Medium Power Film Capacitors

FFLC (RoHS Compliant)

DC FILTERING

APPLICATIONS

FFLC series is specifically designed for DC filtering, low reactive power.

PACKAGING MATERIAL

Non-painted rectangular resin filled aluminum case

FFLC capacitors meet the level 2 requirement of flammability standard NF F 16 102.

4 x M10 terminals*

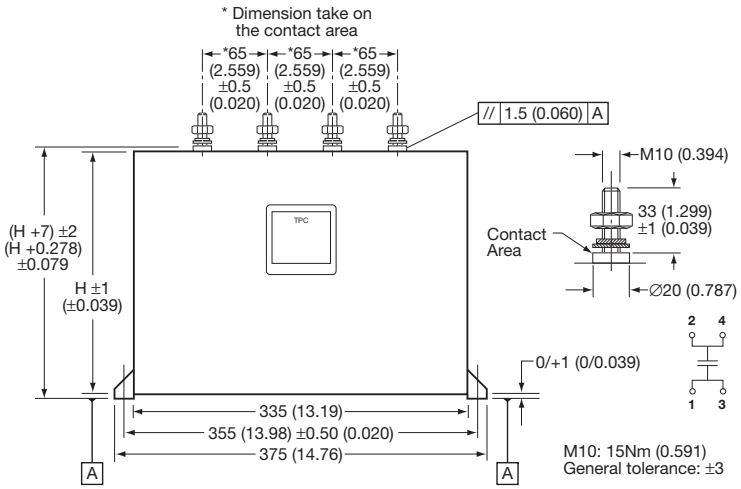
NEW *Available with M10 X 12 female terminal upon request*

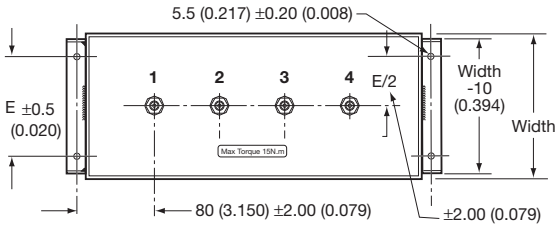
STANDARDS

IEC 61071-1: Power electronic capacitors
IEC 61071-2: Power electronic capacitors
IEC 60068-1: Environmental testing
IEC 60077: Rules for electric traction equipment
UL 94: Fire requirements
NF F 16-101
NF F 16-102: Fire and smoke requirements
IEC 61881: Railway applications, rolling stock equipment, capacitors for power electronics

DIMENSIONS

Terminal Code – – for male threaded
Terminal Code JE for female threaded





Width	E
170	100
145	100
95	50

HOW TO ORDER

FFLC	6	A	8807	K	– –
Series	**Dielectric** 6 = Polypropylene	**Voltage Code** A = 680Vdc L = 1000Vdc U = 1200Vdc	**Capacitance Code** 4 diget pF code 1st 3 digets are capacitance, last digit is multiplier, e.g. 8807 = 8800µF 5067 = 5060µF 2247 = 2240µF etc.	**Capacitance Tolerances** K = ±10%	**Terminal Code** – – = Male Terminal JE = Female Terminal

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ELECTRICAL CHARACTERISTICS

Climatic Category	40/85/56 (IEC 60068)	
Test Voltage Between Terminals	@ 25°C: 1.5 x $U_N$dc for 10s	
Test Voltage Between Terminals and Case	@ 25°C: @ 4 kVrms @ 50Hz for 1 min.	
Capacitance range C_n	1120µF to 8800µF (other values available upon request)	
Tolerance on C_n	±10%	
Rated DC voltage $V_n$dc	680 to 1200 V	
FFLC overvoltage:	(V_S): V_S = 2 $V_n$dc and limited at 1800V	
Maximum overvoltage	Peak value	Maximum duration
	1.67 Vndc	100 ms 1 time per week
	1.25 Vndc	100 ms 1 time per day
	1.1 Vndc	1 min 1 time per day
Maximum rms current I_{rms} max	140 Arms to 300 Arms	
Stray inductance L_S*	28 nH to 40 nH	
Dielectric	Polypropylene	

