

Radial Lead Type

FC series **A** type



Features

- Endurance : 105 °C 1000 h to 5000 h
- Low impedance
- AEC-Q200 compliant
- RoHS compliant

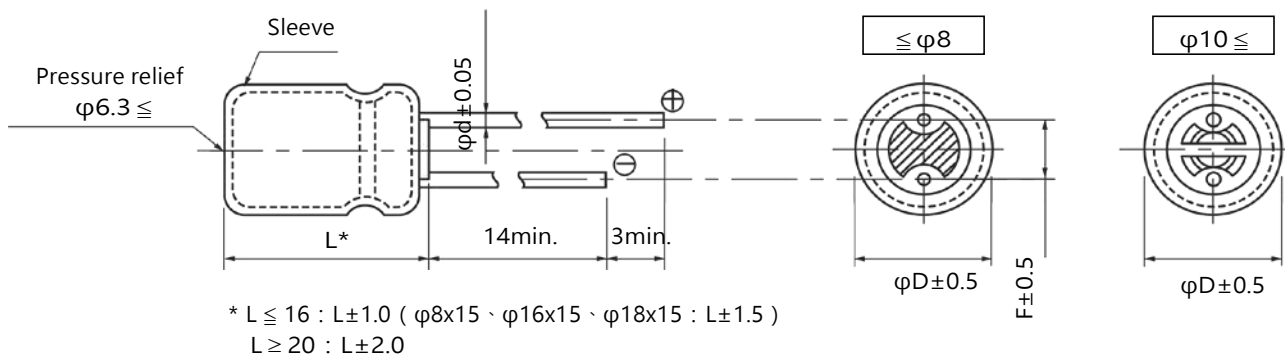
Specifications

Category temp. range	-55 °C to +105 °C									
Rated voltage range	6.3 V to 100 V									
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)	Rated voltage (V)	6.3	10	16	25	35	50	63	100	(120 Hz /+20°C)
	Dissipation factor (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 h, φ8 : 2000 h, φ10 : 3000 h, φ12.5 to φ18 : 5000 h									
	Capacitance change	Within ±20 % of the initial value								
	Dissipation factor (tan δ)	≤ 200 % of the initial limit								
	DC leakage current	Within the initial limit								
	Shelf life	After storage for 1000 h 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

Freq. (Hz)	60	120	1 k	10 k	100 k
Cap. (μF)					
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



Unit : mm												
	L≥11									L = 7		
φD	4.0	5.0	6.3	8.0	10.0	12.5		16.0	18.0	4.0	5.0	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												
R. voltage Case size (mm) (φD×L)	6.3 V to 35 V			50 V			63 V			100 V		
	Impedance* ¹ (Ω)		Ripple current* ¹ (mA rms)	Impedance* ¹ (Ω)		Ripple current* ¹ (mA rms)	Impedance* ¹ (Ω)		Ripple current* ¹ (mA rms)	Impedance* ¹ (Ω)		Ripple current* ¹ (mA rms)
	+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	*2	*2	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

*1: 100 kHz

*2

Case size (mm) (φ D×L)	Capacitance (μF)	Impedance (Ω) (100 kHz)		Ripple current (mA rms) (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 1000 h / $\phi 4$ to $\phi 6.3$, 105 °C 2000 h / $\phi 8$, 105 °C 3000 h / $\phi 10$, 105 °C 5000 h / $\phi 12.5$ to $\phi 18$

Rated voltage (V)	Capacitance (± 20 %) (μF)	Case size (mm)		Specification			Lead length (mm)				Part No.	Min. Packaging Q'ty (PCS)	
		φD	L	Ripple current*1 (mA rms)	Impe- dance*2 (Ω)	Endu- rance (h)	Lead dia. (φd)	Lead space				Straight leads	Taping
								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 1000 h / φ4 to φ6.3, 105 °C 2000 h / φ8, 105 °C 3000 h / φ10, 105 °C 5000 h / φ12.5 to φ18

Rated voltage (V)	Capacitance (±20 %) (μF)	Case size (mm)		Specification			Lead length (mm)				Part No.	Min. Packaging Q'ty (PCS)	
		φD	L	Ripple current*1 (mA _{rms})	Impe- dance*2 (Ω)	Endu- rance (h)	Lead dia. (φd)	Lead space				Straight leads	Taping
								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 1000 h / φ4 to φ6.3, 105 °C 2000 h / φ8, 105 °C 3000 h / φ10, 105 °C 5000 h / φ12.5 to φ18

Rated voltage (V)	Capacitance (±20 %) (μF)	Case size (mm)		Specification			Lead length (mm)				Part No.	Min. Packaging Q'ty (PCS)	
		φD	L	Ripple current*1 (mA rms)	Impe- dance*2 (Ω)	Endu- rance (h)	Lead dia. (φd)	Lead space				Straight leads	Taping
								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 1000 h / φ4 to φ6.3, 105 °C 2000 h / φ8, 105 °C 3000 h / φ10, 105 °C 5000 h / φ12.5 to φ18

Rated voltage (V)	Capacitance (±20 %) (μF)	Case size (mm)		Specification			Lead length (mm)				Part No.	Min. Packaging Q'ty (PCS)	
		φD	L	Ripple current*1 (mA rms)	Impe- dance*2 (Ω)	Endu- rance (h)	Lead dia. (φd)	Lead space				Straight leads	Taping
								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 1000 h / φ4 to φ6.3, 105 °C 2000 h / φ8, 105 °C 3000 h / φ10, 105 °C 5000 h / φ12.5 to φ18

Rated voltage (V)	Capacitance (±20 %) (μF)	Case size (mm)		Specification			Lead length (mm)				Part No.	Min. Packaging Q'ty (PCS)	
		φD	L	Ripple current*1 (mA rms)	Impe- dance*2 (Ω)	Endu- rance (h)	Lead dia. (φd)	Lead space				Straight leads	Taping
								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	0.800	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 1000 h / φ4 to φ6.3, 105 °C 2000 h / φ8, 105 °C 3000 h / φ10, 105 °C 5000 h / φ12.5 to φ18

Rated voltage (V)	Capacitance (±20 %) (μF)	Case size (mm)		Specification			Lead length (mm)				Part No.	Min. Packaging Q'ty (PCS)	
		φD	L	Ripple current*1 (mA rms)	Impe- dance*2 (Ω)	Endu- rance (h)	Lead dia. (φd)	Lead space				Straight leads	Taping
								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 1000 h / ϕ 4 to ϕ 6.3, 105 °C 2000 h / ϕ 8, 105 °C 3000 h / ϕ 10, 105 °C 5000 h / ϕ 12.5 to ϕ 18

Rated voltage (V)	Capacitance (±20 %) (μF)	Case size (mm)		Specification			Lead length (mm)				Part No.	Min. Packaging Q'ty (PCS)	
		φD	L	Ripple current*1 (mA _{rms})	Impe- dance*2 (Ω)	Endu- rance (h)	Lead dia. (φd)	Lead space				Straight leads	Taping
								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)

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

Rated voltage (V)	Capacitance (±20 %) (μF)	Case size (mm)		Specification			Lead length (mm)				Part No.	Min. Packaging Q'ty (PCS)	
		φD	L	Ripple current*1 (mA rms)	Impe- dance*2 (Ω)	Endu- rance (h)	Lead dia. (φd)	Lead space				Straight leads	Taping
								Straight	Taping *B	Taping *H			
100	5.6	5.0	11.0	80	4.100	1000	0.5	2.0	5.0	2.5	EEUFC2A5R6()	200	2000
	12	6.3	11.2	114	1.800	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)

*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".

