Radial Lead Type

Series : **FC** Type : **A**

Features

- Endurance : 105 °C 1000 h to 5000 h
- Low impedance
- RoHS compliant

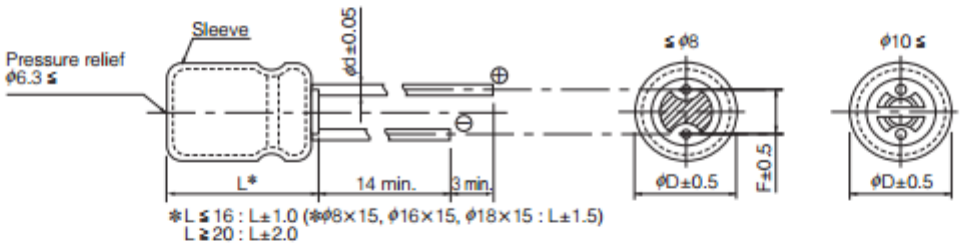
Specifications

Category temperature range	–55 °C to +105 °C									
Rated voltage range	6.3 V.DC to 100 V.DC									
Capacitance range	2.2 µF to 15000 µF									
Capacitance tolerance	±20 % (120 Hz/+20 °C)									
Leakage current	I ≦ 0.01 CV or 3 (µA) After 2 minutes (Whichever is greater)									
Dissipation factor (tan δ)	V.DC	6.3	10	16	25	35	50	63	100	(120 Hz/+20 °C)
	tan δ	0.22	0.19	0.16	0.14	0.12	0.10	0.08	0.07	
	For capacitance value ≧ 1000 µF, add 0.02 per every 1000 µF.									
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) when the capacitors are restored to 20 °C, the capacitors shall meet the limits specified bellow. Duration : φ4 to φ6.3 : 1000 hours, φ8 : 2000 hours , φ10 : 3000 hours , φ12.5 to φ18 : 5000 hours									
	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)									
AEC-Q200	AEC-Q200 compliant									

Frequency correction factor for ripple current

Rated voltage (V.DC)	Capacitance (µF)	Frequency (Hz)				
		60	120	1 k	10 k	100 k
6.3 to 100	2.2 to 330	0.55	0.65	0.85	0.90	1.00
	390 to 1000	0.70	0.75	0.90	0.95	1.00
	1200 to 2200	0.75	0.80	0.90	0.95	1.00
	2700 to 15000	0.80	0.85	0.95	1.00	1.00

Dimensions



*L ≦ 16 : L±1.0 (*φ8×15, φ16×15, φ18×15 : L±1.5)
L ≧ 20 : L±2.0

(Unit : mm)

	L ≧ 11									L=7		
φD	4	5	6.3	8	10	12.5		16	18	4	5	6.3
L						15 to 25	30 to 40					
φd	0.45	0.5	0.5	0.6	0.6	0.6	0.8	0.8	0.8	0.45	0.45	0.45
F	1.5	2.0	2.5	3.5	5.0	5.0	5.0	7.5	7.5	1.5	2.0	2.5

