

### Radial Lead Type

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



#### Features

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

#### Specifications

Category temp. 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	$I \leq 0.01 CV$ 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	0.1	0.08	0.07	
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 h, φ8 : 2000 h, φ10 : 3000 h, φ12.5 to φ18 : 5000 h									
	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

Sleeve  
 Pressure relief φ6.3 ≦  
 φd±0.05  
 L\*  
 14min.  
 3min.  
 ≦ φ8  
 φ10 ≦  
 φD±0.5  
 F±0.5  
 φD±0.5

\* L ≤ 16 : L±1.0 (φ8x15, φ16x15, φ18x15 : L±1.5)  
 L ≥ 20 : L±2.0

Unit : mm

φD	L ≥ 11									L = 7		
	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)	6.3 to 35			50			63			100		
	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	
Case size (mm)(φD×L)												
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	1.060	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) (φ D×L)	Capacitance (μF)	Impedance (Ω)/(100 kHz)		Ripple current (mA r.m.s)(100 kHz)
		20°C	-10°C	
5 × 11	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 vol. (V.DC)	Cap. (±20 %) (μF)	Case size (mm)		Specification			Lead length(mm)				Part No.	Min. Packaging Q'ty	
		φD	L	Ripple current *1 (mA r.m.s)	Impedance *2 (Ω)	Endurance (hours)	Lead dia. (φd)	Lead space				Straight leads (pcs)	Taping (pcs)
								Straight	Taping *B	Taping *H			
6.3	27	4.0	7.0	65	2.000	1000	0.45	1.5	5.0	2.5	EEAFC0J270( )	200	2000
	56	5.0	7.0	120	0.950	1000	0.45	2.0	5.0	2.5	EEAFC0J560( )	200	2000
	100	5.0	11.0	175	0.800	1000	0.50	2.0	5.0	2.5	EEUFC0J101( )	200	2000
	120	6.3	7.0	200	0.450	1000	0.45	2.5	5.0	2.5	EEAFC0J121( )	200	2000
	220	6.3	11.2	290	0.350	1000	0.50	2.5	5.0	2.5	EEUFC0J221( )	200	2000
	270	6.3	11.2	290	0.350	1000	0.50	2.5	5.0	2.5	EEUFC0J271( )	200	2000
	330	6.3	11.2	290	0.350	1000	0.50	2.5	5.0	2.5	EEUFC0J331S( )	200	2000
	390	8.0	11.5	555	0.117	2000	0.60	3.5	5.0		EEUFC0J391( )	200	1000
	470	8.0	11.5	555	0.117	2000	0.60	3.5	5.0		EEUFC0J471( )	200	1000
	560	8.0	11.5	555	0.117	2000	0.60	3.5	5.0		EEUFC0J561( )	200	1000
	820	8.0	15.0	730	0.085	2000	0.60	3.5	5.0		EEUFC0J821L( )	200	1000
		10.0	12.5	755	0.090	3000	0.60	5.0	5.0		EEUFC0J821( )	200	500
	1000	10.0	12.5	755	0.090	3000	0.60	5.0	5.0		EEUFC0J102( )	200	500
	1200	8.0	20.0	995	0.065	2000	0.60	3.5	5.0		EEUFC0J122L( )	200	1000
		10.0	16.0	1050	0.068	3000	0.60	5.0	5.0		EEUFC0J122( )	200	500
	1500	10.0	20.0	1220	0.052	3000	0.60	5.0	5.0		EEUFC0J152( )	200	500
		12.5	15.0	1205	0.065	5000	0.60	5.0	5.0		EEUFC0J152S( )	200	500
	1800	10.0	25.0	1440	0.045	3000	0.60	5.0	5.0		EEUFC0J182( )	200	500
	2200	10.0	25.0	1440	0.045	3000	0.60	5.0	5.0		EEUFC0J222( )	200	500
		16.0	15.0	1690	0.043	5000	0.80	7.5	7.5		EEUFC0J222S( )	100	250
	2700	10.0	30.0	1815	0.035	3000	0.60	5.0			EEUFC0J272L	100	
		12.5	20.0	1655	0.038	5000	0.60	5.0	5.0		EEUFC0J272( )	200	500
		16.0	15.0	1690	0.043	5000	0.80	7.5	7.5		EEUFC0J272S( )	100	250
	3300	12.5	20.0	1655	0.038	5000	0.60	5.0	5.0		EEUFC0J332( )	200	500
		18.0	15.0	2000	0.038	5000	0.80	7.5	7.5		EEUFC0J332S( )	100	250
	3900	12.5	25.0	1945	0.030	5000	0.60	5.0	5.0		EEUFC0J392( )	200	500
	4700	12.5	30.0	2310	0.025	5000	0.80	5.0			EEUFC0J472	100	
		16.0	20.0	2205	0.029	5000	0.80	7.5	7.5		EEUFC0J472S( )	100	250
	5600	12.5	35.0	2510	0.022	5000	0.80	5.0			EEUFC0J562L	100	
		16.0	20.0	2205	0.029	5000	0.80	7.5	7.5		EEUFC0J562( )	100	250
6800	12.5	40.0	2655	0.018	5000	0.80	5.0			EEUFC0J682L	100		
	16.0	25.0	2555	0.022	5000	0.80	7.5	7.5		EEUFC0J682( )	100	250	
	18.0	20.0	2490	0.028	5000	0.80	7.5	7.5		EEUFC0J682S( )	100	250	
8200	16.0	31.5	3010	0.018	5000	0.80	7.5			EEUFC0J822	100		
10000	16.0	35.5	3150	0.016	5000	0.80	7.5			EEUFC0J103	100		
	18.0	25.0	2740	0.020	5000	0.80	7.5	7.5		EEUFC0J103S( )	100	250	
12000	16.0	40.0	3360	0.015	5000	0.80	7.5			EEUFC0J123L	100		
	18.0	31.5	3635	0.016	5000	0.80	7.5			EEUFC0J123	50		
15000	18.0	35.5	3680	0.015	5000	0.80	7.5			EEUFC0J153	50		

\*1: Ripple current (100 kHz / +105 °C)

\*2: Impedance (100 kHz / +20 °C)

- 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".