***XiGHOiQHV DQG SUHFDXWiRQV UHJDUGiQJ WKH
WHFKQiFDO iQIRUPDWiRQ DQG XVH RI RXU SURGXFWV
GHVFUiEHG iQ WKiV RQOiQH FDWDORJ.**

- II \RX ZDQW WR XVH RXU SURGXFWV GHVFUiEHG iQ WKiV RQOiQH FDWDORJ IRU DSSOiFDWiRQV UHTXiUiQJ VSHFiDO TXDOiWiHV RU UHOiDEiOiW\, RU IRU DSSOiFDWiRQV ZKHUH WKH IDiOXUH RU PDOIXQFWiRQ RI WKH SURGXFWV PD\ GiUHFwO\ jHRSDUGi]H KXPdQ OiH RU SRWHQWiDOO\ FDXVH SHUVRQDO iQjXU\ (H. J. DiUFUDIW DQG DHURVSDFH HTXiSPHQW, WUDIIiF DQG WUDQVSRUWDWiRQ HTXiSPHQW, FRPEXVWiRQ HTXiSPHQW, PHGiFDO HTXiSPHQW, DFFiGHQW SUHYHQWiRQ, DQWi-FUiPH HTXiSPHQW, DQG/RU VDIHW\ HTXiSPHQW3, iW iV QHFHVVDU\ WR YHui\ ZKHWKHU WKH VSHFiLiFDWiRQ RI RXU SURGXFWV IiW WR VXFk DSSOiFDWiRQV. SOHDVH HQVXUH WKDW \RX ZiOO DVN DQG FKHFN ZiWk RXU iQTXiu\ GHVN DV WR ZKHWKHU WKH VSHFiLiFDWiRQ RI RXU SURGXFWV IiW WR VXFk DSSOiFDWiRQV XVH EHIRUH \RX XVH RXU SURGXFWV.
- 7KH TXDOiW\ DQG SHUIRUPDQFH RI RXU SURGXFWV DV GHVFUiEHG iQ WKiV RQOiQH FDWDORJ RQO\ DSSO\ WR RXU SURGXFWV ZKHQ XVHG iQ iVRODWiRQ. 7KHUHIRUH, SOHDVH HQVXUH \RX HYDOXDWH DQG YHui\ RXU SURGXFWV XQGHU WKH VSHFiLiF FiUFXPVWDQFHV iQ ZKiFk RXU SURGXFWV DUH DVVHPEOHG iQ \RXU RZQ SURGXFWV DQG iQ ZKiFk RXU SURGXFWV ZiOO DFWXD00\ EH XVHG.
- II \RX XVH RXU SURGXFWV iQ HTXiSPHQW WKDW UHTXiUHV D KiJK GHJUHH RI UHOiDEiOiW\, UHJDUGOHVV RI WKH DSSOiFDWiRQ, iW iV UHFRPPHQGHG WKDW \RX VHW XS SURWHFWiRQ FiUFXiWV DQG UHGXQGDQF\ FiUFXiWV iQ RUGHU WR HQVXUH VDIHW\ RI \RXU HTXiSPHQW.
- 7KH SURGXFWV DQG SURGXFW VSHFiLiFDWiRQV GHVFUiEHG iQ WKiV RQOiQH FDWDORJ DUH VXEjHFw WR FKDQJH IRU iPSURYHPPHQW ZiWKRiW SuiRU QRWiFh. 7KHUHIRUH, SOHDVH EH VXUH WR UHTXHVW DQG FRQiIUP WKH 0DWHVW SURGXFW VSHFiLiFDWiRQV ZKiFk H[SODiQ WKH VSHFiLiFDWiRQV RI RXU SURGXFWV iQ GHWDiO, EHIRUH \RX IiQDOi]H WKH GHViJQ RI \RXU DSSOiFDWiRQV, SXUFKDVH, RU XVH RXU SURGXFWV.
- 7KH WHFKQiFDO iQIRUPDWiRQ iQ WKiV RQOiQH FDWDORJ SURYiGHV H[DPSOHV RI RXU SURGXFWV' W\SiFDO RSHUDWiRQV DQG DSSOiFDWiRQ FiUFXiWV. : H GR QRW JXDUDQWHH WKH QRQ-iQUiQJHPPHQW RI WKiUG SDUW\ 'V iQWHOOFWXDO SURSHUW\ UiJKWV DQG ZH GR QRW JUDQW DQ\ OiFHQVH, UiJKW, RU iQWHUHVW iQ RXU iQWHOOFWXDO SURSHUW\.
- II DQ\ RI RXU SURGXFWV, SURGXFW VSHFiLiFDWiRQV DQG/RU WHFKQiFDO iQIRUPDWiRQ iQ WKiV RQOiQH FDWDORJ iV WR EH H[SRUWHG RU SURYiGHG WR QRQ-UHVighQWV, WKH ODZV DQG UHJXODWiRQV RI WKH H[SRUiQJ FRXQWU\, HVSHFiDOO\ ZiWk UHJDUG WR VHFxiW\ DQG H[SRUW FRQWURO, VKDOO EH REVHUYHG.

**<5HJDUGiQJ WKH &HUWiliFDWH RI &RPSOiDQFH ZiWk
WKH (8 5R+6 DiUHFWiYH/5(\$&+ 5HJXODWiRQV !**

- 7KH VZiWFKRYHU GDWH IRU FRPSOiDQFH ZiWk WKH 5R+6 DiUHFWiYH/5(\$&+ 5HJXODWiRQV YDUiHV GHSHQGgiQJ RQ WKH SDUW QXPEHU RU VHuIHV RI RXU SURGXFWV.
- :KHQ \RX XVH WKH iQYHQWURU\ RI RXU SURGXFWV IRU ZKiFk iW iV XQFOHdu ZKHWKHU WKRVH SURGXFWV DUH FRPSOiDQW ZiWk WKH 5R+6 DiUHFWiYH/5(\$&+ 5HJXODWiRQ, SOHDVH VHOHFW "6DOHV iQTXiu\" iQ WKH ZHEViWH iQTXiu\ IRUP DQG FRQWDFW XV.

= H GR QRW WDNH DQ\ UHVSROViEiOw\ IRU WKH XVH RI RXU SURGXFWV RXWViGH WKH VFRSH RI WKH VSHFiLiFDWiRQV, GHVFUiSWiRQV, JXiGHOiQHV DQG SUHFDXWiRQV GHVFUiEHG iQ WKiV RQOiQH FDWDORJ.

1RWiFHV

□ \$\$\$oIFDEoH oDZV DQG UHJXODWiRQV

- 塘7KiV SURGXFW FRPSoHv ZiWk WKH 5R+6 DiUHFwiYH (5HVWUiFiwRQ RI WKH XVH RI FHUWdiQ KD]DUGRXV VXEVDQDFHV iQ HOHFWUiFDO DQG HOHFWURQiF HTXiSPHQW (DI5(&7I9(2011/65/(8 DQG(832015/86333.
- 1R 2]RQH DHSOHwiQJ &KHPiFDOV(2D&'V3, FRQWUROOHG XQGHU WKH ORQUHDO 3URWRPRO \$JUHHPHQW, DUH XVHG iQ SURGXFiQJ WKiV SURGXFW.
 - : H GR QRW XVH 3%%V RU 3%D(V DV EURPiQDWHG IDPH UHWDUGDQW.
 - ([SRUW SURFHGXUH ZKiFK IROORZHG H[SRUW UHODWHG UHJXODWiRQV, VXFK DV IRUHiJQ H[FKDQJH DQG D IRUHiJQ WUDGH PHWKRQ, RQ WKH RFFDVIRQ RI H[SRUW RI WKiV SURGXFW.
 - 7KHVH SURGXFWV DUH QRW GDQJHURXV JRRGV RQ WKH WUDQVSRUWDWiRQ DV iGHQWiIHG E\ 81(8QiWHG 1DWiRQV3 QXPEHUV RU 81 FODVViIiFDWiRQ.

