## Radial Lead Type

Series: GA(Bi-polar) Type: A

■ Features

• Endurance: 105 °C 1000 h to 2000 h

RoHS directive compliant



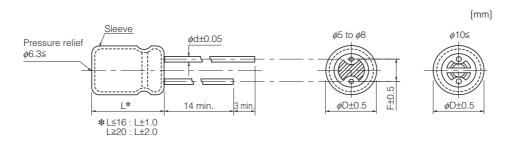
#### ■ Specifications

Category Temp. Range	−40 °C to +105 °C						
Rated W.V. Range	6.3 V.DC to 50 V.DC						
Nominal Cap. Range	0.47 μF to 330 μF						
Capacitance Tolerance	±20 % (120 Hz/+20 °C)						
DC Leakage Current	I ≤ 0.03 CV +3 (μA) After 2 minutes or I ≤ 0.03 CV or 3 (μA) After 5 minutes (Whichever is greater)						
tan $\delta$	Please see the attached standard products 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  *\phi\$ to \(\phi8 : 1000 hours (500 hours for each polarity)  *\phi\$10 : 2000 hours (1000 hours for each polarity)						
	Capacitance change	± 20% of initial measured value					
	tan $\delta$	≤ 200 % of initial specified value					
	DC leakage current	≤ initial specified value					
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 in mm (not to scale)



(mm)

Body Dia. <i>φ</i> D	5	6.3	8	10
Lead Dia. $\phi$ d	0.5	0.5	0.6	0.6
Lead space F	2.0	2.5	3.5	5.0

# **Panasonic**

### ■ Standard Products (Bi-polar)

		Case size		Specification		Lead Length				Min. Packaging Q'ty		
W.V. Cap (±20	Cap.			Ripple		Lead	Lead Space				0	
	(±20 %)		Length	(120 HZ)   (120 f		Dia.	Straight	Taping <b>*</b> B	Taping **i	Part No.	Straight Leads	Taping
(V)	(µF)	(mm)	(mm)	(mA r.m.s.)		(mm)	(mm)	(mm)	(mm)		(pcs)	(pcs)
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
10	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	0.47	5	11	10	0.15	0.5	2.0	5.0	2.5	ECA1HENR47( )	200	2000
	1	5	11	10	0.15	0.5	2.0	5.0	2.5	ECA1HEN010( )	200	2000
	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

Endurance : 105 °C  $\phi$ 5 to  $\phi$ 8=1000 h (500 h for each polarity),  $\phi$ 10=2000 h (1000 h for each polarity) When requesting taped product, please put the letter "B" or "i" between the "( )". Lead wire pitch \*B=5 mm, i=2.5 mm. The taping dimensions are explained on EE189 of our Catalog. Please use it as a reference guide.