### Characteristics list

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

Rated vol. (V.DC)	Cap. (±20 %) (μF)	Case size (mm)		Specification			Lead length(mm)			Part No.	Min. Packaging Q'ty		
		φD	L	Ripple current *1 (mA r.m.s)	Impedance *2 (Ω)	Endurance (hours)	Lead dia. (φd)	Lead space			Straight leads (pcs)	Taping (pcs)	
								Straight	Taping *B				Taping *H
10	22	4.0	7.0	65	2.000	1000	0.45	1.5	5.0	2.5	EEAFC1A220( )	200	2000
	39	5.0	7.0	120	0.950	1000	0.45	2.0	5.0	2.5	EEAFC1A390( )	200	2000
	82	5.0	11.0	175	0.800	1000	0.50	2.0	5.0	2.5	EEUFC1A820( )	200	2000
		6.3	7.0	200	0.450	1000	0.45	2.5	5.0	2.5	EEAFC1A820( )	200	2000
	100	5.0	11.0	175	0.800	1000	0.50	2.0	5.0	2.5	EEUFC1A101S( )	200	2000
	150	6.3	11.2	290	0.350	1000	0.50	2.5	5.0	2.5	EEUFC1A151( )	200	2000
	180	6.3	11.2	290	0.350	1000	0.50	2.5	5.0	2.5	EEUFC1A181( )	200	2000
	220	6.3	11.2	290	0.350	1000	0.50	2.5	5.0	2.5	EEUFC1A221S( )	200	2000
	330	8.0	11.5	555	0.117	2000	0.60	3.5	5.0		EEUFC1A331( )	200	1000
	390	8.0	11.5	555	0.117	2000	0.60	3.5	5.0		EEUFC1A391( )	200	1000
	470	8.0	11.5	555	0.117	2000	0.60	3.5	5.0		EEUFC1A471( )	200	1000
	560	10.0	12.5	755	0.090	3000	0.60	5.0	5.0		EEUFC1A561( )	200	500
	680	8.0	15.0	730	0.085	2000	0.60	3.5	5.0		EEUFC1A681L( )	200	1000
		10.0	12.5	755	0.090	3000	0.60	5.0	5.0		EEUFC1A681( )	200	500
	820	10.0	16.0	1050	0.068	3000	0.60	5.0	5.0		EEUFC1A821( )	200	500
	1000	8.0	20.0	995	0.065	2000	0.60	3.5	5.0		EEUFC1A102L( )	200	1000
		10.0	16.0	1050	0.068	3000	0.60	5.0	5.0		EEUFC1A102( )	200	500
	1200	10.0	20.0	1220	0.052	3000	0.60	5.0	5.0		EEUFC1A122( )	200	500
		12.5	15.0	1205	0.065	5000	0.60	5.0	5.0		EEUFC1A122S( )	200	500
	1500	10.0	25.0	1440	0.045	3000	0.60	5.0	5.0		EEUFC1A152( )	200	500
	1800	12.5	20.0	1655	0.038	5000	0.60	5.0	5.0		EEUFC1A182( )	200	500
		16.0	15.0	1690	0.043	5000	0.80	7.5	7.5		EEUFC1A182S( )	100	250
	2200	10.0	30.0	1815	0.035	3000	0.60	5.0			EEUFC1A222L	100	
		12.5	20.0	1655	0.038	5000	0.60	5.0	5.0		EEUFC1A222( )	200	500
	2700	12.5	25.0	1945	0.030	5000	0.60	5.0	5.0		EEUFC1A272( )	200	500
		18.0	15.0	2000	0.038	5000	0.80	7.5	7.5		EEUFC1A272S( )	100	250
	3300	12.5	30.0	2310	0.025	5000	0.80	5.0			EEUFC1A332	100	
		16.0	20.0	2205	0.029	5000	0.80	7.5	7.5		EEUFC1A332S( )	100	250
	3900	12.5	35.0	2510	0.022	5000	0.80	5.0			EEUFC1A392L	100	
		16.0	20.0	2205	0.029	5000	0.80	7.5	7.5		EEUFC1A392( )	100	250
4700	12.5	40.0	2655	0.018	5000	0.80	5.0			EEUFC1A472L	100		
	16.0	25.0	2555	0.022	5000	0.80	7.5	7.5		EEUFC1A472( )	100	250	
5600	16.0	25.0	2555	0.022	5000	0.80	7.5	7.5		EEUFC1A562( )	100	250	
	18.0	20.0	2490	0.028	5000	0.80	7.5	7.5		EEUFC1A562S( )	100	250	
6800	16.0	31.5	3010	0.018	5000	0.80	7.5			EEUFC1A682	100		
	18.0	25.0	2740	0.020	5000	0.80	7.5	7.5		EEUFC1A682S( )	100	250	
8200	16.0	35.5	3150	0.016	5000	0.80	7.5			EEUFC1A822L	100		
	18.0	31.5	3635	0.016	5000	0.80	7.5			EEUFC1A822	50		
10000	18.0	35.5	3680	0.015	5000	0.80	7.5			EEUFC1A103	50		
12000	18.0	40.0	3735	0.014	5000	0.80	7.5			EEUFC1A123	50		

\*1: Ripple current (100 kHz / +105 °C)

\*2: Impedance (100 kHz / +20 °C)

• 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".

