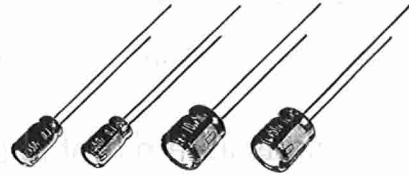


# Series KG

7mm height miniature size/+105°C



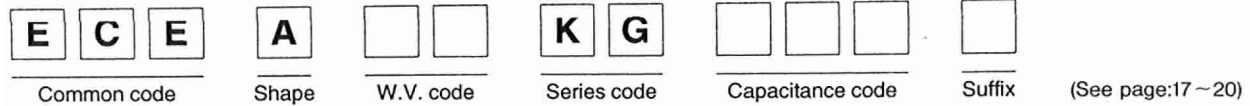
## Features

- Low profile 7mm height for  $\phi 4 \sim \phi 8$  mm
- Long life: 1000 hours at +105°C
- Various lead tapping configurations for high density insertion

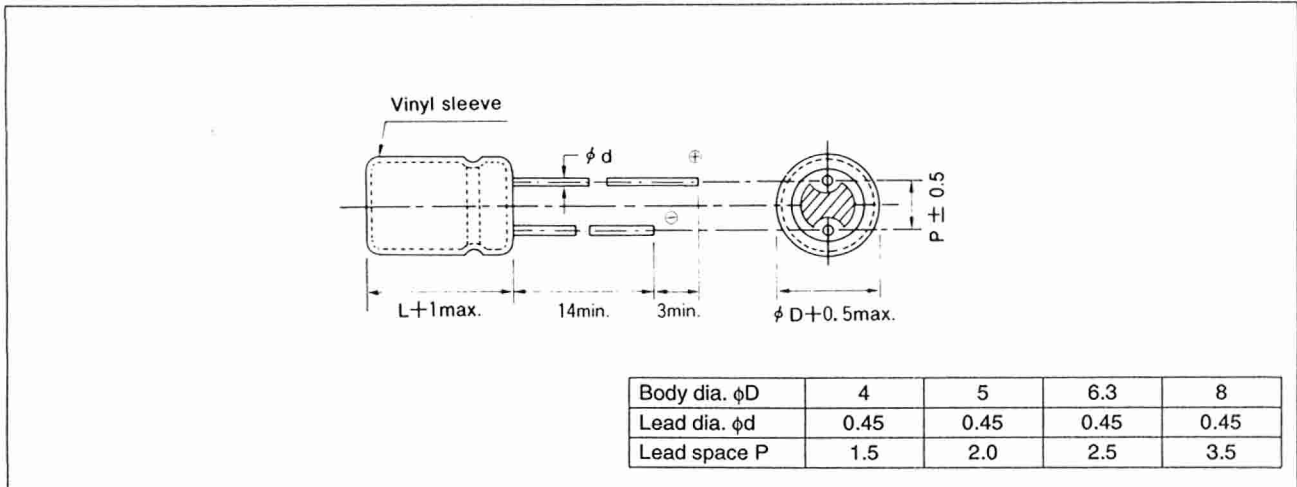
## Specifications

Item	Performance Characteristics						
Operating Temperature Range	-55 to +105°C						
Rated Working Voltage Range	6.3 to 50V DC						
Nominal Capacitance Range	0.1 to 220 $\mu$ F						
Capacitance Tolerance	$\pm 20\%$ (120Hz, +20°C)						
Leakage Current	I $\leq$ 0.01CV or 3 [ $\mu$ A]      Whichever is greater measured after 2 minutes application of rated working voltage at +20°C.						
tan $\delta$  (120Hz, +20°C)	Working voltage [V]	6.3	10	16	25	35	50
	tan $\delta$ max.	0.22	0.19	0.16	0.14	0.12	0.10
Characteristics at Low Temperature	Impedance ratio max. at 120Hz						
	Working voltage [V]	6.3	10	16	25	35	50
	-25°C/+20°C	3	2	2	2	2	2
	-40°C/+20°C	6	5	3	3	3	3
	-55°C/+20°C	8	6	4	4	4	4
Impedance	Refer to standard products table (100kHz, +20°C)						
Endurance	Test conditions Duration : 1000 hours Ambient temperature : +105°C Applied voltage : Rated DC working voltage  Post test requirements at +20°C Leakage current : $\leq$ Initial specified value Capacitance change : $\pm 20\%$ of initial measured value tan $\delta$ : $\leq 200\%$ of initial specified value						
Shelf Life	Test conditions Duration : 1000 hours Ambient temperature : +105°C Applied voltage : (None)			Post test requirements at +20°C Same limits for "Endurance".			

