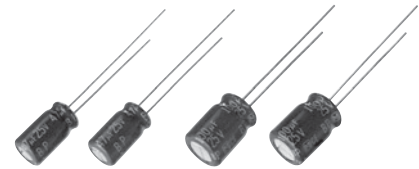


Radial Lead Type

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



This Series is no longer available for purchase in the country of Japan.

Features

- Endurance : 105 °C 1000 h to 2000 h
- RoHS compliant

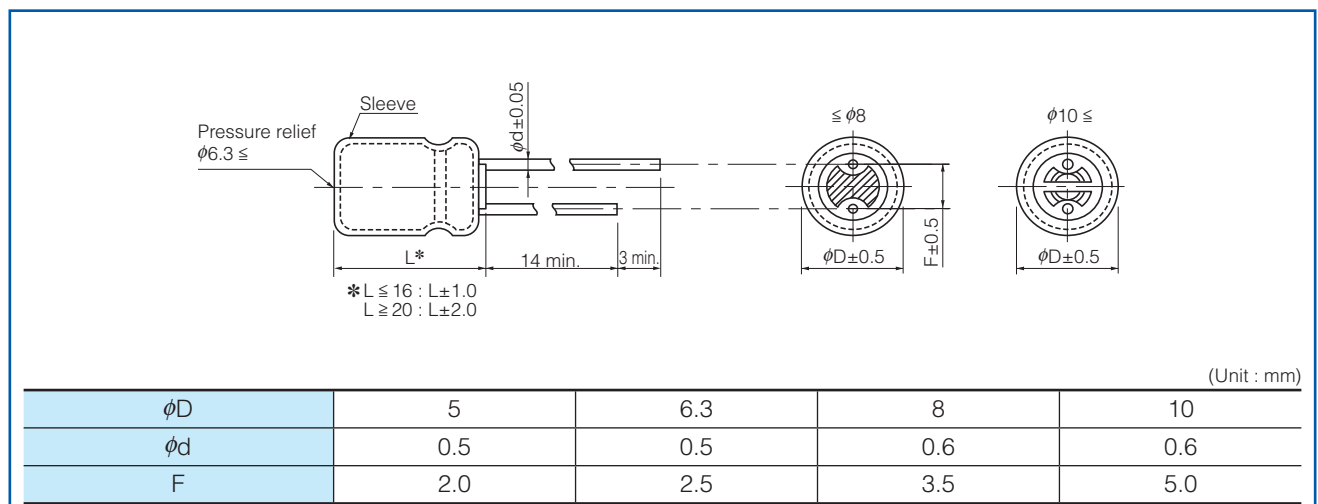
Specifications

Category temperature range	-40 °C to +105 °C	
Rated voltage range	6.3 V.DC to 50 V.DC	
Capacitance range	2.2 μF to 330 μF	
Capacitance tolerance	±20 % (120 Hz/+20 °C)	
Leakage current	$I \leq 0.03 CV + 3 (\mu A)$ After 2 minutes or $I \leq 0.03 CV$ or 3 (μA) After 5 minutes (Whichever is greater)	
Dissipation factor (tan δ)	Please see the attached characteristics list	
Endurance	After following life test of DC working voltage at +105 °C±2 °C when the capacitors are restored to 20 °C, the capacitors shall meet the following limits. Duration φ5 to φ8 : 1000 hours (500 hours for each polarity) φ10 : 2000 hours (1000 hours for each polarity)	
	Capacitance change	Within ±20 % of the initial value
	tan δ	≤ 200 % of the initial limit
	DC leakage current	Within the initial limit
Shelf life	After storage for 1000 hours at +105 °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

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

Dimensions



Characteristics list (Bi-polar)

Endurance : 105 °C ϕ 5 to ϕ 8=1000 h (500 h for each polarity), ϕ 10=2000 h (1000 h for each polarity)

