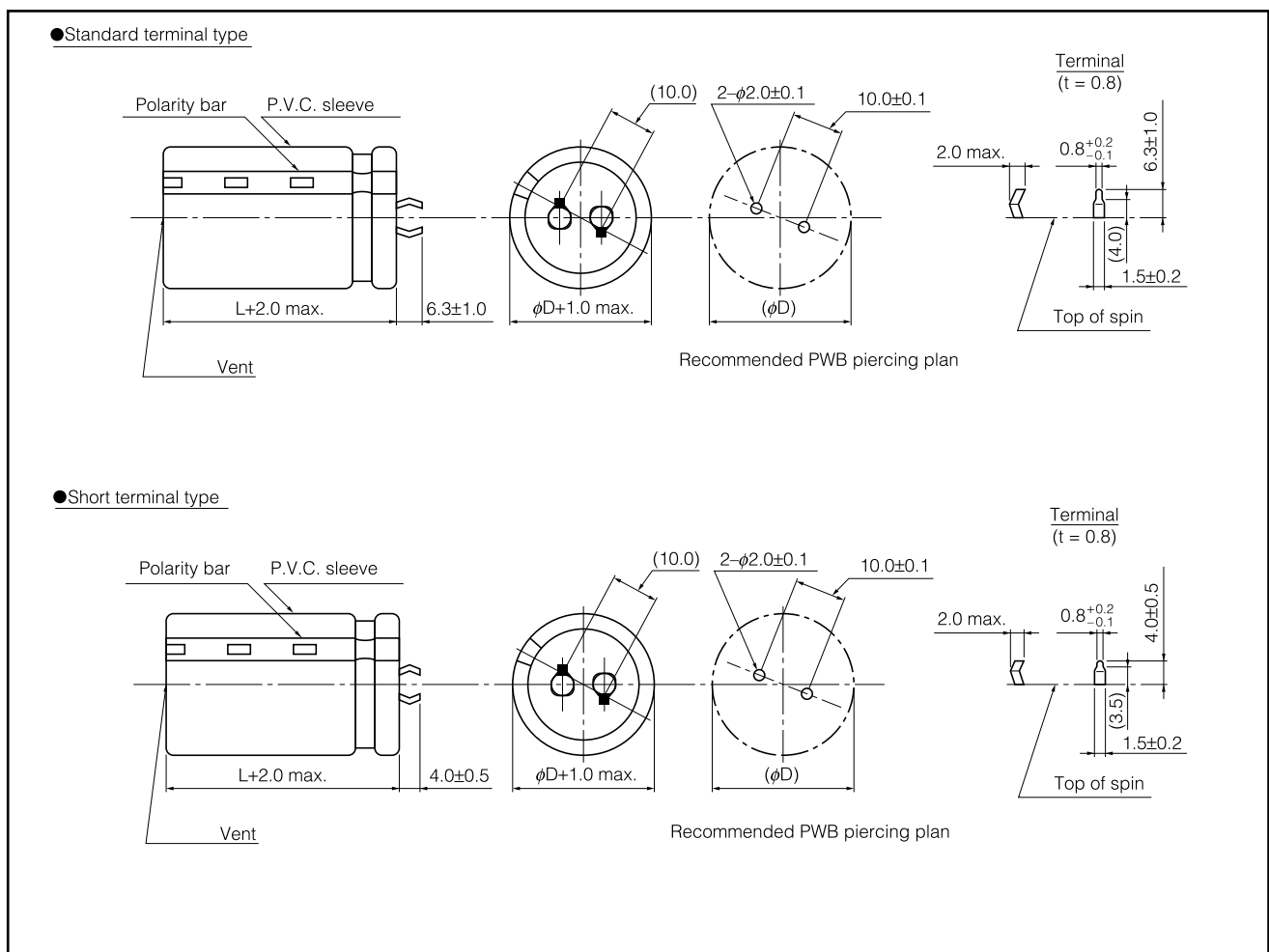
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Explanation of Part Numbers



*Our product code will be changed from ECO to ECE during April 1998 to March 2000. We will inform the revision date before our change.