### Characteristics list

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

Rated vol. (V.DC)	Cap. (±20 %) (μF)	Case size (mm)		Specification			Lead length(mm)			Part No.	Min. Packaging Q'ty		
		φD	L	Ripple current *1 (mA r.m.s)	Impedance *2 (Ω)	Endurance (hours)	Lead dia. (φd)	Lead space			Straight leads (pcs)	Taping (pcs)	
								Straight	Taping *B				Taping *H
16	15	4.0	7.0	65	2.000	1000	0.45	1.5	5.0	2.5	EEAFC1C150( )	200	2000
	27	5.0	7.0	120	0.950	1000	0.45	2.0	5.0	2.5	EEAFC1C270( )	200	2000
	47	5.0	11.0	175	0.800	1000	0.50	2.0	5.0	2.5	EEUFC1C470( )	200	2000
	56	5.0	11.0	175	0.800	1000	0.50	2.0	5.0	2.5	EEUFC1C560( )	200	2000
		6.3	7.0	200	0.450	1000	0.45	2.5	5.0	2.5	EEAFC1C560( )	200	2000
	68	5.0	11.0	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	8.0	11.5	555	0.117	2000	0.60	3.5	5.0		EEUFC1C221( )	200	1000
	270	8.0	11.5	555	0.117	2000	0.60	3.5	5.0		EEUFC1C271( )	200	1000
	330	8.0	11.5	555	0.117	2000	0.60	3.5	5.0		EEUFC1C331( )	200	1000
	390	10.0	12.5	755	0.090	3000	0.60	5.0	5.0		EEUFC1C391( )	200	500
	470	8.0	15.0	730	0.085	2000	0.60	3.5	5.0		EEUFC1C471L( )	200	1000
		10.0	12.5	755	0.090	3000	0.60	5.0	5.0		EEUFC1C471( )	200	500
	560	10.0	16.0	1050	0.068	3000	0.60	5.0	5.0		EEUFC1C561( )	200	500
	680	8.0	20.0	995	0.065	2000	0.60	3.5	5.0		EEUFC1C681L( )	200	1000
		10.0	16.0	1050	0.068	3000	0.60	5.0	5.0		EEUFC1C681( )	200	500
	820	10.0	20.0	1220	0.052	3000	0.60	5.0	5.0		EEUFC1C821( )	200	500
		12.5	15.0	1205	0.065	5000	0.60	5.0	5.0		EEUFC1C821S( )	200	500
	1000	10.0	20.0	1220	0.052	3000	0.60	5.0	5.0		EEUFC1C102S( )	200	500
		10.0	25.0	1440	0.045	3000	0.60	5.0	5.0		EEUFC1C102( )	200	500
	1200	10.0	25.0	1440	0.045	3000	0.60	5.0	5.0		EEUFC1C122( )	200	500
		16.0	15.0	1690	0.043	5000	0.80	7.5	7.5		EEUFC1C122S( )	100	250
	1500	10.0	30.0	1815	0.035	3000	0.60	5.0			EEUFC1C152L	100	
		12.5	20.0	1655	0.038	5000	0.60	5.0	5.0		EEUFC1C152( )	200	500
		16.0	15.0	1690	0.043	5000	0.80	7.5	7.5		EEUFC1C152S( )	100	250
	1800	12.5	25.0	1945	0.030	5000	0.60	5.0	5.0		EEUFC1C182( )	200	500
		18.0	15.0	2000	0.038	5000	0.80	7.5	7.5		EEUFC1C182S( )	100	250
	2200	12.5	25.0	1945	0.030	5000	0.60	5.0	5.0		EEUFC1C222( )	200	500
		16.0	20.0	2205	0.029	5000	0.80	7.5	7.5		EEUFC1C222S( )	100	250
2700	12.5	30.0	2310	0.025	5000	0.80	5.0			EEUFC1C272L	100		
	16.0	20.0	2205	0.029	5000	0.80	7.5	7.5		EEUFC1C272( )	100	250	
3300	12.5	35.0	2510	0.022	5000	0.80	5.0			EEUFC1C332	100		
	18.0	20.0	2490	0.028	5000	0.80	7.5	7.5		EEUFC1C332S( )	100	250	
3900	16.0	25.0	2555	0.022	5000	0.80	7.5	7.5		EEUFC1C392( )	100	250	
	18.0	20.0	2490	0.028	5000	0.80	7.5	7.5		EEUFC1C392S( )	100	250	
4700	16.0	31.5	3010	0.018	5000	0.80	7.5			EEUFC1C472	100		
	18.0	25.0	2740	0.020	5000	0.80	7.5	7.5		EEUFC1C472S( )	100	250	
5600	16.0	35.5	3150	0.016	5000	0.80	7.5			EEUFC1C562L	100		
	18.0	31.5	3635	0.016	5000	0.80	7.5			EEUFC1C562	50		
6800	16.0	40.0	3360	0.015	5000	0.80	7.5			EEUFC1C682	100		
8200	18.0	35.5	3680	0.015	5000	0.80	7.5			EEUFC1C822	50		

\*1: Ripple current (100 kHz / +105 °C)

\*2: Impedance (100 kHz / +20 °C)

• 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".