□ /iPiWHG DSSoIFDWiRQV

- 7KiV FDSDFiWRU iV GHViJQH WR EH XVHG IRU HOHFWURQiFv FiUFxiWV VXFK DV DXGiR/YiVXDO HTXiSPHQW, KRPH DSSoIDQFHV, FRPSXWHUV DQG RWKHU RiIiF HTXiSPHQW, RSWiFDO HTXiSPHQW, PHDVXUiQJ HTXiSPHQW.
- 塘+iJK UHoIDEioiW\ DQG VDIHW\ DUH UHTxiUH > EH / D SRViEioiW\ WKDW iQFRUHFw RSHUDWiRQ RI WKiV SURGXFW PD\ GR KDUP WR D KXPdQ oIH RU SURSHUW\ @ PRUH. :KHQ XVH iV FRQViGHUHG E\ WKH XVH, WKH GHoiYHU\ VSHFiIiFDWiRQV ZKiFK VXiWHG WKH XVH VHSdUDWHO\ QHHG WR EH H[FKDQJHG.

□ IQWOOHFWXDO SURSHUW\ UiJKWV DQG oIFHQVHV

- 7KH WHFKQiFDO iQIRUPDWiRQ iQ WKiV VSHFiIiFDWiRQ SURYiGHV H[DPSoHV RI RXU SURGXFWV' W\SiFDO RSHUDWiRQV DQG DSSoIFDWiRQ FiUFxiWV. :H GR QRW JXDUDQWHH WKH QRQ-iQIUiQJHPHQW RI WKiUG SDUW\ 'V iQWOOHFWXDO SURSHUW\ UiJKWV DQG ZH GR QRW JUDQW DQ\ oIFHQVH, UiJKW, RU iQWUHVW iQ RXU iQWOOHFWXDO SURSHUW\.

IWHPV WR EH REVHUYHG

□)RU VSHFiIiFDWiRQ

- 7KiV VSHFiIiFDWiRQ JXDUDQWHV WKH TXDoiW\ DQG SHUIRUPDQFH RI WKH SURGXFW DV iQGiYiGXDO FRPSRQHQW.
- 7KH GXUDEioiW\ GiIiHUV GHSHQGQiQ RQ WKH HQYiURQPHQW DQG WKH FRQGiWiRQV RI XVDJH.
- %HIRUH XVH, FKHFN DQG HYDOXDWH WKHiU FRPSDWiEioiW\ ZiWk DFWXDO FRQGiWiRQV ZKHQ iQVWDOOHG iQ WKH SURGXFW.
- :KHQ VDIHW\ UHTxiUHPHQWV FDQQRW EH VDWiViIHG iQ \RXU WHFKQiFDO H[DPiQDWiRQ, iQIRUP XV iPPHiDWHO\.
- 塘DR QRW XVH WKH SURGXFWV EH\RQG WKH VSHFiIiFDWiRQV GHVFUiEHG iQ WKiV GRFXPHQW.

□ 8SRQ DSSoIFDWiRQ WR SURGXFWV ZKHUH VDIHW\ iV UHJDUGHG DV iPSRUWDQW

- IQVWDOO WKH IROORZiQJ V\VWHPV IRU D IDioVDiH GHViJQ WR HQVXUH VDIHW\ iI WKHVH SURGXFWV DUH WR EH XVHG iQ HTXiSPHQW ZKHUH D GHIHFw iQ WKHVH SURGXFWV PD\ FDXVH WKH ORVV RI KXPdQ oIH RU RWKHU ViJQiIiFDWiRQ GDPDJH, VXFK DV GDPDJH WR YHKiFOHV (DXWRPREiOH, WUDiQ, YHVH03, WUDiIiF oIJKW, PHGiFDO HTXiSPHQW, DHURVSDFH HTXiSPHQW, HOHFWUiF KHDWiQJ DSSoIDQFHV, FRPEXVWiRQ/ JDV HTXiSPHQW, URWDWiQJ URWDWiQJ HTXiSPHQW, DQG GiVDVWU/FUiPH SUHYHQWiRQ HTXiSPHQW.
- (13 7KH V\VWHP iV HTXiSSHG ZiWk D SURWHFWiRQ FiUFxiW DQG SURWHFWiRQ GHYiF.
- (23 7KH V\VWHP iV HTXiSSHG ZiWk D UHGXDQDQW FiUFxiW RU RWKHU V\VWHP WR SUHYHQW DQ XQVDiH VWDWXV iQ WKH HYHQW RI D ViQJOH IDXOW.

□ &RQGiWiRQV RI XVH

- %HIRUH XViQJ WKH SURGXFWV, FDUHiXo\ FKHFN WKH HiIHFwV RQ WKHiU TXDoiW\ DQG SHUIRUPDQFH, DQG GHWHUPiQH ZKHWKHU RU QRW WKH\ FDQ EH XVHG. 7KHVH SURGXFWV DUH GHViJQH DQG PDQXiDFWXUH IRU JHQHUDO-SXUSRVH DQG VWDQGDUG XVH iQ JHQHUDO HOHFWURQiF HTXiSPHQW. 7KHVH SURGXFWV DUH QRW iQWHQG HG IRU XVH iQ WKH IROORZiQJ VSHFiDO FRQGiWiRQV.
 - (13 IQ oITXiG, VXFK DV :DWHU, 2i0, &KHPiFDOV, RU 2UJDQiF VROYHQW.
 - (23 IQ GiUHFw VXQoIJKW, RXWGRUV, RU iQ GXV.
 - (33 IQ YDSRU, VXFK DV GHZ FRQGHQVDWiRQ ZDWHU RI UHViVWiYH HOHPHQW, RU ZDWHU OHNDJH, VDOW\ DiU, RU DiU ZiWk D KiJK FRQFHQWUDWiRQ FRUURViYH JDV, VXFK DV 02, +26, 1+3, 622, RU 12[.
 - (43 IQ DQ HQYiURQPHQW ZKHUH VWURQJ VWDWiF HOHFWUiFiW\ RU HOHFWURPDJQHWiF ZDYHV H[iVW.
 - (53 ORXQWiQJ RU SODFiQJ KHDW-JHQHUDWiQJ FRPSRQHQWV RU iQIODPPDEOHV, VXFK DV YiQ\O-FRDWHG ZiUHv, QHDU WKHVH SURGXFWV.
 - (63 6HDoiQJ RU FRDWiQJ RI WKHVH SURGXFWV RU D SuiQWHG FiUFxiW ERDUG RQ ZKiFK WKHVH SURGXFWV DUH PRXQWHG, ZiWk UHViQ DQG RWKHU PDWHUiDO.
 - (73 8ViQJ UHVROYHQW, ZDWHU RU ZDWHU-VROXEOH FOHDQHU IRU IOX[FOHDQiQJ DJHQW DiWHU VROGHUiQJ. (IQ SDUWiFXODU, ZKHQ XViQJ ZDWHU RU D ZDWHU-VROXEOH FOHDQiQJ DJHQW, EH FDUHiXO QRW WR OHDYH ZDWHU UHVigXHV3
 - (83 8ViQJ iQ WKH DWPRVSKUH ZKHUH VWUD\V DFiG RU DONDoiQH.
 - (93 8ViQJ iQ WKH DWPRVSKUH ZKHUH WKUH DUH H[FHVViYH YiEUDWiRQ DQG VKRFN.
- 塘3OHDVH DUUDQJH FiUFxiW GHViJQ IRU SUHYHQWiQJ iPSXOVH RU WUDQViWiRQDO YROWDJH.
- DR QRW DSSo\ YROWDJH, ZKiFK H[FHHGV WKH iXoo UDWHG YROWDJH ZKHQ WKH FDSDFiWRUv UHFHiYH iPSXOVH YROWDJH, iQVWDQDQHRXV KiJK YROWDJH, KiJK SXOVH YROWDJH HWF.
- 2XU SURGXFWV WKUH iV D SURGXFW DUH XViQJ DQ HOHFWURO\WH VROXWiRQ. 7KHUHIRUH, PiVXVH FDQ UHVXOW iQ UDSiG GHWHUiRUDWiRQ RI FKDUDFWHUiVViFV DQG iXQFWiRQV RI HDFK SURGXFW. (OHFWURO\WH OHNDJH GDPDJHv SuiQWHG FiUFxiW DQG DiIHFwV SHUIRUPDQFH, FKUDFWHUiVViFV, DQG iXQFWiRQV RI FXVWRPHU V\VWHP.

