Electronic Components
KEMET
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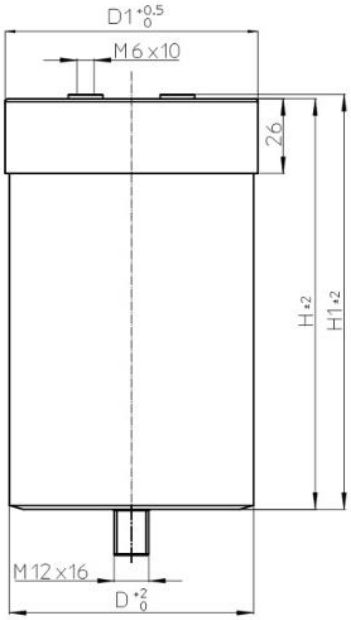
C44U M-SERIES

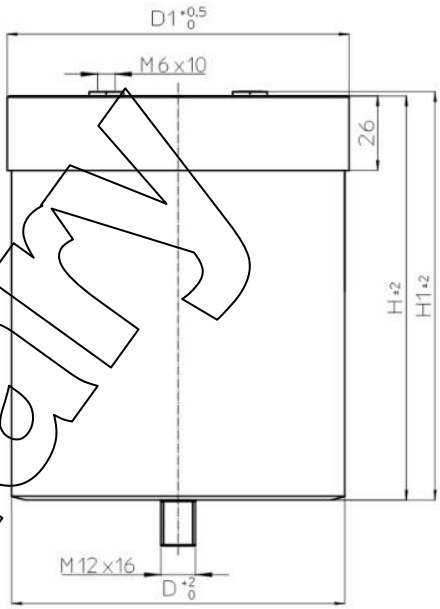
ALUMINIUM CAN CAPACITORS

C44U M SERIES

RoHS COMPLIANT

CAPACITORS
FOR DC LINK APPLICATIONS



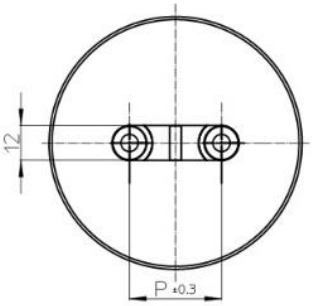


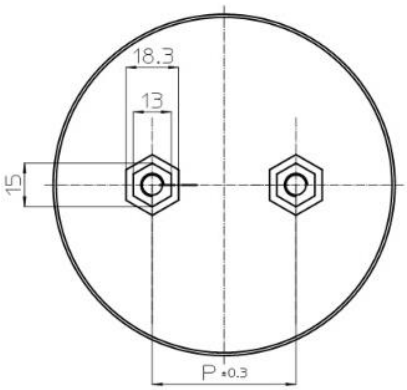
All dimensions are in mm

Diameters and pitches		
D	D1	P
[mm]	[mm]	[mm]
85	88	32
116	119	50

Terminals metrics	
Female	Male
M6	M8
h10	h20

Max driving torque [Nm]		
Terminals	Female	Male
	M6	M8
	4	7
Bolt M12	12	





Preliminary

GENERAL TECHNICAL DATA

Dielectric	Polypropylene metallized film - non inductive type – self-healing property
Application	DC filtering / DC-Link
Special features	UL 810 Construction only qualified – E208772
Climatic category	40/85/21 IEC 60068-1
Endurance test	500h + 500h at 1.3 * U_{NDC} at 70°C
Standard	IEC 61071 - EN61071 - VDE0560 – UL810 Construction only
Protection	Aluminium case with or without, threaded bolt M12 Plastic deck flame retardant execution UL94 V-0 Plastic cap flame retardant execution UL94 V-0 Thermosetting resin sealing
Installation	Any position
Leads	High current M6 or M8 terminals
Packaging	Packed in cardboard boxes with protection for the terminals
RoHS compliance	Compliant with the restricted substance requirements of Directive 2011/65/EU