Dimensions in mm (not to scale)



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■ Standard Products

W.V. (V)	Cap. (±20%) (µF)	Case size		Specification		Part No.		Min.PackagingQty (pcs)
		Dia. (mm)	Length (mm)	Ripple current (120Hz) (+105°C) (A)	D.F.	(Standard Terminals) Terminal Length 6.3mm	(Short Terminals) Terminal Length 4.0mm	
160	470	22	30	1.4	0.15	ECOS2CB471BB	ECEC2CB471BB	200
	560	22	35	1.5	0.15	ECOS2CB561BB	ECEC2CB561BB	200
	680	22	40	1.7	0.15	ECOS2CB681BB	ECEC2CB681BB	200
		25	30	1.7	0.15	ECOS2CB681CB	ECEC2CB681CB	200
	820	22	45	2.0	0.15	ECOS2CB821BB	ECEC2CB821BB	200
		25	35	2.0	0.15	ECOS2CB821CB	ECEC2CB821CB	200
	1000	22	50	2.2	0.15	ECOS2CB102BB	ECEC2CB102BB	200
		25	40	2.2	0.15	ECOS2CB102CB	ECEC2CB102CB	200
		30	30	2.2	0.15	ECOS2CB102DB	ECEC2CB102DB	100
		35	25	2.2	0.15	ECOS2CB102EB	ECEC2CB102EB	100
	1200	25	45	2.3	0.15	ECOS2CB122CB	ECEC2CB122CB	200
		30	35	2.3	0.15	ECOS2CB122DB	ECEC2CB122DB	100
		35	30	2.3	0.15	ECOS2CB122EB	ECEC2CB122EB	100
	1500	30	40	2.5	0.15	ECOS2CB152DB	ECEC2CB152DB	100
		35	30	2.5	0.15	ECOS2CB152EB	ECEC2CB152EB	100
	1800	30	45	2.7	0.15	ECOS2CB182DB	ECEC2CB182DB	100
35		35	2.7	0.15	ECOS2CB182EB	ECEC2CB182EB	100	
2200	35	45	2.9	0.15	ECOS2CB222EB	ECEC2CB222EB	100	
2700	35	50	3.1	0.15	ECOS2CB272EB	ECEC2CB272EB	100	
180	560	25	30	1.5	0.15	ECOS2PB561CB	ECEC2PB561CB	200
	680	22	45	1.7	0.15	ECOS2PB681BB	ECEC2PB681BB	200
		25	35	1.7	0.15	ECOS2PB681CB	ECEC2PB681CB	200
	820	22	50	2.0	0.15	ECOS2PB821BB	ECEC2PB821BB	200
		25	40	2.0	0.15	ECOS2PB821CB	ECEC2PB821CB	200
		30	30	2.0	0.15	ECOS2PB821DB	ECEC2PB821DB	100
	1000	25	45	2.2	0.15	ECOS2PB102CB	ECEC2PB102CB	200
		30	35	2.2	0.15	ECOS2PB102DB	ECEC2PB102DB	100
	1200	25	50	2.3	0.15	ECOS2PB122CB	ECEC2PB122CB	200
		30	40	2.3	0.15	ECOS2PB122DB	ECEC2PB122DB	100
35		30	2.3	0.15	ECOS2PB122EB	ECEC2PB122EB	100	
1500	30	45	2.5	0.15	ECOS2PB152DB	ECEC2PB152DB	100	
	35	35	2.5	0.15	ECOS2PB152EB	ECEC2PB152EB	100	
200	390	22	30	1.3	0.15	ECOS2DB391BB	ECEC2DB391BB	200
		25	25	1.3	0.15	ECOS2DB391CB	ECEC2DB391CB	200
	470	22	35	1.4	0.15	ECOS2DB471BB	ECEC2DB471BB	200
		25	30	1.4	0.15	ECOS2DB471CB	ECEC2DB471CB	200
	560	22	40	1.5	0.15	ECOS2DB561BB	ECEC2DB561BB	200
		25	30	1.5	0.15	ECOS2DB561CB	ECEC2DB561CB	200
		30	25	1.5	0.15	ECOS2DB561DB	ECEC2DB561DB	100
	680	22	45	1.7	0.15	ECOS2DB681BB	ECEC2DB681BB	200
		25	35	1.7	0.15	ECOS2DB681CB	ECEC2DB681CB	200
	820	25	45	2.0	0.15	ECOS2DB821CB	ECEC2DB821CB	200

High temperature Load Life test : 105°C 2000h

Terminal Pitch : 10mm

When capacitors of $\phi 35 \times 45L$ and $\phi 35 \times 50L$ are mounted on PWB, reinforce them with mounting clamp or adhesives.(Avoid using adhesives including halogenated compositions.)