! \$\$\$oiFDWiRQ JXiGH0iQHv 5DGiDO OHdG 7\SH3

1. &iUFxiW GHViJQ

1.1 2SHUDWiQJ WHPSHUDWXUH DQG IUHTXHQF\

(OHFWUiFDO FKDUFWHUiVWiFV RI WKH FDSDFiWRU DUH OiNH0\ WR FKDQJH GXH WR YDUiDWiRQ iQ WHPSHUDWXUH DQG/RU IUHTXHQF\.

&iUFxiW GHViJQHUV VKRXOG WDNH WKH\H FKDQJHV iQWR FRQViGHUDWiRQ.

(13 (IIHFW RI RSHUDWiQJ WHPSHUDWXUH RQ HOHFWUiFDO SDUDPHWHUV

\$W KiJKHU WHPSHUDWXUHV : OHNDJH FXUUHQW DQG FDSDFiWDQFH iQFUHDVH ZKiOH HTXiYDOHQW VHUiHV UHViVWDQFH ((653 GHFUHDVHV.

\$W ORZHU WHPSHUDWXUHV : OHNDJH FXUUHQW DQG FDSDFiWDQFH GHFUHDVH ZKiOH HTXiYDOHQW VHUiHV UHViVWDQFH ((653 iQFUHDVHV.

(23 (IIHFW RI IUHTXHQF\ RQ HOHFWUiFDO SDUDPHWHUV

\$W KiJKHU IUHTXHQFiHV : FDSDFiWDQFH DQG iPSHGQFH GHFUHDVH ZKiOH WDQ G iQFUHDVHV.

\$W ORZHU IUHTXHQFiHV : KHDW JHQHUDWHG E\ UissoH FXUUHQW ZiOO UiVH GXH WR DQ iQFUHDVH iQ HTXiYDOHQW VHUiHV UHViVWDQFH ((653.

1.2 2SHUDWiQJ WHPSHUDWXUH DQG OiH H[SHFWDQF\

(13 ([SHFWHG OiH iV DIIHFWHG E\ RSHUDWiQJ WHPSHUDWXUH. *HQHUD00\, HDFK 10 & UHGXFWiRQ iQ WHPSHUDWXUH ZiOO GRXE0H WKH H[SHFWHG OiH. 8VH FDSDFiWRUV DW WKH ORZHV SRViEOH WHPSHUDWXUH EH0RZ WKH XSSHU FDWHJRU\ WHPSHUDWXUH.

(23 II RSHUDWiQJ WHPSHUDWXUHV H[FHG WKH XSSHU FDWHJRU\ OiPiW, UDSiG GHWHUiRUDWiRQ RI HOHFWUiFDO SDUDPHWHU ZiOO RFFXU DQG iUHYHUiEOH GDDJH ZiOO UHVXOW.

&KHFN IRU WKH PD[iPXP FDSDFiWRU RSHUDWiQJ WHPSHUDWXUHV iQFOXGiQJ DPEiHQW WHPSHUDWXUH, iQWHUQDO FDSDFiWRU WHPSHUDWXUH UiVH GXH WR UissoH FXUUHQW, DQG WKH HIIHFW RI UDGiDWHG KHDW IURP SRZHU WUDQViVRUV, I&'V RU UHViVRUV.

\$YRiG SODFiQJ FRPSRQH0W, ZKiF FRXOG FRQGXFV KHDW WR WKH FDSDFiWRU IURP WKH EDFN ViG RI WKH FiUFxiW ERDUG.

(33 7KH IRUPXOD IRU FDOFXODWiQJ H[SHFWHG OiH DW ORZHU RSHUDWiQJ WHPSHUDWXUHV iV DV IROORZV ;

$$/2 = /1^{1/2} \frac{71-72}{10}$$

/1 \$*XDUDQWHG OiH (K3 DW WHPSHUDWXUH, 71 &

/2 \$([SHFWHG OiH (K3 DW WHPSHUDWXUH, 72 &

71 \$SSSHU FDWHJRU\ WHPSHUDWXUH + WHPSHUDWXUH UiVH GXH WR UDWHG UissoH FXUUHQW (&3

72 \$FWXDO RSHUDWiQJ WHPSHUDWXUH, DPEiHQW WHPSHUDWXUH + WHPSHUDWXUH UiVH GXH WR UissoH FXUUHQW (&3

(43 8ViQJ WKH FDSDFiWRU EH\RQG WKH HVWiPDWHG OiHWiPH ZiOO UHVXOW iQ VKRUW FiUFxiW, HOHFWURO\WH OHND, YHQW RSHQ,

DQG ODUJH GHWHUiRUDWiRQ RI FKDUFWHUiVWiFV. 7KH OiHWiPH FDOQRW JR DERYH 15 \HUV GXH WR DJiQJ RI VHDOiQJ UXEEHU.

1.3 &RPPRQ DSSoiFDWiRQ FRQGiWiRQV WR DYRiG

7KH IROORZiQJ PiVDSSoiFDWiRQ ORDQ FRQGiWiRQV ZiOO FDXVH UDSiG GHWHUiRUDWiRQ RI D FDSDFiWRUV HOHFWUiFDO SDUDPHWHUV.

iQ DGGiWiRQ, UDSiG KHDWiQJ DQG JDV JHQHUDWiRQ ZiWiQ WKH FDSDFiWRU FDQ RFFXU, FDXViQJ WKH SUHVXUH UHOiHI YHQW

WR RSHUDWH DQG UHVXOWDQW OHNDJH RI HOHFWURO\WH. 8QGHU H[WUHPH FRQGiWiRQV, H[SORViRQ DQG Iiuh iJQiWiRQ FRXOG UHVXOW.

7KH OHNDHG HOHFWURO\WH iV FRPEXViEOH DQG HOHFWUiFDO\ FRQGXFWiYH.

(13 5HYHUVH YROWDJH

D& FDSDFiWRUV KDYH SRODUiW\ 7KHUHIRUH, SOHDVH GR QRW DSSO\ WKH UHYHUVH YROWDJH. 9HUiI\ FRUHHFV SRODUiW\ EHIRUH iQVHUWiRQ.

)RU FiUFxiWV ZiWK FKDQJiQJ RU XQFHUWDiQ SRODUiW\ XVH D& EisRODU FDSDFiWRUV. D& EisRODU FDSDFiWRUV DUH QRW VXiWDEOH IRU XVH iQ \$& FiUFxiWV.

(23 &KDUJH / DiVFKDUJH DSSoiFDWiRQV

6WDQGUG FDSDFiWRUV DUH QRW VXiWDEOH IRU XVH iQ UHSHDWiQJ FKDUJH/GiVFKDUJH DSSoiFDWiRQV.)RU FKDUJH/GiVFKDUJH DSSoiFDWiRQV, FRQVXOW XV ZiWK \RXU DFWXDO DSSoiFDWiRQ FRQGiWiRQ.

)RU UXVK FXUUHQW, SOHDVH WR QRU H[FHG 100 \$.

(33 21-2)) FiUFxiW

DR QRW XVH FDSDFiWRUV iQ FiUFxiW ZKHUH 21-2)) VZiWFKiQJ iV UHSHDWHG PRUH WKDQ 10000 WiPHV/SHU GD\.

iQ FDVH RI DSSoiQJ WR WKH WKHVH 21-2)) FiUFxiW, FRQVXOW ZiWK XV DERXW FiUFxiW FRQGiWiRQ DQG VR RQ.

