

### Resin Dipped Type

Series: EF Type : F

■ Features Lead wire terminal (Standard)

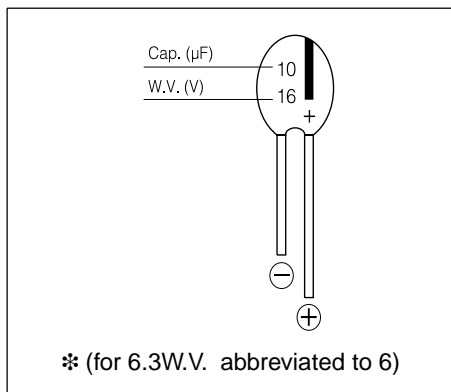
Japan



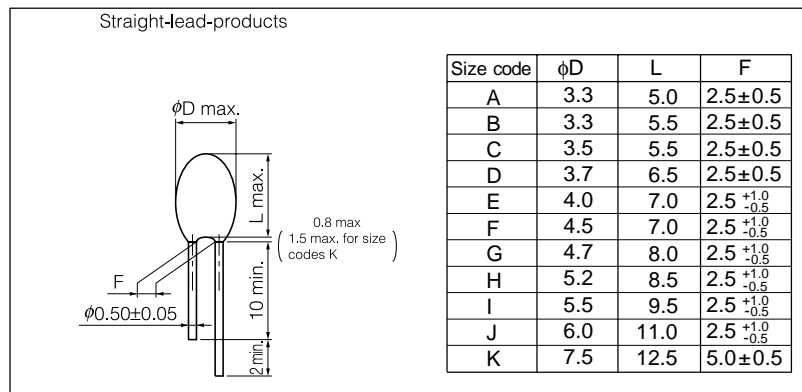
#### ■ Specifications

Category temp. range	-55 to + 85°C (W.V. > 10V.DC : -55 to 105°C)	
Rated W.V. Range	4 to 50 V .DC	
Nominal Cap. Range	0.1 to 220 μF	
Capacitance Tolerance	±20 % (120Hz/+20°C)	
DC Leakage Current	I < 0.008 CV or 0.05 (μA) after 2 minutes application of rated working voltage at +20 °C. (Whichever is the greater)	
Dissipation Factor	Please see the attached standard products list	
Moisture Resistance	After 500 hours exposure at +40 °C and 90 to 95 % R.H. without load, the capacitor shall meet the following limits.	
	Capacitance change	± 10 % of initial measured value
	D.F.	< 150 % of initial specified value
Endurance	After 2000 hours application of rated DC working voltage at +85°C or 1000 hours at +105°C with derated voltage for 10 to 50 W.V., the capacitor shall meet the following limits.	
	Capacitance change	±10% of initial measured value
	D.F.	< initial specified value
DC leakage current	0.012 CV or 0.75 (μA) max. whichever is the greater.	
	0.01 CV or 0.625 (μA) max. whichever is the greater	

#### ■ Marking



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



#### ■ Case size

	4(0G)	6.3(0J)	10(1A)	16(1C)	25(1E)	35(1V)	50(1H)
0.10 (104)							● A
0.22 (224)							● B
0.47 (474)						● B	D
1.0 (105)						C	E
1.5 (155)						C	F
2.2 (225)					C	D	G
3.3 (335)				C	D	E	H
4.7 (475)			C	D	E	F	I
6.8 (685)		C	D	E	F	H	
10 (106)	C	D	E	F	H	I	
15 (156)	D	E	F	G	I	J	
22 (226)	E	F	G	H	J	K	
33 (336)	F	G	H	I	K		
47 (476)	G	H	I	J			
68 (686)	H	I	J	K			
100 (107)	I	J	K				
150 (157)	J	K					
220 (227)	K						

Note: 1. ( ) shows W.V. and capacitance code.  
 2. Products designated by (●) have the voltage code on the body.  
 3. When selecting W.V., see the page 210.