### Characteristics list

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

Rated vol. (V.DC)	Cap. (±20 %) (μF)	Case size (mm)		Specification			Lead length(mm)				Part No.	Min. Packaging Q'ty	
		φD	L	Ripple current *1 (mA r.m.s)	Impedance *2 (Ω)	Endurance (hours)	Lead dia. (φd)	Lead space				Straight leads (pcs)	Taping (pcs)
								Straight	Taping *B	Taping *H			
25	10	4.0	7.0	65	2.000	1000	0.45	1.5	5.0	2.5	EEAFC1E100( )	200	2000
	22	5.0	7.0	120	0.950	1000	0.45	2.0	5.0	2.5	EEAFC1E220( )	200	2000
	39	5.0	11.0	175	0.800	1000	0.50	2.0	5.0	2.5	EEUFC1E390( )	200	2000
		6.3	7.0	200	0.450	1000	0.45	2.5	5.0	2.5	EEAFC1E390( )	200	2000
	47	5.0	11.0	175	0.800	1000	0.50	2.0	5.0	2.5	EEUFC1E470( )	200	2000
	82	6.3	11.2	290	0.350	1000	0.50	2.5	5.0	2.5	EEUFC1E820( )	200	2000
	100	6.3	11.2	290	0.350	1000	0.50	2.5	5.0	2.5	EEUFC1E101S( )	200	2000
	180	8.0	11.5	555	0.117	2000	0.60	3.5	5.0		EEUFC1E181( )	200	1000
	220	8.0	11.5	555	0.117	2000	0.60	3.5	5.0		EEUFC1E221( )	200	1000
	270	10.0	12.5	755	0.090	3000	0.60	5.0	5.0		EEUFC1E271( )	200	500
	330	8.0	15.0	730	0.085	2000	0.60	3.5	5.0		EEUFC1E331L( )	200	1000
		10.0	12.5	755	0.090	3000	0.60	5.0	5.0		EEUFC1E331( )	200	500
	390	10.0	16.0	1050	0.068	3000	0.60	5.0	5.0		EEUFC1E391( )	200	500
	470	8.0	20.0	995	0.065	2000	0.60	3.5	5.0		EEUFC1E471L( )	200	1000
		10.0	16.0	1050	0.068	3000	0.60	5.0	5.0		EEUFC1E471( )	200	500
	560	10.0	20.0	1220	0.052	3000	0.60	5.0	5.0		EEUFC1E561( )	200	500
		12.5	15.0	1205	0.065	5000	0.60	5.0	5.0		EEUFC1E561S( )	200	500
	680	10.0	20.0	1220	0.052	3000	0.60	5.0	5.0		EEUFC1E681( )	200	500
	820	10.0	25.0	1440	0.045	3000	0.60	5.0	5.0		EEUFC1E821( )	200	500
		12.5	20.0	1655	0.038	5000	0.60	5.0	5.0		EEUFC1E821S( )	200	500
	1000	10.0	30.0	1815	0.035	3000	0.60	5.0			EEUFC1E102L	100	
		12.5	20.0	1655	0.038	5000	0.60	5.0	5.0		EEUFC1E102( )	200	500
		16.0	15.0	1690	0.043	5000	0.80	7.5	7.5		EEUFC1E102S( )	100	250
	1200	12.5	25.0	1945	0.030	5000	0.60	5.0	5.0		EEUFC1E122( )	200	500
		18.0	15.0	2000	0.038	5000	0.80	7.5	7.5		EEUFC1E122S( )	100	250
1500	12.5	25.0	1945	0.030	5000	0.60	5.0	5.0		EEUFC1E152( )	200	500	
	16.0	20.0	2205	0.029	5000	0.80	7.5	7.5		EEUFC1E152S( )	100	250	
1800	12.5	30.0	2310	0.025	5000	0.80	5.0			EEUFC1E182L	100		
	16.0	20.0	2205	0.029	5000	0.80	7.5	7.5		EEUFC1E182( )	100	250	
2200	12.5	35.0	2510	0.022	5000	0.80	5.0			EEUFC1E222	100		
	18.0	20.0	2490	0.028	5000	0.80	7.5	7.5		EEUFC1E222S( )	100	250	
2700	16.0	25.0	2555	0.022	5000	0.80	7.5	7.5		EEUFC1E272( )	100	250	
3300	16.0	31.5	3010	0.018	5000	0.80	7.5			EEUFC1E332	100		
	18.0	25.0	2740	0.020	5000	0.80	7.5	7.5		EEUFC1E332S( )	100	250	
3900	16.0	35.5	3150	0.016	5000	0.80	7.5			EEUFC1E392L	100		
	18.0	31.5	3635	0.016	5000	0.80	7.5			EEUFC1E392	50		
4700	18.0	35.5	3680	0.015	5000	0.80	7.5			EEUFC1E472	50		
5600	18.0	40.0	3735	0.014	5000	0.80	7.5			EEUFC1E562	50		

\*1: Ripple current (100 kHz / +105 °C)

\*2: Impedance (100 kHz / +20 °C)

• 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".