(43 2YHU YROWDJH

DR QRW DSSO\ YROWDJHV H[FHHGiQJ WKH PD[iPXP VSHFiIHG UDWHG YROWDJH. 9ROWDJHV XS WR WKH VXUJH YROWDJH
UDWiQJ DUH DFFHSWDEOH IRU VKRUW SHUIRGV RI WiPH.
(QVXUH WKDW WKH VXP RI WKH D& YROWDJH DQG WKH VXSHUiPSRVHG \$& UissoH YROWDJH GRHV QRW H[FHHG WKH
UDWHG YROWDJH.

(53 5iSSOH FXUUHQW

DR QRW DSSO\ UissoH FXUUHQWV H[FHHGiQJ WKH PD[iPXP VSHFiIHG YDOXH.)RU KiJK UissoH FXUUHQW DSSoifDWiRQV,
XVH D FDSDFiWRU GHViJQH IRU KiJK UissoH FXUUHQWV. IQ DGGiWiRQ, FRQVXOW XV iI WKH DSSoiHG UissoH FXUUHQW iV WR
EH KiJKHU WKDQ WKH PD[iPXP VSHFiIHG YDOXH. (QVXUH WKDW UDWHG UissoH FXUUHQWV WKDW VXSHUiPSRVHG RQ ORZ
D& EIdV YROWDJHV GR QRW FDXVH UHYHUVH YROWDJH FRQGiWiRQV.
(YHQ iI iW iV ZiWkiQ D UDWHG UissoH FXUUHQW, iQ FdVH WKH SUDFiWfD0 XVH iV RYHU WKH SUH GHVFUiEHG HQGXUDQFH
0iHWiPH, iW FDXVHV WKH iQFUDVH RI GHWHUiRUDWiRQ RI (65 FKDUFWHUiVWiF DQG WKH iQWHUQD0 JHQHUDWiRQ KHDW E\
UissoH FXUUHQW. DXH WR WKiV, WKHUH iV VRPH SRViEioiW\ RI YHQW RSHQ, EXOJiQJ RI VOHHYH DQG UXEEHU, HOHFWUR0\WH
0HDNDJH, DQG VKRW FiUFXiW, H[SORViRQ DQG iJQiWiRQ iQ WKH ZRUVW FdVH.

1.4 8ViQJ WZR RU PRUH FDSDFiWRUV iQ SDUDOOHO

(13 &DSDFiWRUV FRQQHFWHG iQ SDUDOOHO

7KH FiUFXiW UHVivWDQFH FDQ FORVHO\ DSSUR[iPDWH WKH VHuiHV UHVivWDQFH RI WKH FDSDFiWRU, FDXViQJ DQ iPEDODQFH RI
UissoH FXUUHQW ORDGV ZiWkiQ WKH FDSDFiWRUV. &DUHiX0 ZiUiQJ PHWKRGV FDQ PiQiPi]H WKH SRViEoH DSSoifDWiRQ RI DQ
H[FHVViYH UissoH FXUUHQW WR D FDSDFiWRU.

(23 &DSDFiWRUV FRQQHFWHG iQ VHuiHV

DiIiHUHQFHV iQ QRUPD0 D& 0HDNDJH FXUUHQW DPRQJ FDSDFiWRUV FDQ FDXVH YROWDJH iPEDODQFHV.
7KH XVH RI YROWDJH GiYiGHU VKXQW UHVivWRUV ZiWK FRQViGHUDWiRQ WR 0HDNDJH FXUUHQWV FDQ SUHYHQW FDSDFiWRU
YROWDJH iPEDODQFHV.
127 (: 30HDVH GR QRW XVH iQ WKH VHuiHV iQ WKH FdVH RI FRQGXFWiYH SRO\PHU K\EUiG DOXPiQXP HOHFWUR0\WiF FDSDFiWRU.

1.5 &DSDFiWRU PRXQWiQJ FRQViGHUDWiRQV

(13 DRXEOH-ViGHG FiUFXiW ERDUG

\$YRiG ZiUiQJ SDWWHUQ UXQV, ZKiFK SDVV EHWZHHQ WKH PRXQWHG FDSDFiWRU DQG WKH FiUFXiW ERDUG.
:KHQ GiSSiQJ iQWR D VROGHU EDWK, DQ H[FHVViYH VROGHU PD\ GHSRViW XQGHU WKH FDSDFiWRU E\ FDSiOODU\ DFWiRQ,
FDXViQJ VKRUW FiUFXiW EHWZHHQ DQRGH DQG FdWKRGH WHUPiQD0V.

(23 &iUFXiW %RDUG +ROH 3RViWiRQiQJ

7KH YiQ\0 VOHHYH RI WKH FDSDFiWRU FDQ EH GDPDJHG iI VROGHU SDVVHV WKURXJK D 0HDG KROH iQWR WKH VXEVTXHQW0\
SURFHVViHG SDUWV.
6SHFiD0 FDUH ZKHQ ORFDWiQJ KROH SRViWiRQV iQ SUR[iPiW\ WR FDSDFiWRUV iV UHFRPPHQGHG.

(33 &iUFXiW %RDUG +ROH 6SDFiQJ

7KH VSDFiQJ RI FiUFXiW ERDUG KROHV VKRX0G PDWFK WKH 0HDG ZiUH VSDFiQJ RI FDSDFiWRUV ZiWkiQ WKH VSHFiIHG
WROHUDQFHV. IQFRUHFV VSDFiQJ FDQ FDXVH DQ H[FHVViYH 0HDG ZiUH VWUHV GXUiQJ WKH iQVHUWiRQ SURFHV.
7KiV PD\ UHVXOW iQ SUHPDWXUH FDSDFiWRU iDioxUH GXH WR WKH VKRUW RU RSHQ FiUFXiW, iQFUDVHG 0HDNDJH FXUUHQW,
RU HOHFWUR0\WH 0HDNDJH.

(43 &0HDUDQFH IRU FdVH PRXQWHG SUHVXUH UHOiHI

&DSDFiWRUV ZiWK FdVH PRXQWHG SUHVXUH UHOiHI UHTXiUH VXiiFiHQW FOHDUDQFH WR DOORZ IRU SURSHU SUHVXUH
UHOiHI RSHUDWiRQ.
7KH PiQiPXP FOHDUDQFH DUH GHSHQGHQW RQ FDSDFiWRU GiDPHWHUV DV iROORZV.
(DiD 10 PP WR DiD 16 PP : 2 PP PiQiPXP, DiD 18 PP : 3 PP PiQiPXP

(53 :iUiQJ QHDU WKH SUHVXUH UHOiHI

\$YRiG ORFDWiQJ KiJK YROWDJH RU KiJK FXUUHQW ZiUiQJ RU FiUFXiW ERDUG SDWKV DERYH WKH SUHVXUH UHOiHI.
)ODPPDEOH, KiJK WHPSHUDWXUH JDV WKDW H[FHHGV 100 & PD\ EH UHOHDVHG ZKiFK FRXOG GiVVROYH WKH ZiUH
iQVXODWiRQ DQG iJQiWH.

(63 &iUFXiW ERDUG SDWWHUQV XQGHU WKH FDSDFiWRU

\$YRiG FiUFXiW ERDUG UXQV XQGHU WKH FDSDFiWRU, DV DQ HOHFWUiFD0 VKRUW FDQ RFFXU GXH WR DQ HOHFWUR0\WH 0HDNDJH.

(73 30HDVH QRWH WKH UHVRQDQW DiWHU SURGXFW iPS0HPPHQDWiRQ

7KH YiFiQW\ RI WKH UHVRQDQW SRiQW Zi00 WDNH D KHDY\ ORDQ RQ WKH FDSDFiWRU.
&DSDFiWRUV FDQ FDXVH UDSiG FKDQJH iQ FKDUFWHUiVWiF DQG GURSXRW E\ WKiV ORDQ.

1.6 0HFWUiFD0 iVR0DWiRQ RI WKH FDSDFiWRU

&RPSOHWHO\ iVR0DWH WKH FDSDFiWRU DV iROORZV.

%HWZHHQ WKH FdWKRGH DQG WKH FdVH DQG EHWZHHQ WKH DQRGH WHUPiQD0 DQG RWKHU FiUFXiW SDWKV.