### ■ Standard Products

W.V. (V)	Cap. (±20%) (μF)	Body Size			Specification		Lead Space			Part No.	Min. Packaging Q'ty	
		Dia. (mm)	Length (mm)	Size Code	D.F. (120Hz) (+20°C) (μA)	L.C (μA)	Straight (mm)	Taping B1 (mm)	Taping BB (mm)		Straight Leads (pcs)	Taping (pcs)
4	10	3.5 [4.5]	5.5 [9 ]	C	0.1	0.4	2.5	2.5	5.0	ECSF0GE106( )	200	2000
	15	3.7 [5 ]	6.5 [9 ]	D	0.1	0.5	2.5	2.5	5.0	ECSF0GE156( )	200	2000
	22	4 [5.5]	7 [9 ]	E	0.1	0.8	2.5	2.5	5.0	ECSF0GE226( )	200	2000
	33	4.5 [5.5]	7 [10 ]	F	0.1	1.1	2.5	2.5	5.0	ECSF0GE336( )	200	2000
	47	4.7 [6 ]	8 [11 ]	G	0.1	1.6	2.5	2.5	5.0	ECSF0GE476( )	200	2000
	68	5.2 [6 ]	8.5 [11.5]	H	0.1	2.2	2.5	2.5	5.0	ECSF0GE686( )	200	2000
	100	5.5 [6.5]	9.5 [12.5]	I	0.1	3.2	2.5	2.5	5.0	ECSF0GE107( )	200	2000
	150	6	11	J	0.1	4.8	2.5			ECSF0GE157	200	
	220	7.5	12.5	K	0.1	7.1	5.0			ECSF0GE227	100	
6.3	6.8	3.5 [4.5]	5.5 [9 ]	C	0.06	0.4	2.5	2.5	5.0	ECSF0JE685( )	200	2000
	10	3.7 [5 ]	6.5 [9 ]	D	0.06	0.6	2.5	2.5	5.0	ECSF0JE106( )	200	2000
	15	4 [5.5]	7 [9 ]	E	0.06	0.8	2.5	2.5	5.0	ECSF0JE156( )	200	2000
	22	4.5 [5.5]	7 [10 ]	F	0.06	1.2	2.5	2.5	5.0	ECSF0JE226( )	200	2000
	33	4.7 [6 ]	8 [11 ]	G	0.06	1.7	2.5	2.5	5.0	ECSF0JE336( )	200	2000
	47	5.2 [6 ]	8.5 [11.5]	H	0.06	2.4	2.5	2.5	5.0	ECSF0JE476( )	200	2000
	68	5.5 [6.5]	9.5 [12.5]	I	0.06	3.5	2.5	2.5	5.0	ECSF0JE686( )	200	2000
	100	6	11	J	0.08	5.1	2.5			ECSF0JE107	200	
	150	7.5	12.5	K	0.08	7.6	5			ECSF0JE157	100	
10	4.7	3.5 [4.5]	5.5 [9 ]	C	0.06	0.4	2.5	2.5	5.0	ECSF1AE475( )	200	2000
	6.8	3.7 [5 ]	6.5 [9 ]	D	0.06	0.6	2.5	2.5	5.0	ECSF1AE685( )	200	2000
	10	4 [5.5]	7 [9 ]	E	0.06	0.8	2.5	2.5	5.0	ECSF1AE106( )	200	2000
	15	4.5 [5.5]	7 [10 ]	F	0.06	1.2	2.5	2.5	5.0	ECSF1AE156( )	200	2000
	22	4.7 [6 ]	8 [11 ]	G	0.06	1.8	2.5	2.5	5.0	ECSF1AE226( )	200	2000
	33	5.2 [6 ]	8.5 [11.5]	H	0.06	2.7	2.5	2.5	5.0	ECSF1AE336( )	200	2000
	47	5.5 [6.5]	9.5 [12.5]	I	0.06	3.8	2.5	2.5	5.0	ECSF1AE476( )	200	2000
	68	6	11	J	0.06	5.5	2.5			ECSF1AE686	200	
	100	7.5	12.5	K	0.08	8.0	5.0			ECSF1AE107	100	
16	3.3	3.5 [4.5]	5.5 [9 ]	C	0.06	0.5	2.5	2.5	5.0	ECSF1CE335( )	200	2000
	4.7	3.7 [5 ]	6.5 [9 ]	D	0.06	0.7	2.5	2.5	5.0	ECSF1CE475( )	200	2000
	6.8	4 [5.5]	7 [9 ]	E	0.06	0.9	2.5	2.5	5.0	ECSF1CE685( )	200	2000
	10	4.5 [5.5]	7 [10 ]	F	0.06	1.3	2.5	2.5	5.0	ECSF1CE106( )	200	2000
	15	4.7 [6 ]	8 [11 ]	G	0.06	2.0	2.5	2.5	5.0	ECSF1CE156( )	200	2000
	22	5.2 [6 ]	8.5 [11.5]	H	0.06	2.9	2.5	2.5	5.0	ECSF1CE226( )	200	2000
	33	5.5 [6.5]	9.5 [12.5]	I	0.06	4.3	2.5	2.5	5.0	ECSF1CE336( )	200	2000
	47	6	11	J	0.06	6.1	2.5			ECSF1CE476( )	200	
	68	7.5	12.5	K	0.06	8.8	5.0			ECSF1CE686	100	
25	2.2	3.5 [4.5]	5.5 [9 ]	C	0.06	0.5	2.5	2.5	5.0	ECSF1EE225( )	200	2000
	3.3	3.7 [5 ]	6.5 [9 ]	D	0.06	0.7	2.5	2.5	5.0	ECSF1EE335( )	200	2000
	4.7	4 [5.5]	7 [9 ]	E	0.06	1.0	2.5	2.5	5.0	ECSF1EE475( )	200	2000
	6.8	4.5 [5.5]	7 [10 ]	F	0.06	1.4	2.5	2.5	5.0	ECSF1EE685( )	200	2000
	10	5.2 [6 ]	8.5 [11.5]	H	0.06	2.0	2.5	2.5	5.0	ECSF1EE106( )	200	2000
	15	5.5 [6.5]	9.5 [12.5]	I	0.06	3.0	2.5	2.5	5.0	ECSF1EE156( )	200	2000