Rated voltage (V.DC)	Cap. ($\pm 20\%$) (μ F)	Case size (mm)		Specification		Lead length (mm)			Part No.	Min. Packaging Q'ty		
		ϕ D	L	Ripple current (120 Hz) (+105 °C) (mA r.m.s.)	$\tan \delta$ (120 Hz) (+20 °C)	Lead dia. ϕ d	Lead space			Straight leads (pcs)	Taping (pcs)	
							Straight	Taping *B				Taping *i
6.3	100	6.3	11.2	130	0.30	0.5	2.5	5.0	2.5	ECA0JEN101()	200	2000
	330	8	11.5	250	0.30	0.6	3.5	5.0		ECA0JEN331()	200	1000
10	47	5	11	90	0.24	0.5	2.0	5.0	2.5	ECA1AEN470()	200	2000
16	10	5	11	40	0.20	0.5	2.0	5.0	2.5	ECA1CEN100()	200	2000
	22	5	11	60	0.20	0.5	2.0	5.0	2.5	ECA1CEN220()	200	2000
	33	5	11	80	0.20	0.5	2.0	5.0	2.5	ECA1CEN330()	200	2000
	47	6.3	11.2	100	0.20	0.5	2.5	5.0	2.5	ECA1CEN470()	200	2000
25	10	5	11	45	0.15	0.5	2.0	5.0	2.5	ECA1EEN100()	200	2000
	22	6.3	11.2	60	0.15	0.5	2.5	5.0	2.5	ECA1EEN220()	200	2000
	33	6.3	11.2	90	0.15	0.5	2.5	5.0	2.5	ECA1EEN330()	200	2000
	47	6.3	11.2	110	0.15	0.5	2.5	5.0	2.5	ECA1EEN470()	200	2000
	100	8	11.5	180	0.15	0.6	3.5	5.0		ECA1EEN101()	200	1000
35	33	8	11.5	100	0.15	0.6	3.5	5.0		ECA1VEN330()	200	1000
	100	10	16	230	0.15	0.6	5.0	5.0		ECA1VEN101()	200	500
50	2.2	5	11	18	0.15	0.5	2.0	5.0	2.5	ECA1HEN2R2()	200	2000
	3.3	5	11	25	0.15	0.5	2.0	5.0	2.5	ECA1HEN3R3()	200	2000
	4.7	5	11	30	0.15	0.5	2.0	5.0	2.5	ECA1HEN4R7()	200	2000
	10	6.3	11.2	50	0.15	0.5	2.5	5.0	2.5	ECA1HEN100()	200	2000
	22	8	11.5	90	0.15	0.6	3.5	5.0		ECA1HEN220()	200	1000
	33	8	11.5	110	0.15	0.6	3.5	5.0		ECA1HEN330()	200	1000
	47	10	12.5	140	0.15	0.6	5.0	5.0		ECA1HEN470()	200	500
	100	10	20	250	0.15	0.6	5.0	5.0		ECA1HEN101()	200	500

- 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.
- Please refer to the page of "Taping dimensions".

Guidelines and precautions regarding the technical information and use of our products described in this online catalog.

- If you want to use our products described in this online catalog for applications requiring special qualities or reliability, or for applications where the failure or malfunction of the products may directly jeopardize human life or potentially cause personal injury (e.g. aircraft and aerospace equipment, traffic and transportation equipment, combustion equipment, medical equipment, accident prevention, anti-crime equipment, and/or safety equipment), it is necessary to verify whether the specifications of our products fit to such applications. Please ensure that you will ask and check with our inquiry desk as to whether the specifications of our products fit to such applications use before you use our products.
- The quality and performance of our products as described in this online catalog only apply to our products when used in isolation. Therefore, please ensure you evaluate and verify our products under the specific circumstances in which our products are assembled in your own products and in which our products will actually be used.
- If you use our products in equipment that requires a high degree of reliability, regardless of the application, it is recommended that you set up protection circuits and redundancy circuits in order to ensure safety of your equipment.
- The products and product specifications described in this online catalog are subject to change for improvement without prior notice. Therefore, please be sure to request and confirm the latest product specifications which explain the specifications of our products in detail, before you finalize the design of your applications, purchase, or use our products.
- The technical information in this online catalog provides examples of our products' typical operations and application circuits. We do not guarantee the non-infringement of third party's intellectual property rights and we do not grant any license, right, or interest in our intellectual property.
- If any of our products, product specifications and/or technical information in this online catalog is to be exported or provided to non-residents, the laws and regulations of the exporting country, especially with regard to security and export control, shall be observed.

<Regarding the Certificate of Compliance with the EU RoHS Directive/REACH Regulations>

- The switchover date for compliance with the RoHS Directive/REACH Regulations varies depending on the part number or series of our products.
- When you use the inventory of our products for which it is unclear whether those products are compliant with the RoHS Directive/REACH Regulation, please select "Sales Inquiry" in the website inquiry form and contact us.

We do not take any responsibility for the use of our products outside the scope of the specifications, descriptions, guidelines and precautions described in this online catalog.