1.7 &DSDFiWRU 6OHYH

7KH YiQ\O VOHHYH RU ODPiQDWH FRDWiQJ iV iQWHQGHG IRU PDUNiQJ DQG iGHQWiIiFDWiRQ SXUSRVHV DQG iV QRW PHDQW WR HOHFWUiFD00\ iQVXODWH WKH FDSDFiWRU.

7KH VOHHYH PD\ VSOiW RU FUDFN iI iPPHUVHG iQWR VROYHQWV VXFV DV WROXHQH RU [\OHQH DQG WKHQ VXEVTXHQWO\ H[SRVHG WR KiJK WHPSHUDWXUHV.

2. &DSDFiWRU KDQGOiQJ WHFKQiTXHV**2.1 &RQViGHUdWiRQV EHIRUH XViQJ**

(13 &DSDFiWRUV KDYH D IiQiWH OiIH. DR QRW UHXVH RU UHF\FOH FDSDFiWRUV IURP XVHG HTXiSPHQW.

(23 7UDQViHQW UHFYRUH\ YROWDJH PD\ EH JHQHdWHG iQ WKH FDSDFiWRU GXH WR GiHOHFWUiF DEVRUSWiRQ.

II UHTXiUHG, WKiV YROWDJH FDQ EH GiVFKDUJHG ZiWK D UHViVWRU ZiWK D YDOXH RI DERXW 1 N .

(33 &DSDFiWRUV VWRUHG IRU D ORQJ SHUiRG RI WiPH PD\ H[KiEiW DQ iQFUDHViH iQ OHdNDJH FXUHQW.

7KiV FDQ EH FRUHHFWHG E\ JUDGXDOO\ DSSO\iQJ UDWHG YROWDJH iQ VHUiHV ZiWK D UHViVWRU RI DSSUR[iPDWHO\ 1 N .

(43 II FDSDFiWRUV DUH GURSSHG, WKH\ FDQ EH GDPDJHG PHFKDQiFD00\ RU HOHFWUiFD00\ \$YRiG XViQJ GURSSHG FDSDFiWRUV.

(53 DHQWHG RU FUXVKHG FDSDFiWRUV VKRXOG QRW EH XVHG.

7KH VHDO iQWHJUiW\ FDQ EH GDPDJHG DQG ORVV RI HOHFWURO\WH/ VKRUWHQHG OiIH FDQ UHVXOW.

2.2 &DSDFiWRU iQVHUWiRQ

(13 9HUiI\ WKH FRUHHFW FDSDFiWDQFH DQG UDWHG YROWDJH RI WKH FDSDFiWRU.

(23 9HUiI\ WKH FRUHHFW SRODUiW\ RI WKH FDSDFiWRU EHIRUH iQVHUWiRQ.

(33 9HUiI\ WKH FRUHHFW WHUPiQDO GiPHQViRQ DQG ODQG SDWWHUQ Vi]H EHIRUH PRXQW WR DYRiG VWUHV RQ WKH WHUPiQDOV.

(43 (QVXH WKDW WKH OHdG FOiQFKiQJ RSHUDWiRQ GRQH E\ DXWR iQVHUWiRQ HTXiSPHQWV GRHV QRW VWUHV WKH FDSDFiWRU OHdGV ZKHUH WKH\ HQWHU WKH VHDO RI WKH FDSDFiWRU.

2.3 JORZ 6ROGHUiQJ

(13 DR QRW iPPHUVH WKH FDSDFiWRU ERG\ iQWR WKH VROGHU EDWK DV H[FHVViYH iQWHUQDO SUHVXUH FRXOG UHVXOW.

(23 \$SSO\ SURSHU VROGHUiQJ FRQGiWiRQV (WHPSHUDWXUH, WiPH, HWF.3. DR QRW H[FHHG WKH VSHFiIiHG OiPiWV.

(33 DR QRW DOORZ RWKHU SDUW RU FRPSRQHQW WR WRXFK WKH FDSDFiWRU GXUiQJ VROGHUiQJ.

(43 5DGiD0 OHdG W\SH FDSDFiWRUV DUH QRW DOORZHG IRU WKH UHIORZ VROGHUiQJ.

2.4 0DQXD0 VROGHUiQJ

(13 \$SSO\ VROGHUiQJ FRQGiWiRQV (WHPSHUDWXUH DQG WiPH3 EDVHG RQ WKH VSHFiIiFDWiRQ, RU GR QRW H[FHHG WHPSHUDWXUH RI 350 ˆ IRU 3 VHFRRQV RU OHVV.

(23 II OHdG ZiUH PXV EH PRGiIiHG WR PHHW WHUPiQDO ERDUG KROH VSDFiQJ, DYRiG VWUHV RQ WKH OHdG ZiUH ZKHUH iW HQWHU WKH FDSDFiWRU VHDO.

(33 II D VROGHUHG FDSDFiWRU PXV EH UHPRYHG DQG UHiQVHUWHG, DYRiG H[FHVViYH VWUHV RQ WKH FDSDFiWRU OHdGV.

(43 \$YRiG SK\ViFD0 FRQWDFW EHWZHHQ WKH WiS RI WKH VROGHUiQJ iURQ DQG FDSDFiWRUV WR SUHYHQW PHOWiQJ RI WKH YiQ\O VOHHYH.

2.5 2WKHU 6ROGHUiQJ &RQViGHUdWiRQV

5DSiG WHPSHUDWXUH UiVH GXUiQJ WKH SUKHDW RSHUDWiRQ DQG UHViQ ERQGiQJ RSHUDWiRQ FDQ FDXVH FUDFNiQJ RI WKH FDSDFiWRUbV YiQ\O VOHHYH.

)RU KHDW FXUiQJ, GR QRW H[FHHG 150 ˆ & IRU WKH PD[iXP WiPH RI 2 PiQXWHV.

2.6 &DSDFiWRU KDQGOiQJ DIWHU VROGHUiQJ

(13 \$YRiG PRYiQJ WKH FDSDFiWRU DIWHU VROGHUiQJ WR SUHYHQW H[FHVViYH VWUHV RQ WKH OHdG ZiUH ZKHUH WKH\ HQWHU WKH VHDO. 7KH FDSDFiWRU PD\ EUHDN IURP HOHPHQW SRUWiRQ GXH WR D WRUTXH DW RXWHU UiP, FDXViQJ D ODUJH VWUHV WR WHUPiQDOV.

(23 DR QRW XVH WKH FDSDFiWRU DV D KDQGOH ZKHQ PRYiQJ WKH FiUFXiW ERDUG DVVHPEO\ 7KH WRWDO ZHiJKW RI WKH ERDUG ZRXOG DSSO\ WR HOHPHQW SRUWiRQ WKURXJK WHUPiQDOV, DQG WKH FDSDFiWRU PD\ EUHDN.

(33 \$YRiG VWUHNiQJ WKH FDSDFiWRU DIWHU DVVHPEO\ WR SUHYHQW IDiXUH GXH WR H[FHVViYH VKRFN. 7KH FDSDFiWRU PD\ EUHDN GXH WR H[FHVViYH VKRFN RU ORDQ DERYH VSHFiIiHG UDQJH.

2.7 &iUFXiW ERDUG FOHDQiQJ

(13 &iUFXiW ERDUGV FDQ EH iPPHUVHG RU XOWUDVRQiFD00\ FOHDQHG XViQJ VXiWDEOH FOHDQiQJ VROYHQWV IRU XS WR

5 PiQXWHV DQG XS WR 60 ˆ & PD[iXP WHPSHUDWXUHV. 7KH ERDUGV VKRXOG EH WKURXJKO\ UiQVHG DQG GuiHG.

7KH XVH RI R]RQH GHSoHWiQJ FOHDQiQJ DJHQWV iV QRW UHFRRPPHQGHG IRU WKH SXUSRVH RI SURWHFWiQJ RXU HQYiURQPHQW.