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ELECTRICAL CHARACTERISTICS

Rated capacitance range	90 ÷ 2100 µF
Rated voltage range (@70°C) - U_{NDC}	600 ÷ 1800 Vdc
Capacitance tolerance	± 10% at T = 25°C ±5°C
Dissipation factor PP typical ($tg\delta_0$)	≤ 0.0002 at 10kHz with T = 25°C ±5°C
Surge voltage	1.5 * U_{NDC} for max 10 times in life time at 25°C ±5°C
Overvoltage (IEC 61071)	1.15 * U_{NDC} for max 30 min - once per day 1.3 * U_{NDC} for max 1 min - once per day
Peak non-repetitive current	1.5 * Ipkr - max 1000 times in life time
Insulation Resistance	IR x C ≥ 30.000 seconds at 100Vdc 1 min. T = 25°C ±5°C
Capacitance deviation in operation	±1.5% max. on capacitance value measured at T = 25°C
Permissible relative humidity – storage	Annual average ≤ 70%; 85% on 30 days/year randomly distributed throughout the year. Dewing not admissible

LIFE EXPECTANCY

Life expectancy	≥ 100.000 hours at U_{NDC} at Hot-Spot temp. T_{HS} = 70°C
Capacitance drop at end of life	-10% (typical)
Failure rate IEC 61709	50 FIT at U_{NDC} at Hot-Spot temp. T_{HS} = 70°C

TEST METHOD

Test voltage between terminals	1.5 * U_{NDC} for 10 sec or 1.65 * U_{NDC} for 2 sec, at T = 25°C
Test voltage between terminals and case	4.0 kVac 50Hz for 2 sec
Damp heat	IEC 60068-2-78
Change of temperature	IEC 60068-2-14
Vibration strength	IEC 60068-2-6

PART NUMBER CODING

C4	4	U	Q	G	T	6	2	4	0	M	8	1	K
1-2	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*
Series			DC Voltage	Case and Fixing	Terminals Code	Capacitance Code (pF)				Variants	Case Diameter	Case Height	Tolerance
C4 = MKP Capacitors Power	4 = Cylindrical types	U = DC-Link	H = 600V O = 900V Q = 1100V U = 1300V S = 1500V V = 1800V	G = cylindrical case with threaded bolt M12 E = cylindrical case without threaded bolt	T = M6 female terminals Y = M8 female terminals (#) Q = M8 male terminals	Digits 9, 10, & 11 indicate the first 3 digits of capacitance value. Digit 8 indicates the number of zeros that must be added to obtain rated capacitance in pF.				M = Standard N..Z = Special	8 = 85mm 5 = 116mm	1 . . Z	J = ±5% K = ±10%

For configuration female terminals M8 the height H1 has to be increased of 2 mm.

Reminder

It is not possible to manufacture every part number which could be created from the coding description.
Please refer to the table of standard part numbers above and ask KEMET for other possibilities.