Diameter, length in brackets [ ] represent taping dimensions for suffix (BB).  
When requesting taped product, please put the letter "B1" or "BB" between the "( )".

Design, Specifications are subject to change without notice. Ask factory for technical specifications before purchase and/or use.  
Whenever a doubt about safety arises from this product, please inform us immediately for technical consultation without fail.

### ■ Standard Products

W.V. (V)	Cap. (±20%) (μF)	Body Size			Specification		Lead Space			Part No.	Min. Packaging Q'ty	
		Dia. (mm)	Length (mm)	Size Code	D.F. (120Hz) (+20°C) (μA)	L.C (μA)	Straight (mm)	Taping B1 (mm)	Taping BB (mm)		Straight Leads (pcs)	Taping (pcs)
25	22	6	11	J	0.06	4.4	2.5			ECSF1EE226	200	
	33	7.5	12.5	K	0.06	6.6	5.0			ECSF1EE336	100	
35	0.47	3.3 [4.5]	5.5 [9 ]	B	0.04	0.2	2.5	2.5	5.0	ECSF1VE474( )	200	2000
	1	3.5 [4.5]	5.5 [9 ]	C	0.04	0.3	2.5	2.5	5.0	ECSF1VE105( )	200	2000
	1.5	3.5 [4.5]	5.5 [9 ]	C	0.06	0.5	2.5	2.5	5.0	ECSF1VE155( )	200	2000
	2.2	3.7 [5 ]	6.5 [9 ]	D	0.06	0.7	2.5	2.5	5.0	ECSF1VE225( )	200	2000
	3.3	4 [5.5]	7 [9 ]	E	0.06	1.0	2.5	2.5	5.0	ECSF1VE335( )	200	2000
	4.7	4.5 [5.5]	7 [10 ]	F	0.06	1.4	2.5	2.5	5.0	ECSF1VE475( )	200	2000
	6.8	5.2 [6 ]	8.5 [11.5]	H	0.06	2.0	2.5	2.5	5.0	ECSF1VE685( )	200	2000
	10	5.5 [6.5]	9.5 [12.5]	I	0.06	2.8	2.5	2.5	5.0	ECSF1VE106( )	200	2000
	15	6	11	J	0.06	4.2	2.5			ECSF1VE156	200	
22	7.5	12.5	K	0.06	6.2	5.0			ECSF1VE226	100		
50	0.1	3.3 [4.5]	5 [9 ]	A	0.04	0.05	2.5	2.5	5.0	ECSF1HE104( )	200	2000
	0.22	3.3 [4.5]	5.5 [9 ]	B	0.04	0.09	2.5	2.5	5.0	ECSF1HE224( )	200	2000
	0.47	3.7 [5 ]	6.5 [9 ]	D	0.04	0.2	2.5	2.5	5.0	ECSF1HE474( )	200	2000
	1	4 [5.5]	7 [9 ]	E	0.04	0.4	2.5	2.5	5.0	ECSF1HE105( )	200	2000
	1.5	4.5 [5.5]	7 [10 ]	F	0.06	0.6	2.5	2.5	5.0	ECSF1HE155( )	200	2000
	2.2	4.7 [6 ]	8 [11 ]	G	0.06	0.9	2.5	2.5	5.0	ECSF1HE225( )	200	2000
	3.3	5.2 [6 ]	8.5 [11.5]	H	0.06	1.4	2.5	2.5	5.0	ECSF1HE335( )	200	2000
	4.7	5.5 [6.5]	9.5 [12.5]	I	0.06	1.9	2.5	2.5	5.0	ECSF1HE475( )	200	2000

Diameter, length in brackets [ ] represent taping dimensions for suffix (BB).  
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