

### Radial Lead Type

Series: **GA** Type: **A**

#### ■ Features

- Endurance : 105 °C 1000 h
- RoHS directive compliant



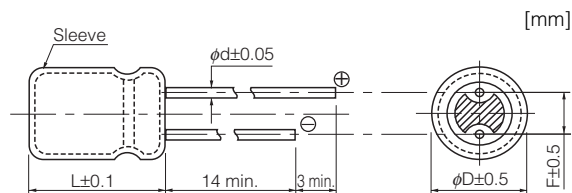
#### ■ Specifications

Category Temp. Range	-55 °C to +105 °C	
Rated W.V. Range	10 V.DC to 50 V.DC	
Nominal Cap. Range	0.1 μF to 220 μF	
Capacitance Tolerance	±20 % (120 Hz/+20 °C)	
DC Leakage Current	I ≤ 0.01 CV or 3 (μA) After 2 minutes (Whichever is greater)	
tan δ	Please see the attached standard products list	
Endurance	After following life test with DC voltage and +105 °C±2 °C ripple current value applied (The sum of DC and ripple peak voltage shall not exceed the rated working voltage), for 1000 hours, when the capacitors are restored to 20 °C, the capacitors shall meet the limits specified below.	
	Capacitance change	±20 % of initial measured value
	tan δ	≤ 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

W.V.(V.DC)	Cap (μF)	Frequency (Hz)				
		60	120	1 k	10 k	100 k to
10 to 50	0.1 to 220	0.85	1.00	1.30	1.40	1.55

#### ■ Dimensions in mm(not to scale)



	(mm)			
Body Dia. φD	4	5	6.3	8
Lead Dia. φd	0.45	0.45	0.45	0.45
Lead space F	1.5	2.0	2.5	2.5

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.

00 Sep. 2010

### Standard Products

W.V.	Cap. (±20 %)	Case size		Specification			Lead Length				Part No.	Min. Packaging Q'ty	
		Dia.	Length	Ripple Current (120 Hz) (+105 °C)	tan δ (120 Hz) (+20 °C)	Endurance (hours)	Lead Dia.	Lead Space				Straight Leads	Taping
								Straight	Taping *B	Taping *H			
(V)	(μF)	(mm)	(mm)	(mA r.m.s.)			(mm)	(mm)	(mm)	(mm)			
10	22	4	7	30	0.22	1000	0.45	1.5	5.0	2.5	EEAGA1A220( )	200	2000
	33	5	7	50	0.22	1000	0.45	2.0	5.0	2.5	EEAGA1A330( )	200	2000
	47	6.3	7	65	0.22	1000	0.45	2.5	5.0	2.5	EEAGA1A470( )	200	2000
	68	6.3	7	75	0.22	1000	0.45	2.5	5.0	2.5	EEAGA1A680( )	200	2000
	100	6.3	7	110	0.22	1000	0.45	2.5	5.0	2.5	EEAGA1A101( )	200	2000
	220	8	7	160	0.22	1000	0.45	2.5	5.0	2.5	EEAGA1A221( )	200	1000
16	10	4	7	30	0.18	1000	0.45	1.5	5.0	2.5	EEAGA1C100( )	200	2000
	15	4	7	33	0.18	1000	0.45	1.5	5.0	2.5	EEAGA1C150( )	200	2000
	22	5	7	50	0.18	1000	0.45	2.0	5.0	2.5	EEAGA1C220( )	200	2000
	33	6.3	7	65	0.18	1000	0.45	2.5	5.0	2.5	EEAGA1C330( )	200	2000
	47	6.3	7	77	0.18	1000	0.45	2.5	5.0	2.5	EEAGA1C470( )	200	2000
	100	8	7	120	0.18	1000	0.45	2.5	5.0	2.5	EEAGA1C101( )	200	1000
25	10	4	7	33	0.16	1000	0.45	1.5	5.0	2.5	EEAGA1E100( )	200	2000
	15	5	7	45	0.16	1000	0.45	2.0	5.0	2.5	EEAGA1E150( )	200	2000
	22	5	7	50	0.16	1000	0.45	2.0	5.0	2.5	EEAGA1E220( )	200	2000
	33	6.3	7	75	0.16	1000	0.45	2.5	5.0	2.5	EEAGA1E330( )	200	2000
	68	8	7	100	0.16	1000	0.45	2.5	5.0	2.5	EEAGA1E680( )	200	1000
35	6.8	4	7	33	0.13	1000	0.45	1.5	5.0	2.5	EEAGA1V6R8( )	200	2000
	10	5	7	35	0.13	1000	0.45	2.0	5.0	2.5	EEAGA1V100( )	200	2000
	15	6.3	7	50	0.13	1000	0.45	2.5	5.0	2.5	EEAGA1V150( )	200	2000
	22	6.3	7	70	0.13	1000	0.45	2.5	5.0	2.5	EEAGA1V220( )	200	2000
	47	8	7	96	0.13	1000	0.45	2.5	5.0	2.5	EEAGA1V470( )	200	1000
50	0.1	4	7	1.1	0.10	1000	0.45	1.5	5.0	2.5	EEAGA1HR10( )	200	2000
	0.15	4	7	1.7	0.10	1000	0.45	1.5	5.0	2.5	EEAGA1HR15( )	200	2000
	0.22	4	7	2.3	0.10	1000	0.45	1.5	5.0	2.5	EEAGA1HR22( )	200	2000
	0.33	4	7	3.5	0.10	1000	0.45	1.5	5.0	2.5	EEAGA1HR33( )	200	2000
	0.47	4	7	5	0.10	1000	0.45	1.5	5.0	2.5	EEAGA1HR47( )	200	2000
	0.68	4	7	7	0.10	1000	0.45	1.5	5.0	2.5	EEAGA1HR68( )	200	2000
	1	4	7	10	0.10	1000	0.45	1.5	5.0	2.5	EEAGA1H1R0( )	200	2000
	1.5	4	7	16	0.10	1000	0.45	1.5	5.0	2.5	EEAGA1H1R5( )	200	2000
	2.2	4	7	18	0.10	1000	0.45	1.5	5.0	2.5	EEAGA1H2R2( )	200	2000
	3.3	4	7	22	0.10	1000	0.45	1.5	5.0	2.5	EEAGA1H3R3( )	200	2000
	4.7	4	7	26	0.10	1000	0.45	1.5	5.0	2.5	EEAGA1H4R7( )	200	2000
	6.8	5	7	35	0.10	1000	0.45	2.0	5.0	2.5	EEAGA1H6R8( )	200	2000
	10	6.3	7	39	0.10	1000	0.45	2.5	5.0	2.5	EEAGA1H100( )	200	2000
15	6.3	7	55	0.10	1000	0.45	2.5	5.0	2.5	EEAGA1H150( )	200	2000	
22	8	7	70	0.10	1000	0.45	2.5	5.0	2.5	EEAGA1H220( )	200	1000	
33	8	7	91	0.10	1000	0.45	2.5	5.0	2.5	EEAGA1H330( )	200	1000	

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

Suffix "BQ" for ø8×7, 5mm pitch products

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