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ORDERING CODE

Part number	C (µF)	U_{NDC} (Vdc)	dV/dt (V/µs)	Ipkr (Apk)	ESL (nH)	ESR @10kHz (mΩ)	Irms (*) 40°C@10kHz (Arms)	Rth (°C/W)	Dimensions (mm)			SPQ (pcs)	W (**) (kg)
									Ø	H	H1		
C44UHGT6650M81K	650	600	5	3540	45	1.2	59	7.1	85	99.5	101	5	4.4
C44UHGT6800M82K	800	600	4	3575	50	1.4	57	6.4	85	114.5	116	5	4.8
C44UHGT6900M83K	900	600	4	3590	50	1.6	56	5.8	85	124.5	126	5	5.1
C44UHGT7100M84K	1000	600	4	3600	55	1.7	56	5.6	85	134.5	136	5	5.4
C44UHGT7110M85K	1100	600	3	3615	55	1.8	57	5.1	85	144.5	146	5	5.6
C44UHGT7130M86K	1300	600	5	7080	60	1.1	84	3.8	85	178.5	180	5	6.6
C44UHGT7210M87K	2100	600	3	6900	80	1.7	82	2.6	85	268.5	270	5	9.2
C44UOGT6375M81K	375	900	10	3630	45	1.5	53	7.1	85	99.5	101	5	4.4
C44UOGT6450M82K	450	900	8	3570	50	1.8	51	6.4	85	114.5	116	5	4.8
C44UOGT6500M83K	500	900	7	3545	50	2.0	50	5.8	85	124.5	126	5	5.1
C44UOGT6550M84K	550	900	6	3520	55	2.2	49	5.6	85	134.5	136	5	5.3
C44UOGT6600M85K	600	900	6	3505	55	2.4	49	5.1	85	144.5	146	5	5.6
C44UOGT6700M86K	700	900	10	6775	60	1.3	77	3.8	85	178.5	180	5	6.7
C44UOGT7120M87K	1200	900	6	7010	80	2.0	76	2.6	85	268.5	270	5	9.1
C44UOGT6900M51K	900	900	7	6380	45	1.2	82	3.7	116	133	136	4	7.2
C44UOGT7110M52K	1100	900	6	6425	55	1.4	81	3.2	116	153	156	4	8.0
C44UOGT7180M53K	1800	900	7	12765	75	1.2	100	2.1	116	233	236	4	11.4
C44UOGT7210M54K	2100	900	6	12265	80	1.5	100	1.8	116	273	276	4	13.1
C44UQGT6240M81K	240	1100	12	2905	45	1.8	48	7.1	85	99.5	101	5	4.4
C44UQGT6290M82K	290	1100	10	2880	50	2.1	47	6.4	85	114.5	116	5	4.8
C44UQGT6320M83K	320	1100	9	2835	50	2.4	46	5.8	85	124.5	126	5	5.1
C44UQGT6360M84K	360	1100	8	2880	55	2.6	45	5.6	85	134.5	136	5	5.3
C44UQGT6400M85K	400	1100	7	2920	55	2.8	45	5.1	85	144.5	146	5	5.6
C44UQGT6460M86K	460	1100	12	5565	60	1.5	72	3.8	85	178.5	180	5	6.6
C44UQGT6760M87K	760	1100	7	5550	80	2.3	70	2.6	85	268.5	270	5	9.1
C44UQGT6560M51K	560	1100	9	4965	45	1.5	73	3.7	116	133	136	4	7.2
C44UQGT6700M52K	700	1100	7	5110	55	1.7	74	3.2	116	153	156	4	8.0
C44UQGT7110M53K	1100	1100	9	9750	75	1.4	100	2.1	116	233	236	4	11.5
C44UQGT7140M54K	1400	1100	7	10220	80	1.6	100	1.8	116	273	276	4	13.1
C44UUGT6165M81K	165	1300	15	2395	45	2.1	44	7.1	85	99.5	101	5	4.4
C44UUGT6200M82K	200	1300	12	2380	50	2.5	43	6.4	85	114.5	116	5	4.8
C44UUGT6220M83K	220	1300	11	2340	50	2.8	42	5.8	85	124.5	126	5	5.1
C44UUGT6250M84K	250	1300	10	2400	55	3.0	42	5.6	85	134.5	136	5	5.3
C44UUGT6270M85K	270	1300	9	2365	55	3.3	42	5.1	85	144.5	146	5	5.6
C44UUGT6320M86K	320	1300	15	4645	60	1.7	68	3.8	85	178.5	180	5	6.6
C44UUGT6530M87K	530	1300	9	4640	80	2.6	66	2.6	85	268.5	270	5	9.1
C44UUGT6400M51K	400	1300	11	4255	45	1.7	69	3.7	116	133	136	4	7.2
C44UUGT6470M52K	470	1300	9	4120	55	2.0	68	3.2	116	153	156	4	8.1
C44UUGT6780M53K	780	1300	11	8295	75	1.5	97	2.1	116	233	236	4	11.4
C44UUGT6950M54K	950	1300	9	8325	80	1.8	96	1.8	116	273	276	4	13.1