岩7DUJHW VROYHQW

3iQH \$OSKD 67-1006, \$TXD &OHdQHU 2106(3, &OHdQ-WKUX 750+ / 750 / 7100, 6XQHOHF %-12,

6XQHOHF %-12, &ROG &OHdQHU 33-375, 7HFKQR &OHdQHU 219, DK %H-FOHDU &:-5790,

7HOSHQ &OHdQHU (&-75, 7HFKQRFDUH)5:-17 /)5:-1 /)59-1

(23 \$YRiG XViQJ WKH IROORZiQJ VROYHQW JURXSV XQOHVV VSHFiLiFD00\ DOORZHG iQ WKH VSHFiLiFDWiRQ ;
 (D3 +DORJHQDWHG FOHDQiQJ VROYHQWV ? H[FHSW IRU VROYHQW UHVivWDQW FDSDFiWRU W\SHV, KDORJHQDWHG VROYHQWV FDQ
 SHUPHDWH WKH VHDO DQG FDXVH iQWHUQDO FDSDFiWRU FRUURViRQ DQG IDiOXUH.
)RU VROYHQW UHVivWDQW FDSDFiWRUV, FDUHiX00\ IROORZ WKH WHPSHUDWXUH DQG WiPH UHTXiUHPHQWV EDVHG RQ WKH
 VSHFiLiFDWiRQ. 1,1,1-WUiFKORURHWKDDH VKRXOG QHYHU EH XVHG RQ DQ\ DOXPiQXP HOHFWURO\WiF FDSDFiWRU.
 (E3 \$iND0iQH VROYHQWV ? FRXOG UHDFW DQG GiVvROYH WKH DOXPiQXP FdVH.
 (F3 3HWUROHXP EDVHG VROYHQWV ? GHWHUiRUDWiRQ RI WKH UXEEHU VHDO FRXOG UHVX0W.
 (G3 ;\OHQH ? GHWHUiRUDWiRQ RI WKH UXEEHU VHDO FRXOG UHVX0W.
 (H3 \$FHWRRH ? UHPRYDO RI WKH iQN PDUNiQJV RQ WKH YiQ\0 VOHHYH FRXOG UHVX0W.
 (33 \$ WKRURXJK GU\iQJ DIWHU FOHDQiQJ iV UHTXiUHG WR UHPRYH UHVigXD0 FOHDQiQJ VROYHQWV WKDW PD\ EH WUDSSHG
 EHWZHHQ WKH FDSDFiWRU DQG WKH FiUFXiW ERDUG. \$YRiG GU\iQJ WHPSHUDWXUHV, ZKiFK H[FHHG WKH XSSHU FDWHJR\ \
 WHPSHUDWXUH RI WKH FDSDFiWRU.
 (43 ORQiWRU WKH FRQWDPiQDWiRQ OHYHOV RI WKH FOHDQiQJ VROYHQWV GXUiQJ XVH iQ WHUPV RI HOHFWUiFD0 FRQGXFWiYiW\,
 S+, VSHFiLiF JUDYiW\, RU ZDWHU FRQWHQW.
 &KORUiQH OHYHOV FDQ UiVH ZiWK FRQWDPiQDWiRQ DQG DGYHUVH0\ DIHFW WKH SHUIRUPDQFH RI WKH FDSDFiWRU.
 &RQWURO WKH IOX[GHQViW\ iQ WKH FOHDQiQJ DJHQW WR EH OHVV WKDQ 2 PDVV%.
 (53 DSHHQGiQJ RQ WKH FOHDQiQJ PHWKR, WKH PDUNiQJ RQ D FDSDFiWRU PD\ EH HUDVHG RU EOXUHG.
 30HDVH FRQVX0W XV i\ \RX DUH QRW FHUWDiQ DERXW DFFHSWDEOH FOHDQiQJ VROYHQWV RU FOHDQiQJ PHWKR.

2.8 ORXQWiQJ DGKHViYHV DQG FRDWiQJ DJHQW

: KHQ XViQJ PRXQWiQJ DGKHViYHV RU FRDWiQJ DJHQWV WR FRQWURO KXPiGiW\, DYRiG XViQJ PDWHUiDOV FRQWDiQiQJ
 KDORJHQDWHG VROYHQWV.
 \$0VR, DYRiG WKH XVH RI FKORUSUHQH EDVHG SRO\PHUV.
 +DUGHQ RQ GU\ DGKHViYH RU FRDWiQJ DJHQWV ZH00 OHVV WKH VROYHQW VKRXOG EH OHIW.
 \$iWHU DSS0\iQJ DGKHViYHV RU FRDWiQJ, GU\ WKRURXJK0\ WR SUHYHQW UHVigXD0 VROYHQWV IURP EHiQJ WUDSSHG EHWZHHQ
 WKH FDSDFiWRU DQG WKH FiUFXiW ERDUG.

2.9)XPiJDWiRQ

iQ H[SRUiQJ HOHFWURQiF DSS0iDQFHV ZiWK DOXPiQXP HOHFWURO\WiF FDSDFiWRUV, iQ VRPH FdVHV iXPiJDWiRQ WUHDWPHQW
 XViQJ VXFH KDORJHQ FRPSRXQG DV PHWK\0 EURPiGH iV FRQGXFWHG IRU ZRRGHQ ER[HV.
 Ii VXFH ER[HV DUH QRW GuiHG ZH00, WKH KDORJHQ OHIW iQ WKH ER[iV GiVSHUVHG ZKi0H WUDQVSRUWHG DQG HQWHUV iQ WKH
 FDSDFiWRUV iQViGH.
 7KiV SRViE0\ FDXVHV HOHFWUiFD0 FRUURViRQ RI WKH FDSDFiWRUV. 7KHUHiRUH, DIWHU SHUIRUPiQJ iXPiJDWiRQ DQG GU\iQJ
 PDNH VXUH WKDW QR KDORJHQ iV OHIW.
 DRQW SHUIRUP iXPiJDWiRQ WUHDWPHQW WR WKH ZKROH HOHFWURQiF DSS0iDQFHV SDFNHG iQ D ER[.
 /HDYH PRUH WKDQ 1/3 RI WKH VHDOiQJ SRUiRQ RSHQ, DQG GR QRW FRYHU WKDW SRUiRQ ZiWK DQ\ DGKHViYH RU FRDWiQJ.

2.10)OX[

Ii \RX XVH D KDORJHQ W\SH (&KORUiQH W\SH, %URPiQH W\SH, HWF.3 KiJK-DfWiYiW\ IOX[, SOHDVH XVH iW DIWHU FRQhUPDWiRQ
 iQ DGYDQFH, DV iW PD\ KDYH DQ iPSDFW RQ SHUIRUPDQFH DQG UHOiDei0iW\ RI WKiV SURGXFW GXH WR WKH UHVigXH RI WKH IOX[.

3. 3UHFDXWiRQV IRU XViQJ FDSDFiWRUV

3.1 (QYiURQPHQW0 FRQGiWiRQV

&DSDFiWRUV VKRXOG QRW EH VWRUHG RU XVHG iQ WKH IROORZiQJ HQYiURQPHQWV.
 (13 ([SRVXUH WR WHPSHUDWXUHV DERYH WKH XSSHU FDWHJR\ \ RU EH0RZ WKH ORZHU FDWHJR\ \ WHPSHUDWXUH RI WKH FDSDFiWRU.
 (23 DiUHFw FRQWDFW ZiWK ZDWHU, VDOW ZDWHU, RU Ri0.
 (33 +iJK KXPiGiW\ FRQGiWiRQV ZKHUH ZDWHU FRXOG FRQGHQVH RQ WKH FDSDFiWRU.
 (43 ([SRVXUH WR WR[iF JDVHV VXFH DV K\GURJHQ VX0iGH, VX0iXiF DFiG, QiWiF DFiG, FKORUiQH, FKORUiQH FRPSRXQG,
 EURPiQH, EURPiQH FRPSRXQG RU DPPRQiD.
 (53 ([SRVXUH WR R]RQH, UDGiDWiRQ, RU XOWUDYiROHW UD\V.
 (63 9iEUDWiRQ DQG VKRFN FRQGiWiRQV H[FHHGiQJ VSHFiLiHG UHTXiUHPHQWV.
 (YHQ ZiWkiQ WKH VSHFiLiHG UHTXiUHPHQWV, D ODUJH YiEUDWiRQ DFFHOHUDWiRQ PD\ EH DSS0iHG GXH WR UHVRQDQFH,
 VR EH VXUH WR HYDOXDWH DQG FRQiUP ZiWK WKH DFWXD0 SURGXFW.

