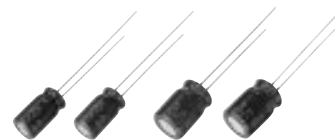


### Radial Lead Type

Series: **SU(Bi-polar)** Type: **A**



#### ■ Features

- Endurance : 85 °C 2000 h
- RoHS directive compliant

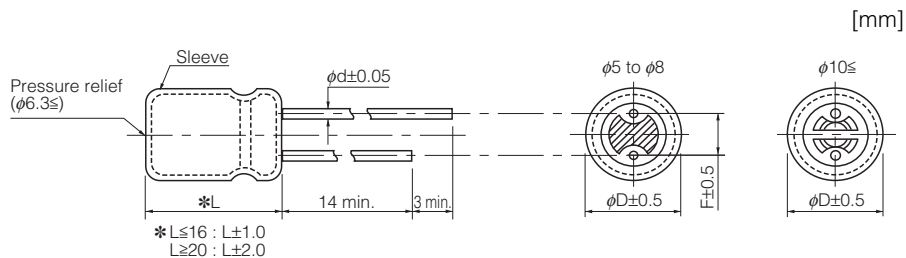
#### ■ Specifications

Category Temp. Range	-40 °C to +85 °C		
Rated W.V. Range	6.3 V.DC to 50 V.DC		
Nominal Cap. Range	0.47 μF to 6800 μF		
Capacitance Tolerance	±20 % (120 Hz/+20 °C)		
DC Leakage Current	I ≤ 0.03 CV +3 (μA) After 5 minutes		
tan δ	Please see the attached standard products list.		
Endurance	After 2000 hours application of DC working voltage (1000 hours for each polarity) at +85 °C±2 °C, when the capacitors are restored to 20 °C, the capacitors shall meet the following limits.		
	Capacitance change	± 20 % of initial measured value	
	tan δ	≤ 150 % of initial specified value	
	DC leakage current	≤ initial specified value	
Shelf Life	After storage for 1000 hours at +85 °C±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 correction factor for ripple current

Correction factor	Frequency (Hz)			
	50, 60	120	1 k	10 k to
	0.70	1.00	1.30	1.70

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



	[mm]						
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 F	2.0	2.5	3.5	5.0	5.0	7.5	7.5

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use. Should a safety concern arise regarding this product, please be sure to contact us immediately.

01 Jun. 2011

### Standard Products (Bi-polar)

W.V.	Cap. (±20 %)	Case size		Specification		Lead Length				Part No.	Min. Packaging Qty	
		Dia.	Length	Ripple Current (120 Hz) (+85 °C) (mA r.m.s.)	tan δ (120 Hz) (+20 °C) (Ω)	Lead Dia. (mm)	Lead Space				Straight Leads (pcs)	Taping (pcs)
							Straight (mm)	Taping *B (mm)	Taping *i (mm)			
(V)	(μF)	(mm)	(mm)	(mA r.m.s.)	(Ω)	(mm)	(mm)	(mm)	(mm)		(pcs)	(pcs)
6.3	330	8	11.5	250	0.30	0.6	3.5	5.0		ECEA0JN331U( )	200	1000
	470	10	12.5	310	0.30	0.6	5.0	5.0		ECEA0JN471X( )	200	500
	1000	10	20	430	0.30	0.6	5.0	5.0		ECEA0JN102U( )	200	500
	2200	12.5	25	660	0.32	0.6	5.0	5.0		ECEA0JN222U( )	200	500
	3300	16	25	760	0.34	0.8	7.5	7.5		ECEA0JN332U( )	100	250
	4700	16	31.5	1170	0.36	0.8	7.5			ECEA0JN472U	100	
	6800	18	35.5	1450	0.40	0.8	7.5			ECEA0JN682U	50	
10	47	5	11	90	0.25	0.5	2.0	5.0	2.5	ECEA1AN470U( )	200	2000
	100	6.3	11.2	130	0.25	0.5	2.5	5.0	2.5	ECEA1AN101X( )	200	2000
	220	8	11.5	200	0.25	0.6	3.5	5.0		ECEA1AN221U( )	200	1000
	330	10	16	280	0.25	0.6	5.0	5.0		ECEA1AN331U( )	200	500
	470	10	16	340	0.25	0.6	5.0	5.0		ECEA1AN471U( )	200	500
	1000	12.5	20	470	0.25	0.6	5.0	5.0		ECEA1AN102X( )	200	500
	2200	16	25	690	0.27	0.8	7.5	7.5		ECEA1AN222U( )	100	250
	3300	16	31.5	1090	0.29	0.8	7.5			ECEA1AN332U	100	
16	10	5	11	40	0.20	0.5	2.0	5.0	2.5	ECEA1CN100U( )	200	2000
	22	5	11	60	0.20	0.5	2.0	5.0	2.5	ECEA1CN220U( )	200	2000
	33	5	11	80	0.20	0.5	2.0	5.0	2.5	ECEA1CN330U( )	200	2000
	47	6.3	11.2	100	0.20	0.5	2.5	5.0	2.5	ECEA1CN470U( )	200	2000
	220	10	12.5	260	0.20	0.6	5.0	5.0		ECEA1CN221X( )	200	500
	330	10	16	330	0.20	0.6	5.0	5.0		ECEA1CN331U( )	200	500
	470	10	20	380	0.20	0.6	5.0	5.0		ECEA1CN471U( )	200	500
	1000	12.5	25	560	0.20	0.6	5.0	5.0		ECEA1CN102U( )	200	500
	2200	16	31.5	750	0.22	0.8	7.5			ECEA1CN222U	100	
	3300	18	35.5	900	0.24	0.8	7.5			ECEA1CN332U	50	
25	10	5	11	45	0.15	0.5	2.0	5.0	2.5	ECEA1EN100U( )	200	2000
	22	5	11	60	0.15	0.5	2.0	5.0	2.5	ECEA1EN220X( )	200	2000
	33	6.3	11.2	90	0.15	0.5	2.5	5.0	2.5	ECEA1EN330U( )	200	2000
	47	6.3	11.2	110	0.15	0.5	2.5	5.0	2.5	ECEA1EN470U( )	200	2000
	100	8	11.5	180	0.15	0.6	3.5	5.0		ECEA1EN101U( )	200	1000
	220	10	16	320	0.15	0.6	5.0	5.0		ECEA1EN221U( )	200	500
	330	12.5	20	350	0.15	0.6	5.0	5.0		ECEA1EN331U( )	200	500
	470	12.5	20	430	0.15	0.6	5.0	5.0		ECEA1EN471U( )	200	500
	1000	16	25	680	0.15	0.8	7.5	7.5		ECEA1EN102U( )	100	250
2200	18	35.5	900	0.17	0.8	7.5			ECEA1EN222U	50		
35	10	5	11	43	0.15	0.5	2.0	5.0	2.5	ECEA1VN100U( )	200	2000
	22	6.3	11.2	80	0.15	0.5	2.5	5.0	2.5	ECEA1VN220U( )	200	2000
	33	8	11.5	100	0.15	0.6	3.5	5.0		ECEA1VN330U( )	200	1000
	47	8	11.5	120	0.15	0.6	3.5	5.0		ECEA1VN470U( )	200	1000
	100	10	16	230	0.15	0.6	5.0	5.0		ECEA1VN101U( )	200	500
	220	12.5	20	360	0.15	0.6	5.0	5.0		ECEA1VN221U( )	200	500
	330	12.5	20	450	0.15	0.6	5.0	5.0		ECEA1VN331U( )	200	500
470	12.5	25	590	0.15	0.6	5.0	5.0		ECEA1VN471U( )	200	500	