PRELIMINARY

* Irms value that leads to a ΔT so to have ~70°C in the Hot Spot → THS = TAMB + ΔT = 70°C

** Approximative packaging weight

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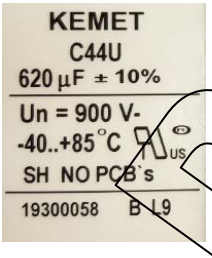
Part number	C (µF)	U_{NDC} (Vdc)	dV/dt (V/µs)	Ipkr (Apk)	ESL (nH)	ESR @10kHz (mΩ)	Irms (*) 40°C@10kHz (Arms)	Rth (°C/W)	Dimensions (mm)			SPQ (pcs)	W (**) (kg)
									Ø	H	H1		
C44USGT6120M81K	120	1500	17	2030	45	2.5	41	7.1	85	99.5	101	5	4.4
C44USGT6145M82K	145	1500	14	2015	50	2.9	40	6.4	85	114.5	116	5	4.8
C44USGT6165M83K	165	1500	12	2045	50	3.2	40	5.8	85	124.5	126	5	5.1
C44USGT6180M84K	180	1500	11	2015	55	3.5	39	5.6	85	134.5	136	5	5.4
C44USGT6200M85K	200	1500	10	2045	55	3.8	39	5.1	85	144.5	146	5	5.6
C44USGT6230M86K	230	1500	17	3895	60	1.9	64	3.8	85	178.5	180	5	6.7
C44USGT6400M87K	400	1500	10	4085	80	2.8	64	2.6	85	268.5	270	5	9.1
C44USGT6300M51K	300	1500	12	3720	45	1.9	65	3.7	116	133	136	4	7.2
C44USGT6350M52K	350	1500	10	3575	55	2.3	63	3.2	116	153	156	4	8.1
C44USGT6550M53K	550	1500	12	6825	75	1.7	91	2.1	116	233	236	4	11.7
C44USGT6700M54K	700	1500	10	7155	80	1.9	93	1.8	116	273	276	4	13.1
C44UVGT5900M81K	90	1800	19	1740	45	2.8	38	7.1	85	99.5	101	5	4.4
C44UVGT6110M82K	110	1800	16	1745	50	3.3	37	6.4	85	114.5	116	5	4.8
C44UVGT6125M83K	125	1800	14	1770	50	3.6	37	5.8	85	124.5	126	5	5.1
C44UVGT6140M84K	140	1800	13	1795	55	3.9	37	5.6	85	134.5	136	5	5.4
C44UVGT6150M85K	150	1800	12	1750	55	4.3	37	5.1	85	144.5	146	5	5.7
C44UVGT6175M86K	175	1800	19	3385	60	2.1	61	3.8	85	178.5	180	5	6.7
C44UVGT6300M87K	300	1800	12	3505	80	3.2	60	2.6	85	268.5	270	5	9.1
C44UVGT6220M51K	220	1800	14	3120	45	2.2	60	3.7	116	133	136	4	7.3
C44UVGT6275M52K	275	1800	12	3210	55	2.5	61	3.2	116	153	156	4	8.1
C44UVGT6450M53K	450	1800	14	6380	75	1.8	89	2.1	116	233	236	4	11.4
C44UVGT6550M54K	550	1800	12	6425	80	2.1	89	1.8	116	273	276	4	13.1

* Irms value that leads to a ΔT so to have ~70°C in the Hot Spot → THS = TAMB + ΔT = 70°C

** Approximative packaging weight

MARKING

Typical data on marking:



Logo → *Logo*
C44U → *Series*
620µF ± 10% → *Capacitance Tolerance*
Un = 900V- → *Rated Voltage*
-40 . . +85°C UL logo → *Climatic Category Temperatures - Min / Max UL Logo*
SH NO PCB's → *Self-Healing dielectric NO PCB's declaration*
19300058 B L9 → *Batch N° Internal Code Production date**: Year / Month*