Case size/ Impedance/ Ripple current

Rated voltage (V.DC) / Case size (mm) (φD×L)	6.3 V.DC to 35 V.DC			50 V.DC			63 V.DC			100 V.DC		
	Impedance (Ω)/(100 kHz)		Ripple current (mA r.m.s) /(100 kHz)	Impedance (Ω)/(100 kHz)		Ripple current (mA r.m.s) /(100 kHz)	Impedance (Ω)/(100 kHz)		Ripple current (mA r.m.s) /(100 kHz)	Impedance (Ω)/(100 kHz)		Ripple current (mA r.m.s) /(100 kHz)
	20 °C	−10 °C		20 °C	−10 °C		20 °C	−10 °C		20 °C	−10 °C	
4 × 7	2.00	5.00	65									
5 × 7	0.950	2.40	120									
6.3 × 7	0.450	1.20	200									
5 × 11	0.800	1.60	175	*	*	*	2.00	4.00	145	4.10	8.20	80
6.3 × 11.2	0.350	0.700	290	0.600	1.20	260	1.00	2.00	240	1.80	3.60	114
8 × 11.5	0.117	0.234	555	0.234	0.468	485	0.342	0.684	405	0.680	1.36	260
8 × 15	0.085	0.170	730	0.155	0.310	635	0.230	0.460	535	0.450	0.900	340
8 × 20	0.065	0.130	995	0.120	0.240	860	0.178	0.356	690	0.330	0.660	455
10 × 12.5	0.090	0.180	755	0.162	0.324	615	0.256	0.512	535	0.530	1.06	306
10 × 16	0.068	0.136	1050	0.119	0.238	850	0.194	0.388	600	0.360	0.720	400
10 × 20	0.052	0.104	1220	0.090	0.180	1030	0.147	0.294	885	0.240	0.480	463
10 × 25	0.045	0.090	1440	0.082	0.164	1200	0.130	0.260	1050	0.210	0.420	599
10 × 30	0.035	0.070	1815	0.060	0.120	1610	0.090	0.180	1300	0.150	0.300	698
12.5 × 15	0.065	0.130	1205	0.110	0.220	1150	0.150	0.300	1020	0.230	0.460	511
12.5 × 20	0.038	0.076	1655	0.063	0.126	1480	0.085	0.170	1285	0.180	0.360	671
12.5 × 25	0.030	0.060	1945	0.050	0.100	1832	0.070	0.140	1720	0.110	0.220	807
12.5 × 30	0.025	0.050	2310	0.040	0.080	2215	0.055	0.110	2090	0.098	0.196	937
12.5 × 35	0.022	0.044	2510	0.034	0.068	2285	0.047	0.094	2265	0.087	0.174	1040
12.5 × 40	0.018	0.036	2655	0.030	0.060	2590	0.042	0.084	2560	0.072	0.144	1130
16 × 15	0.043	0.086	1690	0.080	0.160	1610	0.090	0.180	1410	0.140	0.280	793
16 × 20	0.029	0.058	2205	0.048	0.096	1835	0.059	0.118	1765	0.110	0.220	995
16 × 25	0.022	0.044	2555	0.034	0.068	2235	0.050	0.100	2160	0.089	0.178	1170
16 × 31.5	0.018	0.036	3010	0.028	0.056	2700	0.043	0.086	2670	0.062	0.124	1520
16 × 35.5	0.016	0.032	3150	0.025	0.050	2790	0.036	0.072	2770	0.053	0.106	1730
16 × 40	0.015	0.030	3360	0.023	0.046	2845	0.030	0.060	2825	0.047	0.094	1920
18 × 15	0.038	0.076	2000	0.068	0.136	1900	0.086	0.172	1690	0.120	0.240	917
18 × 20	0.028	0.056	2490	0.042	0.084	2420	0.055	0.110	2290	0.080	0.160	1230
18 × 25	0.020	0.040	2740	0.029	0.058	2610	0.043	0.086	2585	0.070	0.140	1420
18 × 31.5	0.016	0.032	3635	0.025	0.050	3000	0.032	0.064	2950	0.062	0.124	1600
18 × 35.5	0.015	0.030	3680	0.023	0.046	3100	0.030	0.060	3095	0.041	0.082	1770
18 × 40	0.014	0.028	3735	-	-	-	0.025	0.050	3205	0.036	0.072	2300

Case size (mm) (φD×L)	Capacitance (μF)	Impedance (Ω)/(100 kHz)		Ripple current (mA r.m.s)(100 kHz)
		20 °C	−10 °C	
5 × 11	1.0	2.40	4.80	20
	2.2	1.80	3.60	45
	3.3	1.30	2.60	65
	4.7	1.30	2.60	95
	10	1.30	2.60	125
	12	1.30	2.60	135
	15	1.30	2.60	145
	18	1.30	2.60	155
	22	1.30	2.60	155