Endurance: 85 °C 2000 h (1000 hours for each polarity)

When requesting taped product, please put the letter "B" or "i" between the "( )". Lead wire pitch B=5 mm, 7.5 mm, i=2.5 mm.

The taping dimensions are explained on EE189 of our Catalog. Please use it as a reference guide.

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use.  
Should a safety concern arise regarding this product, please be sure to contact us immediately.

00 Sep. 2010

### ■ Standard Products (Bi-polar)

W.V.	Cap. (±20 %)	Case size		Specification		Lead Length			Part No.	Min. Packaging Q'ty		
		Dia.	Length	Ripple Current (120 Hz) (+85 °C)	tan $\delta$ (120 Hz) (+20 °C)	Lead Dia.	Lead Space			Straight Leads	Taping	
							Straight	Taping *B				Taping *i
(V)	( $\mu$ F)	(mm)	(mm)	(mA r.m.s.)	( $\Omega$ )	(mm)	(mm)	(mm)	(mm)	(pcs)	(pcs)	
50	0.47	5	11	10	0.15	0.5	2.0	5.0	2.5	ECEA1HNR47U( )	200	2000
	1	5	11	10	0.15	0.5	2.0	5.0	2.5	ECEA1HN010U( )	200	2000
	2.2	5	11	18	0.15	0.5	2.0	5.0	2.5	ECEA1HN2R2U( )	200	2000
	3.3	5	11	25	0.15	0.5	2.0	5.0	2.5	ECEA1HN3R3U( )	200	2000
	4.7	5	11	30	0.15	0.5	2.0	5.0	2.5	ECEA1HN4R7U( )	200	2000
	10	6.3	11.2	50	0.15	0.5	2.5	5.0	2.5	ECEA1HN100U( )	200	2000
	22	8	11.5	90	0.15	0.6	3.5	5.0		ECEA1HN220U( )	200	1000
	33	8	11.5	110	0.15	0.6	3.5	5.0		ECEA1HN330U( )	200	1000
	47	10	12.5	140	0.15	0.6	5.0	5.0		ECEA1HN470U( )	200	500
	100	10	20	250	0.15	0.6	5.0	5.0		ECEA1HN101U( )	200	500
	220	12.5	25	360	0.15	0.6	5.0	5.0		ECEA1HN221U( )	200	500
	330	16	25	450	0.15	0.8	7.5	7.5		ECEA1HN331U( )	100	250
470	16	31.5	590	0.15	0.8	7.5			ECEA1HN471U	100		

Endurance: 85 °C 2000 h (1000 hours for each polarity)

When requesting taped product, please put the letter "B" or "i" between the "( )". Lead wire pitch B=5 mm, 7.5 mm, i=2.5 mm. The taping dimensions are explained on EE189 of our Catalog. Please use it as a reference guide.