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■ Standard Products

W.V. (V)	Cap. (±20%) (µF)	Case size		Specification		Part No.		Min.PackagingQty (pcs)
		Dia. (mm)	Length (mm)	Ripple current (120Hz) (+105°C) (A)	D.F.	(Standard Terminals) Terminal Length 6.3mm	(Short Terminals) Terminal Length 4.0mm	
200	820	30	30	2.0	0.15	ECOS2DB821DB	ECEC2DB821DB	100
		35	25	2.0	0.15	ECOS2DB821EB	ECEC2DB821EB	100
	1000	25	50	2.2	0.15	ECOS2DB102CB	ECEC2DB102CB	200
		30	35	2.2	0.15	ECOS2DB102DB	ECEC2DB102DB	100
		35	30	2.2	0.15	ECOS2DB102EB	ECEC2DB102EB	100
	1200	30	40	2.3	0.15	ECOS2DB122DB	ECEC2DB122DB	100
		35	35	2.3	0.15	ECOS2DB122EB	ECEC2DB122EB	100
	1500	30	50	2.5	0.15	ECOS2DB152DB	ECEC2DB152DB	100
		35	40	2.5	0.15	ECOS2DB152EB	ECEC2DB152EB	100
1800	35	45	2.7	0.15	ECOS2DB182EB	ECEC2DB182EB	100	
2200	35	50	2.9	0.15	ECOS2DB222EB	ECEC2DB222EB	100	
250	330	25	30	1.2	0.15	ECOS2EB331CB	ECEC2EB331CB	200
	390	30	25	1.3	0.15	ECOS2EB391DB	ECEC2EB391DB	100
	470	22	50	1.4	0.15	ECOS2EB471BB	ECEC2EB471BB	200
		25	40	1.4	0.15	ECOS2EB471CB	ECEC2EB471CB	200
		30	30	1.4	0.15	ECOS2EB471DB	ECEC2EB471DB	100
	560	25	45	1.5	0.15	ECOS2EB561CB	ECEC2EB561CB	200
		35	25	1.5	0.15	ECOS2EB561EB	ECEC2EB561EB	100
	680	25	50	1.7	0.15	ECOS2EB681CB	ECEC2EB681CB	200
		30	40	1.7	0.15	ECOS2EB681DB	ECEC2EB681DB	100
		35	30	1.7	0.15	ECOS2EB681EB	ECEC2EB681EB	100
	820	30	45	2.0	0.15	ECOS2EB821DB	ECEC2EB821DB	100
		35	35	2.0	0.15	ECOS2EB821EB	ECEC2EB821EB	100
	1000	30	50	2.2	0.15	ECOS2EB102DB	ECEC2EB102DB	100
		35	40	2.2	0.15	ECOS2EB102EB	ECEC2EB102EB	100
	1200	35	45	2.3	0.15	ECOS2EB122EB	ECEC2EB122EB	100
1500	35	50	2.5	0.15	ECOS2EB152EB	ECEC2EB152EB	100	
315	180	25	30	0.9	0.15	ECOS2FB181CB	ECEC2FB181CB	200
	220	25	35	1.0	0.15	ECOS2FB221CB	ECEC2FB221CB	200
		30	25	1.0	0.15	ECOS2FB221DB	ECEC2FB221DB	100
	270	22	50	1.1	0.15	ECOS2FB271BB	ECEC2FB271BB	200
		25	40	1.1	0.15	ECOS2FB271CB	ECEC2FB271CB	200
		30	30	1.1	0.15	ECOS2FB271DB	ECEC2FB271DB	100
	330	25	45	1.2	0.15	ECOS2FB331CB	ECEC2FB331CB	200
		30	35	1.2	0.15	ECOS2FB331DB	ECEC2FB331DB	100
	390	25	50	1.3	0.15	ECOS2FB391CB	ECEC2FB391CB	200
		30	40	1.3	0.15	ECOS2FB391DB	ECEC2FB391DB	100
		35	30	1.3	0.15	ECOS2FB391EB	ECEC2FB391EB	100
	470	30	45	1.4	0.15	ECOS2FB471DB	ECEC2FB471DB	100
		35	35	1.4	0.15	ECOS2FB471EB	ECEC2FB471EB	100
	560	30	50	1.5	0.15	ECOS2FB561DB	ECEC2FB561DB	100
		35	40	1.5	0.15	ECOS2FB561EB	ECEC2FB561EB	100