Characteristics list

Endurance : 105 °C φ4 to φ6.3=1000 h, φ8=2000 h, φ10=3000 h, φ12.5 to φ18=5000 h

Rated voltage (V.DC)	Cap. (±20 %) (μF)	Case size (mm)		Specification			Lead length (mm)				Part No.	Min. Packaging Q'ty	
								Lead space					
		φD	L	Ripple current (100 kHz) (+105 °C) (mA r.m.s.)	Impedance (100 kHz) (+20 °C) (Ω)	Endurance (hours)	Lead dia. φd	Straight	Taping *B	Taping *H		Straight leads (pcs)	Taping (pcs)
16	15	4	7	65	2.000	1000	0.45	1.5	5.0	2.5	EEAFC1C150( )	200	2000
	27	5	7	120	0.950	1000	0.45	2.0	5.0	2.5	EEAFC1C270( )	200	2000
	47	5	11	175	0.800	1000	0.50	2.0	5.0	2.5	EEUFC1C470( )	200	2000
	56	5	11	175	0.800	1000	0.50	2.0	5.0	2.5	EEUFC1C560( )	200	2000
		6.3	7	200	0.450	1000	0.45	2.5	5.0	2.5	EEAFC1C560( )	200	2000
	68	5	11	175	0.800	1000	0.50	2.0	5.0	2.5	EEUFC1C680( )	200	2000
	100	6.3	11.2	290	0.350	1000	0.50	2.5	5.0	2.5	EEUFC1C101( )	200	2000
	120	6.3	11.2	290	0.350	1000	0.50	2.5	5.0	2.5	EEUFC1C121( )	200	2000
	220	8	11.5	555	0.117	2000	0.60	3.5	5.0		EEUFC1C221( )	200	1000
	270	8	11.5	555	0.117	2000	0.60	3.5	5.0		EEUFC1C271( )	200	1000
	330	8	11.5	555	0.117	2000	0.60	3.5	5.0		EEUFC1C331( )	200	1000
	390	10	12.5	755	0.090	3000	0.60	5.0	5.0		EEUFC1C391( )	200	500
	470	8	15	730	0.085	2000	0.60	3.5	5.0		EEUFC1C471L( )	200	1000
		10	12.5	755	0.090	3000	0.60	5.0	5.0		EEUFC1C471( )	200	500
	560	10	16	1050	0.068	3000	0.60	5.0	5.0		EEUFC1C561( )	200	500
	680	8	20	995	0.065	2000	0.60	3.5	5.0		EEUFC1C681L( )	200	1000
		10	16	1050	0.068	3000	0.60	5.0	5.0		EEUFC1C681( )	200	500
	820	10	20	1220	0.052	3000	0.60	5.0	5.0		EEUFC1C821( )	200	500
		12.5	15	1205	0.065	5000	0.60	5.0	5.0		EEUFC1C821S( )	200	500
	1000	10	20	1220	0.052	3000	0.60	5.0	5.0		EEUFC1C102S( )	200	500
		10	25	1440	0.045	3000	0.60	5.0	5.0		EEUFC1C102( )	200	500
	1200	10	25	1440	0.045	3000	0.60	5.0	5.0		EEUFC1C122( )	200	500
		16	15	1690	0.043	5000	0.80	7.5	7.5		EEUFC1C122S( )	100	250
	1500	10	30	1815	0.035	3000	0.60	5.0			EEUFC1C152L	100	
		12.5	20	1655	0.038	5000	0.60	5.0	5.0		EEUFC1C152( )	200	500
		16	15	1690	0.043	5000	0.80	7.5	7.5		EEUFC1C152S( )	100	250
	1800	12.5	25	1945	0.030	5000	0.60	5.0	5.0		EEUFC1C182( )	200	500
		18	15	2000	0.038	5000	0.80	7.5	7.5		EEUFC1C182S( )	100	250
	2200	12.5	25	1945	0.030	5000	0.60	5.0	5.0		EEUFC1C222( )	200	500
		16	20	2205	0.029	5000	0.80	7.5	7.5		EEUFC1C222S( )	100	250
	2700	12.5	30	2310	0.025	5000	0.80	5.0			EEUFC1C272L	100	
		16	20	2205	0.029	5000	0.80	7.5	7.5		EEUFC1C272( )	100	250
	3300	12.5	35	2510	0.022	5000	0.80	5.0			EEUFC1C332	100	
		18	20	2490	0.028	5000	0.80	7.5	7.5		EEUFC1C332S( )	100	250
	3900	16	25	2555	0.022	5000	0.80	7.5	7.5		EEUFC1C392( )	100	250
		18	20	2490	0.028	5000	0.80	7.5	7.5		EEUFC1C392S( )	100	250
	4700	16	31.5	3010	0.018	5000	0.80	7.5			EEUFC1C472	100	
		18	25	2740	0.020	5000	0.80	7.5	7.5		EEUFC1C472S( )	100	250
	5600	16	35.5	3150	0.016	5000	0.80	7.5			EEUFC1C562L	100	
		18	31.5	3635	0.016	5000	0.80	7.5			EEUFC1C562	50	
	6800	16	40	3360	0.015	5000	0.80	7.5			EEUFC1C682	100	
	8200	18	35.5	3680	0.015	5000	0.80	7.5			EEUFC1C822	50	

· When requesting taped product, please put the letter "B" or "H" between the "( )". Lead wire pitch *B=5 mm, 7.5 mm, H=2.5 mm.

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