### Characteristics list

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

Rated vol. (V.DC)	Cap. (±20 %) (μF)	Case size (mm)		Specification			Lead length(mm)			Part No.	Min. Packaging Q'ty		
		φD	L	Ripple current *1 (mA r.m.s)	Impedance *2 (Ω)	Endurance (hours)	Lead dia. (φd)	Lead space			Straight leads (pcs)	Taping (pcs)	
								Straight	Taping *B				Taping *H
35	6.8	4.0	7.0	65	2.000	1000	0.45	1.5	5.0	2.5	EEAFC1V6R8( )	200	2000
	12	5.0	7.0	120	0.950	1000	0.45	2.0	5.0	2.5	EEAFC1V120( )	200	2000
	22	5.0	11.0	175	0.800	1000	0.50	2.0	5.0	2.5	EEUFC1V220( )	200	2000
	27	5.0	11.0	175	0.800	1000	0.50	2.0	5.0	2.5	EEUFC1V270( )	200	2000
		6.3	7.0	200	0.450	1000	0.45	2.5	5.0	2.5	EEAFC1V270( )	200	2000
	33	5.0	11.0	175	0.080	1000	0.50	2.0	5.0	2.5	EEUFC1V330( )	200	2000
	47	6.3	11.2	290	0.350	1000	0.50	2.5	5.0	2.5	EEUFC1V470( )	200	2000
	56	6.3	11.2	290	0.350	1000	0.50	2.5	5.0	2.5	EEUFC1V560( )	200	2000
	68	6.3	11.2	290	0.350	1000	0.50	2.5	5.0	2.5	EEUFC1V680( )	200	2000
	100	8.0	11.5	555	0.117	2000	0.60	3.5	5.0		EEUFC1V101( )	200	1000
	120	8.0	11.5	555	0.117	2000	0.60	3.5	5.0		EEUFC1V121( )	200	1000
	150	8.0	11.5	555	0.117	2000	0.60	3.5	5.0		EEUFC1V151( )	200	1000
	180	10.0	12.5	755	0.090	3000	0.60	5.0	5.0		EEUFC1V181( )	200	500
	220	8.0	15.0	730	0.085	2000	0.60	3.5	5.0		EEUFC1V221L( )	200	1000
		10.0	12.5	755	0.090	3000	0.60	5.0	5.0		EEUFC1V221( )	200	500
	270	10.0	16.0	1050	0.068	3000	0.60	5.0	5.0		EEUFC1V271( )	200	500
	330	8.0	20.0	995	0.065	2000	0.60	3.5	5.0		EEUFC1V331L( )	200	1000
		10.0	16.0	1050	0.068	3000	0.60	5.0	5.0		EEUFC1V331( )	200	500
	390	10.0	20.0	1220	0.052	3000	0.60	5.0	5.0		EEUFC1V391( )	200	500
		12.5	15.0	1205	0.065	5000	0.60	5.0	5.0		EEUFC1V391S( )	200	500
	470	10.0	20.0	1220	0.052	3000	0.60	5.0	5.0		EEUFC1V471( )	200	500
	560	10.0	25.0	1440	0.045	3000	0.60	5.0	5.0		EEUFC1V561( )	200	500
		12.5	20.0	1655	0.038	5000	0.60	5.0	5.0		EEUFC1V561S( )	200	500
	680	10.0	30.0	1815	0.035	3000	0.60	5.0			EEUFC1V681L	100	
		12.5	20.0	1655	0.038	5000	0.60	5.0	5.0		EEUFC1V681( )	200	500
		16.0	15.0	1690	0.043	5000	0.80	7.5	7.5		EEUFC1V681S( )	100	250
	820	12.5	25.0	1945	0.030	5000	0.60	5.0	5.0		EEUFC1V821L( )	200	500
		18.0	15.0	2000	0.038	5000	0.80	7.5	7.5		EEUFC1V821( )	100	250
	1000	12.5	25.0	1945	0.030	5000	0.60	5.0	5.0		EEUFC1V102( )	200	500
		16.0	20.0	2205	0.029	5000	0.80	7.5	7.5		EEUFC1V102S( )	100	250
	1200	12.5	30.0	2310	0.025	5000	0.80	5.0			EEUFC1V122L	100	
		16.0	20.0	2205	0.029	5000	0.80	7.5	7.5		EEUFC1V122( )	100	250
	1500	12.5	35.0	2510	0.022	5000	0.80	5.0			EEUFC1V152L	100	
		16.0	25.0	2555	0.022	5000	0.80	7.5	7.5		EEUFC1V152( )	100	250
		18.0	20.0	2490	0.028	5000	0.80	7.5	7.5		EEUFC1V152S( )	100	250
1800	12.5	40.0	2655	0.018	5000	0.80	5.0			EEUFC1V182L	100		
	16.0	25.0	2555	0.022	5000	0.80	7.5	7.5		EEUFC1V182( )	100	250	
	18.0	20.0	2490	0.028	5000	0.80	7.5	7.5		EEUFC1V182S( )	100	250	
2200	16.0	31.5	3010	0.018	5000	0.80	7.5			EEUFC1V222	100		
	18.0	25.0	2740	0.020	5000	0.80	7.5	7.5		EEUFC1V222S( )	100	250	
2700	16.0	35.5	3150	0.016	5000	0.80	7.5			EEUFC1V272L	100		
	18.0	31.5	3635	0.016	5000	0.80	7.5			EEUFC1V272	50		
3300	18.0	35.5	3680	0.015	5000	0.80	7.5			EEUFC1V332	50		
3900	18.0	40.0	3735	0.014	5000	0.80	7.5			EEUFC1V392	50		

\*1: Ripple current (100 kHz / +105 °C)

\*2: Impedance (100 kHz / +20 °C)

- 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".