High temperature Load Life test : 105°C 2000h

Terminal Pitch : 10mm

When capacitors of $\phi 35 \times 45L$ and $\phi 35 \times 50L$ are mounted on PWB, reinforce them with mounting clamp or adhesives.(Avoid using adhesives including halogenated compositions.)

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■ Standard Products

W.V. (V)	Cap. (±20%) (μF)	Case size		Specification		Part No.		MinPackagingQty (pcs)	
		Dia. (mm)	Length (mm)	Ripple current (120Hz) (+105°C) (A)	D.F.	(Standard Terminals) Terminal Length 6.3mm	(Short Terminals) Terminal Length 4.0mm		
315	680	35	45	1.7	0.15	ECOS2FB681EB	ECEC2FB681EB	100	
	820	35	50	2.0	0.15	ECOS2FB821EB	ECEC2FB821EB	100	
350	120	22	30	0.75	0.15	ECOS2VB121BB	ECEC2VB121BB	200	
		25	25	0.75	0.15	ECOS2VB121CB	ECEC2VB121CB	200	
	150	22	35	0.82	0.15	ECOS2VB151BB	ECEC2VB151BB	200	
		180	22	40	0.90	0.15	ECOS2VB181BB	ECEC2VB181BB	200
			25	30	0.90	0.15	ECOS2VB181CB	ECEC2VB181CB	200
	180	30	25	0.90	0.15	ECOS2VB181DB	ECEC2VB181DB	100	
		220	22	45	1.0	0.15	ECOS2VB221BB	ECEC2VB221BB	200
			25	35	1.0	0.15	ECOS2VB221CB	ECEC2VB221CB	200
	270	25	45	1.1	0.15	ECOS2VB271CB	ECEC2VB271CB	200	
		30	30	1.1	0.15	ECOS2VB271DB	ECEC2VB271DB	100	
			35	25	1.1	0.15	ECOS2VB271EB	ECEC2VB271EB	100
	330	25	50	1.2	0.15	ECOS2VB331CB	ECEC2VB331CB	200	
			30	40	1.2	0.15	ECOS2VB331DB	ECEC2VB331DB	100
		35	30	1.2	0.15	ECOS2VB331EB	ECEC2VB331EB	100	
	390	30	45	1.3	0.15	ECOS2VB391DB	ECEC2VB391DB	100	
		35	30	1.3	0.15	ECOS2VB391EB	ECEC2VB391EB	100	
	470	30	50	1.4	0.15	ECOS2VB471DB	ECEC2VB471DB	100	
	560	35	45	1.5	0.15	ECOS2VB561EB	ECEC2VB561EB	100	
680	35	50	1.7	0.15	ECOS2VB681EB	ECEC2VB681EB	100		
400	82	22	30	0.64	0.15	ECOS2GB820BB	ECEC2GB820BB	200	
	100	22	30	0.69	0.15	ECOS2GB101BB	ECEC2GB101BB	200	
		25	25	0.69	0.15	ECOS2GB101CB	ECEC2GB101CB	200	
	120	22	35	0.75	0.15	ECOS2GB121BB	ECEC2GB121BB	200	
		25	30	0.75	0.15	ECOS2GB121CB	ECEC2GB121CB	200	
	150	22	40	0.82	0.15	ECOS2GB151BB	ECEC2GB151BB	200	
		25	30	0.82	0.15	ECOS2GB151CB	ECEC2GB151CB	200	
			30	25	0.82	0.15	ECOS2GB151DB	ECEC2GB151DB	100
	180	22	45	0.90	0.15	ECOS2GB181BB	ECEC2GB181BB	200	
			25	35	0.90	0.15	ECOS2GB181CB	ECEC2GB181CB	200
		30	30	0.90	0.15	ECOS2GB181DB	ECEC2GB181DB	100	
	220	25	45	1.0	0.15	ECOS2GB221CB	ECEC2GB221CB	200	
			30	30	1.0	0.15	ECOS2GB221DB	ECEC2GB221DB	100
		35	25	1.0	0.15	ECOS2GB221EB	ECEC2GB221EB	100	
	270	25	50	1.1	0.15	ECOS2GB271CB	ECEC2GB271CB	200	
			30	35	1.1	0.15	ECOS2GB271DB	ECEC2GB271DB	100
		35	30	1.1	0.15	ECOS2GB271EB	ECEC2GB271EB	100	
	330	30	45	1.2	0.15	ECOS2GB331DB	ECEC2GB331DB	100	
35		35	1.2	0.15	ECOS2GB331EB	ECEC2GB331EB	100		
390	30	50	1.3	0.15	ECOS2GB391DB	ECEC2GB391DB	100		
	35	40	1.3	0.15	ECOS2GB391EB	ECEC2GB391EB	100		