### Explanation of Part Numbers



### Dimensions in mm (not to scale)



### Case Size

$\phi D \times L$  [mm]

Cap. [ $\mu F$ ]	W.V. [V.DC]	6.3 (0J)	10 (1A)	16 (1C)	25 (1E)	35 (1V)	50 (1H)
0.1 (0R1)							4 × 7
0.15 (R15)							4 × 7
0.22 (R22)							4 × 7
0.33 (R33)							4 × 7
0.47 (R47)							4 × 7
0.68 (R68)							4 × 7
1 (010)							4 × 7
1.5 (1R5)							4 × 7
2.2 (2R2)							4 × 7
3.3 (3R3)							4 × 7
4.7 (4R7)						4 × 7	4 × 7
6.8 (6R8)				4 × 7	4 × 7	4 × 7	5 × 7
10 (100)				4 × 7	4 × 7	5 × 7	6.3 × 7
15 (150)				4 × 7	5 × 7	6.3 × 7	6.3 × 7
22 (220)		4 × 7	4 × 7	5 × 7	5 × 7	6.3 × 7	8 × 7
33 (330)		5 × 7	5 × 7	6.3 × 7	6.3 × 7	8 × 7	8 × 7
47 (470)		5 × 7	6.3 × 7	6.3 × 7	8 × 7	8 × 7	
68 (680)		6.3 × 7	6.3 × 7	8 × 7	8 × 7		
100 (101)		6.3 × 7	6.3 × 7	8 × 7			
220 (221)		8 × 7					

( ) indicates W.V. and capacitance code.

Standard Products

W.V. [V.DC]	Cap. [μF]	Part No.	D.C.L. (+20°C/2 min) [μA] max.	tan δ (120Hz/+20°C) max.	Impedance (100kHz/+20°C) [Ω] max.	Ripple current (100kHz/+105°C) [mA] rms max.	Dimensions [mm]	
							φD	L
6.3	22	ECEA0JKG220	3.0	0.22	10	47	4	7
	33	ECEA0JKG330	3.0	0.22	5	70	5	7
	47	ECEA0JKG470	3.0	0.22	5	70	5	7
	68	ECEA0JKG680	4.2	0.22	2	121	6.3	7
	100	ECEA0JKG101	6.3	0.22	2	121	6.3	7
	220	ECEA0JKG221	13.8	0.22	1.2	190	8	7
10	22	ECEA1AKG220	3.0	0.19	10	47	4	7
	33	ECEA1AKG330	3.3	0.19	5	70	5	7
	47	ECEA1AKG470	4.7	0.19	2	121	6.3	7
	68	ECEA1AKG680	6.8	0.19	2	121	6.3	7
	100	ECEA1AKG101	10.0	0.19	2	121	6.3	7
16	6.8	ECEA1CKG6R8	3.0	0.16	10	47	4	7
	10	ECEA1CKG100	3.0	0.16	10	47	4	7
	15	ECEA1CKG150	3.0	0.16	10	47	4	7
	22	ECEA1CKG220	3.5	0.16	5	70	5	7
	33	ECEA1CKG330	5.2	0.16	2	121	6.3	7
	47	ECEA1CKG470	7.5	0.16	2	121	6.3	7
	68	ECEA1CKG680	10.8	0.16	1.2	190	8	7
	100	ECEA1CKG101	16.0	0.16	1.2	190	8	7
25	6.8	ECEA1EKG6R8	3.0	0.14	10	47	4	7
	10	ECEA1EKG100	3.0	0.14	10	47	4	7
	15	ECEA1EKG150	3.7	0.14	5	70	5	7
	22	ECEA1EKG220	5.5	0.14	5	70	5	7
	33	ECEA1EKG330	8.2	0.14	2	121	6.3	7
	47	ECEA1EKG470	11.7	0.14	1.2	190	8	7
	68	ECEA1EKG680	17.0	0.14	1.2	190	8	7
35	4.7	ECEA1VKG4R7	3.0	0.12	10	47	4	7
	6.8	ECEA1VKG6R8	3.0	0.12	10	47	4	7
	10	ECEA1VKG100	3.5	0.12	5	70	5	7
	15	ECEA1VKG150	5.2	0.12	2	121	6.3	7
	22	ECEA1VKG220	7.7	0.12	2	121	6.3	7
	33	ECEA1VKG330	11.5	0.12	1.2	190	8	7
	47	ECEA1VKG470	16.4	0.12	1.2	190	8	7
50	0.1	ECEA1HKG0R1	3.0	0.10	22	1.7	4	7
	0.15	ECEA1HKGR15	3.0	0.10	16	2.5	4	7
	0.22	ECEA1HKGR22	3.0	0.10	12	3.5	4	7
	0.33	ECEA1HKGR33	3.0	0.10	10	5.4	4	7
	0.47	ECEA1HKGR47	3.0	0.10	10	7.6	4	7
	0.68	ECEA1HKGR68	3.0	0.10	10	10	4	7
	1.0	ECEA1HKG010	3.0	0.10	10	16	4	7
	1.5	ECEA1HKG1R5	3.0	0.10	10	24	4	7
	2.2	ECEA1HKG2R2	3.0	0.10	10	36	4	7
	3.3	ECEA1HKG3R3	3.0	0.10	10	47	4	7
	4.7	ECEA1HKG4R7	3.0	0.10	10	47	4	7
	6.8	ECEA1HKG6R8	3.4	0.10	5	70	5	7
	10	ECEA1HKG100	5.0	0.10	2	121	6.3	7
	15	ECEA1HKG150	7.5	0.10	2	121	6.3	7
	22	ECEA1HKG220	11.0	0.10	1.2	190	8	7
33	ECEA1HKG330	16.5	0.10	1.2	190	8	7	