### Characteristics list

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

Rated vol. (V.DC)	Cap. (±20 %) (μF)	Case size (mm)		Specification			Lead length(mm)			Part No.	Min. Packaging Q'ty		
		φD	L	Ripple current *1 (mA r.m.s)	Impedance *2 (Ω)	Endurance (hours)	Lead dia. (φd)	Lead space			Straight leads (pcs)	Taping (pcs)	
								Straight	Taping *B				Taping *H
50	2.2	5.0	11.0	45	1.800	1000	0.50	2.0	5.0	2.5	EEUFC1H2R2( )	200	2000
	3.3	5.0	11.0	65	1.300	1000	0.50	2.0	5.0	2.5	EEUFC1H3R3( )	200	2000
	4.7	5.0	11.0	95	1.300	1000	0.50	2.0	5.0	2.5	EEUFC1H4R7( )	200	2000
	10	5.0	11.0	125	1.300	1000	0.50	2.0	5.0	2.5	EEUFC1H100L( )	200	2000
	12	5.0	11.0	135	1.300	1000	0.50	2.0	5.0	2.5	EEUFC1H120( )	200	2000
	15	5.0	11.0	145	1.300	1000	0.50	2.0	5.0	2.5	EEUFC1H150( )	200	2000
	18	5.0	11.0	155	1.300	1000	0.50	2.0	5.0	2.5	EEUFC1H180( )	200	2000
	22	5.0	11.0	155	1.300	1000	0.50	2.0	5.0	2.5	EEUFC1H220( )	200	2000
	33	6.3	11.2	260	0.600	1000	0.50	2.5	5.0	2.5	EEUFC1H330( )	200	2000
	39	6.3	11.2	260	0.600	1000	0.50	2.5	5.0	2.5	EEUFC1H390( )	200	2000
	47	6.3	11.2	260	0.600	1000	0.50	2.5	5.0	2.5	EEUFC1H470( )	200	2000
	68	8.0	11.5	485	0.234	2000	0.60	3.5	5.0		EEUFC1H680( )	200	1000
	82	8.0	11.5	485	0.234	2000	0.60	3.5	5.0		EEUFC1H820( )	200	1000
	100	10.0	12.5	615	0.162	3000	0.60	5.0	5.0		EEUFC1H101( )	200	500
	120	8.0	15.0	635	0.155	2000	0.60	3.5	5.0		EEUFC1H121L( )	200	1000
		10.0	12.5	615	0.162	3000	0.60	5.0	5.0		EEUFC1H121( )	200	500
	150	10.0	16.0	850	0.119	3000	0.60	5.0	5.0		EEUFC1H151( )	200	500
	180	8.0	20.0	860	0.120	2000	0.60	3.5	5.0		EEUFC1H181L( )	200	1000
		10.0	16.0	850	0.119	3000	0.60	5.0	5.0		EEUFC1H181( )	200	500
	220	10.0	20.0	1030	0.090	3000	0.60	5.0	5.0		EEUFC1H221( )	200	500
		12.5	15.0	1150	0.110	5000	0.60	5.0	5.0		EEUFC1H221S( )	200	500
	270	10.0	25.0	1200	0.082	3000	0.60	5.0	5.0		EEUFC1H271( )	200	500
	330	10.0	30.0	1610	0.060	3000	0.60	5.0			EEUFC1H331L	100	
		12.5	20.0	1480	0.063	5000	0.60	5.0	5.0		EEUFC1H331( )	200	500
	390	12.5	20.0	1480	0.063	5000	0.60	5.0	5.0		EEUFC1H391( )	200	500
		16.0	15.0	1610	0.080	5000	0.80	7.5	7.5		EEUFC1H391S( )	100	250
	470	10.0	30.0	1610	0.060	3000	0.60	5.0			EEUFC1H471L	100	
		12.5	25.0	1832	0.050	5000	0.60	5.0	5.0		EEUFC1H471( )	200	500
	560	12.5	25.0	1832	0.050	5000	0.60	5.0	5.0		EEUFC1H561( )	200	500
		18.0	15.0	1900	0.068	5000	0.80	7.5	7.5		EEUFC1H561S( )	100	250
680	12.5	30.0	2215	0.040	5000	0.80	5.0			EEUFC1H681L	100		
	16.0	20.0	1835	0.048	5000	0.80	7.5	7.5		EEUFC1H681( )	100	250	
820	12.5	35.0	2285	0.034	5000	0.80	5.0			EEUFC1H821L	100		
	18.0	20.0	2420	0.042	5000	0.80	7.5	7.5		EEUFC1H821( )	100	250	
1000	12.5	40.0	2590	0.030	5000	0.80	5.0			EEUFC1H102L	100		
	16.0	25.0	2235	0.034	5000	0.80	7.5	7.5		EEUFC1H102( )	100	250	
1200	16.0	31.5	2700	0.028	5000	0.80	7.5			EEUFC1H122	100		
	18.0	25.0	2610	0.029	5000	0.80	7.5	7.5		EEUFC1H122S( )	100	250	
1500	16.0	35.5	2790	0.025	5000	0.80	7.5			EEUFC1H152L	100		
1800	16.0	40.0	2845	0.023	5000	0.80	7.5			EEUFC1H182L	100		
	18.0	31.5	3000	0.025	5000	0.80	7.5			EEUFC1H182	50		
2200	18.0	35.5	3100	0.023	5000	0.80	7.5			EEUFC1H222	50		

\*1: Ripple current (100 kHz / +105 °C)

\*2: Impedance (100 kHz / +20 °C)

• 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".