*** Year/Month correspondence table available on General Catalogue - in the example L = 2019 / 9 = September*

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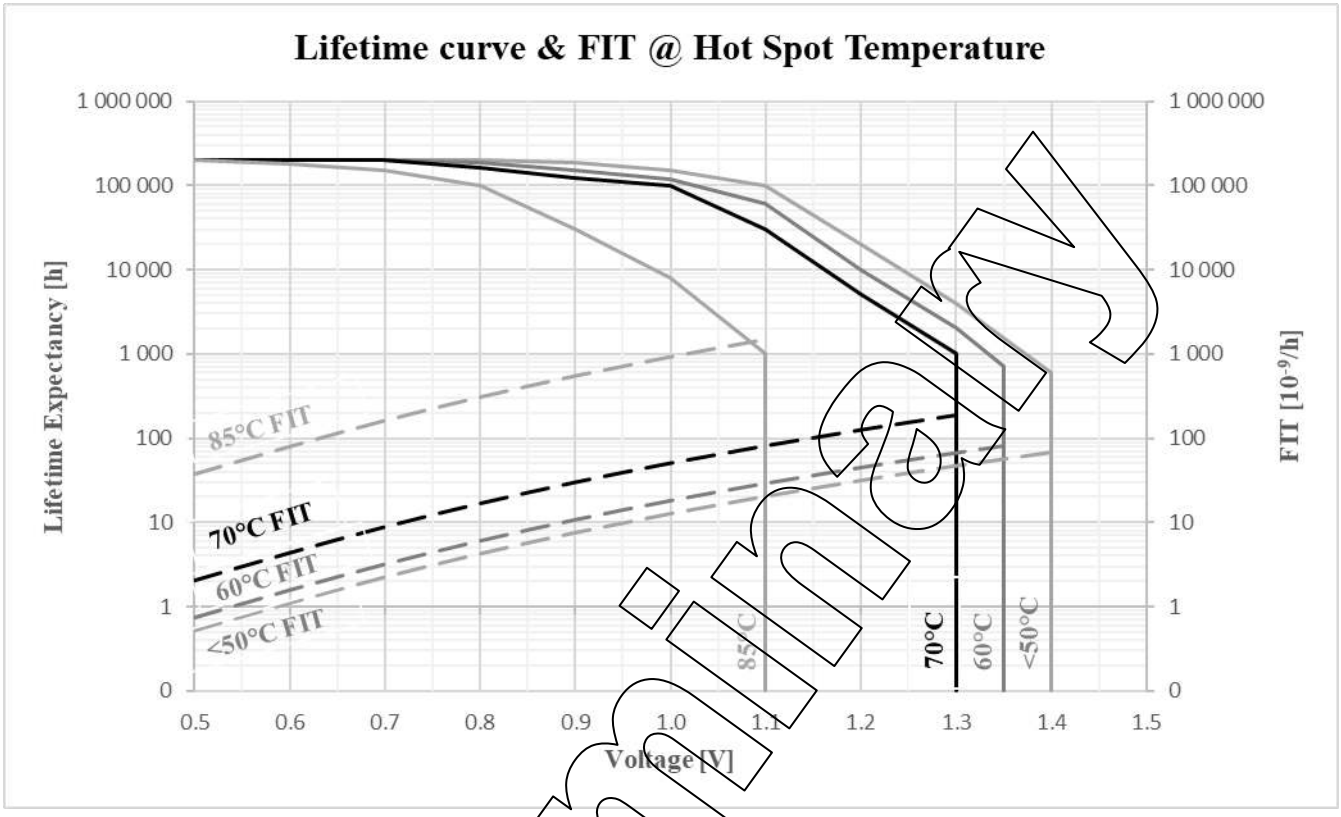
LIFE TIME EXPECTANCY / FAILURE QUOTA



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Note:

$T_{HS} = T_{AMB} + \Delta T$

$\Delta T = ESR * Irms^2 * Rth$

Irms should be limited to values granting $\Delta T \leq 45°C$

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