RATINGS AND PART NUMBER REFERENCE

Part Number	Capacitance (µF)	Height mm (in)	Width mm (in)	Irms (A)	Ls* (nH)	Rs (mΩ)	Rth (°C/W)	Typical Weight (g)
$U_N$dc 680 V (Voltage Code A)								
FFLC6A8807K--	8800	240 (9.449)	170 (6.693)	220	40	0.58	1.2	18000
FFLC6A7157K--	7150	240 (9.449)	145 (5.709)	230	38	0.50	1.2	13200
FFLC6A6507K--	6500	240 (9.449)	145 (5.709)	210	38	0.55	1.3	15500
FFLC6A5607K--	5600	170 (6.693)	170 (6.693)	140	35	0.88	1.8	15500
FFLC6A4557K--	4550	170 (6.693)	145 (5.709)	150	30	0.77	1.8	11300
FFLC6A4187K--	4180	240 (9.449)	95 (3.740)	300	35	0.34	1.0	10300
FFLC6A2667K--	2660	170 (6.693)	95 (3.740)	170	28	0.49	1.6	7300
$U_N$dc 1000 V (Voltage Code L)								
FFLC6L5067K--	5060	240 (9.449)	170 (6.693)	250	40	0.61	1.2	17200
FFLC6L3207K--	3200	170 (6.693)	170 (6.693)	150	35	0.89	1.9	12400
FFLC6L4307K--	4300	240 (9.449)	145 (5.709)	300	38	0.52	1.1	15500
FFLC6L2737K--	2730	170 (6.693)	145 (5.709)	170	30	0.75	1.6	11300
FFLC6L2537K--	2530	240 (9.449)	95 (3.740)	300	35	0.36	0.8	10300
FFLC6L1607K--	1600	170 (6.693)	95 (3.740)	170	28	0.51	1.2	7300
$U_N$dc 1200 V (Voltage Code U)								
FFLC6U3527K--	3520	240 (9.449)	170 (6.693)	250	40	0.71	1.2	18800
FFLC6U2247K--	2240	170 (6.693)	170 (6.693)	150	35	1.1	1.9	12700
FFLC6U3007K--	3000	240 (9.449)	145 (5.709)	300	38	0.60	1.1	15500
FFLC6U1907K--	1900	170 (6.693)	145 (5.709)	170	30	0.87	1.6	11300
FFLC6U1757K--	1750	240 (9.449)	95 (3.740)	300	35	0.41	0.8	10300
FFLC6U1127K--	1120	170 (6.693)	95 (3.740)	170	28	0.59	1.2	7300

*Very low stray inductance for high frequency applications on request.

Dimensions millimeters (inches)

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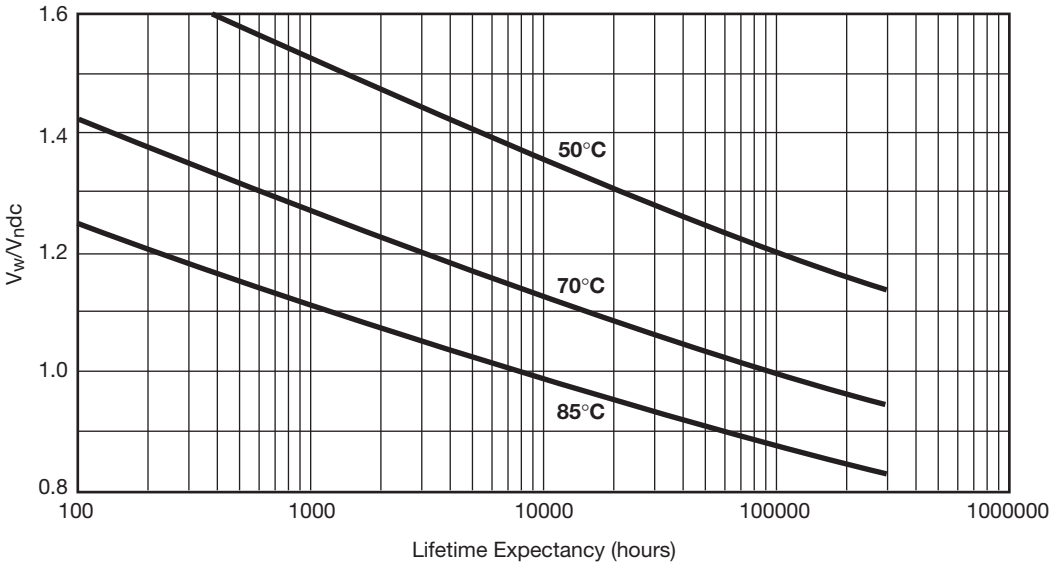
LIFETIME EXPECTANCY vs HOT SPOT TEMPERATURE AND VOLTAGE



V_W: permanent working or operating DC-voltage.

HOT SPOT CALCULATION

See Hot Spot Temperature, page 3.

$$\theta_{hot\ spot} = \theta_{ambient} + (P_d + P_t) \times R_{th}$$

with P_d (Dielectric losses) = $Q \times tg\delta_0$

$$\Rightarrow [\ ½ \times C_n \times (V_{peak\ to\ peak})^2 \times f\ ] \times (2 \times 10^{-4})$$

P_t (Thermal losses) = $R_s \times (I_{rms})^2$

where C_n in Farad, I_{rms} in Ampere, f in Hertz, V in Volt, R_s in Ohm, θ in °C, R_{th} in °C/W