### Characteristics list

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

Rated vol. (V.DC)	Cap. (±20 %) (μF)	Case size (mm)		Specification			Lead length(mm)			Part No.	Min. Packaging Q'ty		
		φD	L	Ripple current *1 (mA r.m.s)	Impedance *2 (Ω)	Endurance (hours)	Lead dia. (φd)	Lead space			Straight leads (pcs)	Taping (pcs)	
								Straight	Taping *B				Taping *H
63	12	5.0	11.0	145	2.000	1000	0.50	2.0	5.0	2.5	EEUFC1J120( )	200	2000
	22	6.3	11.2	240	1.000	1000	0.50	2.5	5.0	2.5	EEUFC1J220( )	200	2000
	33	6.3	11.2	240	1.000	1000	0.50	2.5	5.0	2.5	EEUFC1J330( )	200	2000
	47	8.0	11.5	405	0.342	2000	0.60	3.5	5.0		EEUFC1J470( )	200	1000
	56	8.0	11.5	405	0.342	2000	0.60	3.5	5.0		EEUFC1J560( )	200	1000
	68	8.0	11.5	405	0.342	2000	0.60	3.5	5.0		EEUFC1J680( )	200	1000
	82	10.0	12.5	535	0.256	3000	0.60	5.0	5.0		EEUFC1J820( )	200	500
	100	8.0	15.0	535	0.230	2000	0.60	3.5	5.0		EEUFC1J101L( )	200	1000
		10.0	12.5	535	0.256	3000	0.60	5.0	5.0		EEUFC1J101( )	200	500
	120	10.0	16.0	600	0.194	3000	0.60	5.0	5.0		EEUFC1J121( )	200	500
	150	8.0	20.0	690	0.178	2000	0.60	3.5	5.0		EEUFC1J151( )	200	1000
	180	10.0	20.0	885	0.147	3000	0.60	5.0	5.0		EEUFC1J181( )	200	500
		12.5	15.0	1020	0.150	5000	0.60	5.0	5.0		EEUFC1J181S( )	200	500
	220	10.0	20.0	885	0.147	3000	0.60	5.0	5.0		EEUFC1J221X( )	200	500
		10.0	25.0	1050	0.130	3000	0.60	5.0	5.0		EEUFC1J221( )	200	500
		12.5	20.0	1285	0.085	5000	0.60	5.0	5.0		EEUFC1J221S( )	200	500
	270	16.0	15.0	1410	0.090	5000	0.80	7.5	7.5		EEUFC1J271( )	100	250
	330	10.0	30.0	1300	0.090	3000	0.60	5.0			EEUFC1J331L	100	
		12.5	20.0	1285	0.085	5000	0.60	5.0	5.0		EEUFC1J331( )	200	500
	390	12.5	25.0	1720	0.070	5000	0.60	5.0	5.0		EEUFC1J391( )	200	500
		18.0	15.0	1690	0.086	5000	0.80	7.5	7.5		EEUFC1J391S( )	100	250
	470	12.5	30.0	2090	0.055	5000	0.80	5.0			EEUFC1J471L	100	
		16.0	20.0	1765	0.059	5000	0.80	7.5	7.5		EEUFC1J471( )	100	250
	560	16.0	25.0	2160	0.050	5000	0.80	7.5	7.5		EEUFC1J561( )	100	250
	680	12.5	35.0	2265	0.047	5000	0.80	5.0			EEUFC1J681L	100	
		16.0	25.0	2160	0.050	5000	0.80	7.5	7.5		EEUFC1J681( )	100	250
		18.0	20.0	2290	0.055	5000	0.80	7.5	7.5		EEUFC1J681S( )	100	250
	820	12.5	40.0	2560	0.042	5000	0.80	5.0			EEUFC1J821L	100	
		16.0	31.5	2670	0.043	5000	0.80	7.5			EEUFC1J821	100	
		18.0	25.0	2585	0.043	5000	0.80	7.5	7.5		EEUFC1J821S( )	100	250
1000	16.0	31.5	2670	0.043	5000	0.80	7.5			EEUFC1J102U	100		
	16.0	35.5	2770	0.036	5000	0.80	7.5			EEUFC1J102	100		
1200	16.0	40.0	2825	0.030	5000	0.80	7.5			EEUFC1J122L	100		
	18.0	31.5	2950	0.032	5000	0.80	7.5			EEUFC1J122	50		
1500	18.0	35.5	3095	0.030	5000	0.80	7.5			EEUFC1J152	50		
1800	18.0	40.0	3205	0.025	5000	0.80	7.5			EEUFC1J182	50		

\*1: Ripple current (100 kHz / +105 °C)

\*2: Impedance (100 kHz / +20 °C)

• 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".