High temperature Load Life test : 105°C 2000h

Terminal Pitch : 10mm

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■ Standard Products

W.V. (V)	Cap. (±20%) (µF)	Case size		Specification		Part No.		MinPackagingQty (pcs)
		Dia. (mm)	Length (mm)	Ripple current (120Hz) (+105°C) (A)	D.F.	(Standard Terminals) Terminal Length 6.3mm	(Short Terminals) Terminal Length 4.0mm	
400	470	35	45	1.40	0.15	ECOS2GB471EB	ECEC2GB471EB	100
	560	35	50	1.50	0.15	ECOS2GB561EB	ECEC2GB561EB	100
450	82	22	30	0.56	0.20	ECOS2WB820BB	ECEC2WB820BB	200
		100	22	35	0.64	0.20	ECOS2WB101BB	ECEC2WB101BB
	120	25	30	0.64	0.20	ECOS2WB101CB	ECEC2WB101CB	200
		22	40	0.72	0.20	ECOS2WB121BB	ECEC2WB121BB	200
	150	25	35	0.72	0.20	ECOS2WB121CB	ECEC2WB121CB	200
		22	50	0.79	0.20	ECOS2WB151BB	ECEC2WB151BB	200
		25	40	0.79	0.20	ECOS2WB151CB	ECEC2WB151CB	200
	180	30	30	0.79	0.20	ECOS2WB151DB	ECEC2WB151DB	100
		25	45	0.87	0.20	ECOS2WB181CB	ECEC2WB181CB	200
		30	35	0.87	0.20	ECOS2WB181DB	ECEC2WB181DB	100
	220	25	50	1.00	0.20	ECOS2WB221CB	ECEC2WB221CB	200
		30	40	1.00	0.20	ECOS2WB221DB	ECEC2WB221DB	100
	270	30	45	1.19	0.20	ECOS2WB271DB	ECEC2WB271DB	100
		35	35	1.19	0.20	ECOS2WB271EB	ECEC2WB271EB	100
	330	30	50	1.38	0.20	ECOS2WB331DB	ECEC2WB331DB	100
		35	40	1.38	0.20	ECOS2WB331EB	ECEC2WB331EB	100
390	35	45	1.55	0.20	ECOS2WB391EB	ECEC2WB391EB	100	
470	35	50	1.74	0.20	ECOS2WB471EB	ECEC2WB471EB	100	

High temperature Load Life test : 105°C 2000h

Terminal Pitch : 10mm

When capacitors of $\phi 35 \times 45L$ and $\phi 35 \times 50L$ are mounted on PWB, reinforce them with mounting clamp or adhesives.(Avoid using adhesives including halogenated compositions.)