3.2 (OHFWUiFD0 SUHFDXWiRQV

(13 \$YRiG WRXFKiQJ WKH WHUPiQDOV RI D FDSDFiWRU DV D SRViE0H HOHFWUiF VKRFN FRXOG UHVX0W. 7KH H[SRVHG
 DOXPiQXP FdVH iV QRW iQVXODWHG DQG FRXOG DOVR FDXVH HOHFWUiF VKRFN i\ WRXFKHG.
 (23 \$YRiG VKRUW FiUFXiWiQJ WKH DUHD EHWZHHQ WKH FDSDFiWRU WHUPiQDOV ZiWK FRQGXFWiYH PDWHUiDOV iQF0XGiQJ OiTXiGV
 VXFH DV DFiGV RU DONDOIQH VROXWiRQV.
 (33 \$ ORZ-PROHF0DU-ZHiJKW-VKiUR[DQH ZKiFK iV iQF0XGHG iQ D Vi0iFRQ PDWHUiDO VKD00 FDXVHV DEQRUPDO HOHFWUiFD0
 FKDUDFWHUiVWiFV.

4. (PHUJHQF\ SURFHGXUHV

(13 II WKH SUHVXUXH UHOiHI RI WKH FDSDFiWRU RSHUDWHV, iPPHGidWHO\ WXUQ RII WKH HTXiSPHQW DQG GiVFRQQHFw IURP WKH SRZHU VRXUFH.
7KiV Zi00 PiQiPi]H DQ DGGiWiRQD0 GDPDJH FDXVHG E\ WKH YDSRui]iQJ HOHFWURO\WH.
(23 \$YRiG FRQWDFW ZiWK WKH HVFDSiQJ HOHFWURO\WH JDV, ZKiFK FDQ H[FHHG 100 & WHPSHudWXUHV.
II HOHFWURO\WH RU JDV HQWHUV WKH H\H, iPPHGidWHO\ IOXVK WKH H\H ZiWK ODUJH DPRXQWV RI ZDWHU.
II HOHFWURO\WH RU JDV iV iQJHVWHG E\ PRXWK, JDUJOH ZiWK ZDWHU.
II HOHFWURO\WH FRQWDFWV WKH VNiQ, ZDVK ZiWK VRDS DQG ZDWHU.

5. /RQJ WHUP VWRUDJH

(13 /HDNDJH FXUUHQW RI D FDSDFiWRU iQFUHDVHV ZiWK ORQJ VWRUDJH WiPHV. 7KH DOXPiQXP R[iGH i0P GHWHUiRUDWHV DV D IXQFWiRQ RI WHPSHudWXUH DQG WiPH.
II XVHG ZiWKRiXW UHFRQGiWiRQiQJ, DQ DEQRUPD00\ KiJK FXUUHQW Zi00 EH UHTXiUHG WR UHVWRUH WKH R[iGH i0P.
7KiV VXUJH FXUUHQW FRXOG FDXVH WKH FiUFXiW RU WKH FDSDFiWRU WR iDi0.
([SiUDWiRQ GDWH iV 42 PRQWKV IURP RXWJRiQJ iQVSHFWiRQ GDWH.
+RZHYHU H[SiUDWiRQ GDWH IRU VHUihV ZKiFK DUH QRW OiVWHG EHORZ iV 12 PRQWKV IURP RXWJRiQJ iQVSHFWiRQ GDWH.

6HUiHV	([SiUDWiRQ GDWH
)&,)K, +D, 7\$, 73	42 PRQWKV IURP RXWJRiQJ iQVSHFWiRQ GDWH

)RU VWRUDJH FRQGiWiRQ, NHHS URRP WHPSHudWXUH (5 & WR 35 &3 DQG KXPiGiW\ (45 % WR 85 %3 ZKHUH GiUHFw VXQVKiQH GRHVQ'W UHDFK.

ك3ق(QYiURQPHQWDO &RQGiWiRQV
DR QRW VWRUH XQGHU FRQGiWiRQ RXWViGH WKH DUHD GHVFUiEHG iQ WKH VSHFiLiFDWiRQ, DQG DOVR XQGHU FRQGiWiRQV OiVWHG EHORZ.
(D3 ([SRVXUH WR WHPSHudWXUHV DERYH WKH XSSHU FDWHJRU\ RU EHORZ WKH ORZHU FDWHJRU\ WHPSHudWXUH RI WKH FDSDFiWRU.
(E3 DiUHFw FRQWDFW ZiWK ZDWHU, VDOW ZDWHU, RU Ri0.
(F3 +iJK KXPiGiW\ FRQGiWiRQV ZKHUH ZDWHU FRXOG FRQGHQVH RQ WKH FDSDFiWRU.
(G3 ([SRVXUH WR WR[iF JDVHV VXFK DV K\GURJHQ VXOiGH, VXOiXUiF DFiG, QiWUiF DFiG, FKORUiQH, &KORUiQH FRPSRXQG, %URPiQH, %URPiQH FRPSRXQG RU DPPRQiD.
(H3 ([SRVXUH WR R]RQH, UDGidWiRQ, RU XOWUDYiROHW UD\V.
(I3 9iEUDWiRQ DQG VKRFN FRQGiWiRQV H[FHHGiQJ VSHFiLiHG UHTXiUHPhQWV.

6. &DSDFiWRU GiVSRVDO

:KHQ GiVSRViQJ FDSDFiWRUV, XVH RQH RI WKH iROORZiQJ PHWKRGV.
(13 iQFiQHudWH DiWHU FUXVKiQJ WKH FDSDFiWRU RU SXQFWXUiQJ WKH FDQ ZD00 (WR SUHYHQW H[SORViRQ GXH WR iQWHUQD0 SUHVXUXH UiVH3.
(23 DiVSRVH DV VROiG ZDVWH.
127(: /RFDO ODZV PD\ KDYH VSHFiLiF GiVSRVDO UHTXiUHPhQWV ZKiFK PXVW EH iROORZHG.

7KH SUHFDXWiRQV iQ XViQJ D0XPiQXP HOHFWURO\WiF FDSDFiWRUV iROORZ WKH "6DiHW\ DSSOiFDWiRQ JXiGH IRU WKH XVH iQ I[HGD0XPiQXP HOHFWURO\WiF FDSDFiWRUV IRU HOHFWURQiF HTXiSPHQW", 5&5-2367D iVVXHG E\ J (I7\$ iQ 2FWREHU 2017.
30HDVH UHiHU WR WKH DERYH DSSOiFDWiRQ JXiGH IRU GHWDiOV.

□ \$(&-4200 FRPSOiDQW

7KH SURGXFW DUH WHVWHG EDVHG RQ D00 RU SDUW RI WKH WHVW FRQGiWiRQV DQG PHWKRGV GHiiQHG iQ \$(&-4200.
30HDVH FRQVXOW ZiWK 3DQDVRQiF IRU WKH GHWDiOV RI WKH SURGXFW VSHFiLiFDWiRQ DQG VSHFiLiF HYD0DXWiRQ WHVW UHVXOWV, HwF., DQG SOHDVH UHYihZ DQG DSSURYH 3DQDVRQiF'V SURGXFW VSHFiLiFDWiRQ EHIRUH RUGHUiQJ.