### Characteristics list

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

Rated vol. (V.DC)	Cap. (±20 %) (μF)	Case size (mm)		Specification			Lead length(mm)				Part No.	Min. Packaging Q'ty	
		φD	L	Ripple current *1 (mA r.m.s)	Impedance *2 (Ω)	Endurance (hours)	Lead dia. (φd)	Lead space				Straight leads (pcs)	Taping (pcs)
								Straight	Taping *B	Taping *H			
100	5.6	5.0	11.0	80	4.10	1000	0.5	2.0	5.0	2.5	EEUFC2A5R6( )	200	2000
	12	6.3	11.2	114	1.80	1000	0.5	2.5	5.0	2.5	EEUFC2A120( )	200	2000
	22	8.0	11.5	260	0.680	2000	0.6	3.5	5.0		EEUFC2A220( )	200	1000
	33	8.0	15.0	340	0.450	2000	0.6	3.5	5.0		EEUFC2A330L( )	200	1000
		10.0	12.5	306	0.530	3000	0.6	5.0	5.0		EEUFC2A330( )	200	500
	39	8.0	20.0	455	0.330	2000	0.6	5.0	5.0		EEUFC2A390L( )	200	1000
		10.0	16.0	400	0.360	3000	0.6	5.0	5.0		EEUFC2A390( )	200	500
	47	10.0	20.0	463	0.240	3000	0.6	5.0	5.0		EEUFC2A470( )	200	500
	56	10.0	20.0	463	0.240	3000	0.6	5.0	5.0		EEUFC2A560( )	200	500
	68	10.0	25.0	599	0.210	3000	0.6	5.0	5.0		EEUFC2A680L( )	200	500
		12.5	15.0	511	0.230	5000	0.6	5.0	5.0		EEUFC2A680( )	200	500
	100	10.0	30.0	698	0.150	3000	0.6	5.0			EEUFC2A101L	100	
		12.5	20.0	671	0.180	5000	0.6	5.0	5.0		EEUFC2A101( )	200	500
	120	16.0	15.0	793	0.140	5000	0.8	7.5	7.5		EEUFC2A121S( )	100	250
	150	12.5	25.0	807	0.110	5000	0.6	5.0	5.0		EEUFC2A151( )	200	500
		18.0	15.0	917	0.120	5000	0.8	7.5	7.5		EEUFC2A151S( )	100	250
	180	12.5	30.0	937	0.098	5000	0.8	5.0			EEUFC2A181L	100	
		16.0	20.0	995	0.110	5000	0.8	7.5	7.5		EEUFC2A181( )	100	250
	220	12.5	35.0	1040	0.087	5000	0.8	5.0			EEUFC2A221L	100	
		16.0	25.0	1170	0.089	5000	0.8	7.5	7.5		EEUFC2A221( )	100	250
270	12.5	40.0	1130	0.072	5000	0.8	5.0			EEUFC2A271L	100		
	18.0	20.0	1230	0.080	5000	0.8	7.5	7.5		EEUFC2A271S( )	100	250	
330	16.0	31.5	1520	0.062	5000	0.8	7.5			EEUFC2A331	100		
	18.0	25.0	1420	0.070	5000	0.8	7.5	7.5		EEUFC2A331S( )	100	250	
390	16.0	35.5	1730	0.053	5000	0.8	7.5			EEUFC2A391L	100		
	18.0	31.5	1600	0.062	5000	0.8	7.5			EEUFC2A391	50		
470	16.0	40.0	1920	0.047	5000	0.8	7.5			EEUFC2A471	100		
560	18.0	35.5	1770	0.041	5000	0.8	7.5			EEUFC2A561	50		
680	18.0	40.0	2300	0.036	5000	0.8	7.5			EEUFC2A681	50		

\*1: Ripple current (100 kHz / +105 °C)

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

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

## Guidelines and precautions regarding the technical information and use of our products described in this online catalog.

- If you want to use our products described in this online catalog for applications requiring special qualities or reliability, or for applications where the failure or malfunction of the products may directly jeopardize human life or potentially cause personal injury (e.g. aircraft and aerospace equipment, traffic and transportation equipment, combustion equipment, medical equipment, accident prevention, anti-crime equipment, and/or safety equipment), it is necessary to verify whether the specifications of our products fit to such applications. Please ensure that you will ask and check with our inquiry desk as to whether the specifications of our products fit to such applications use before you use our products.
- The quality and performance of our products as described in this online catalog only apply to our products when used in isolation. Therefore, please ensure you evaluate and verify our products under the specific circumstances in which our products are assembled in your own products and in which our products will actually be used.
- If you use our products in equipment that requires a high degree of reliability, regardless of the application, it is recommended that you set up protection circuits and redundancy circuits in order to ensure safety of your equipment.
- The products and product specifications described in this online catalog are subject to change for improvement without prior notice. Therefore, please be sure to request and confirm the latest product specifications which explain the specifications of our products in detail, before you finalize the design of your applications, purchase, or use our products.
- The technical information in this online catalog provides examples of our products' typical operations and application circuits. We do not guarantee the non-infringement of third party's intellectual property rights and we do not grant any license, right, or interest in our intellectual property.
- If any of our products, product specifications and/or technical information in this online catalog is to be exported or provided to non-residents, the laws and regulations of the exporting country, especially with regard to security and export control, shall be observed.

## <Regarding the Certificate of Compliance with the EU RoHS Directive/REACH Regulations>

- The switchover date for compliance with the RoHS Directive/REACH Regulations varies depending on the part number or series of our products.
- When you use the inventory of our products for which it is unclear whether those products are compliant with the RoHS Directive/REACH Regulation, please select "Sales Inquiry" in the website inquiry form and contact us.

**We do not take any responsibility for the use of our products outside the scope of the specifications, descriptions, guidelines and precautions described in this online catalog.**

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