Leclanché Capacitors
48, av. de Grandson
1400 Yverdon, Switzerland

Tel. +41 24 445 66 88
Fax +41 24 445 66 89
capinfo@Lcap.ch
www.Lcap.ch

Typ : GW58240075101

	Mechanical details are shown in drawing on page 3	

Electrical Parameter

Rated Capacitance (C_R) 100 Hz / 20 °C	**5800**	µF	
Tolerance	**±20**	%	
Rated Voltage (U_R)	**400**	V	
Operating Voltage (Uop)	**375**	V	
Surge Voltage (U_S) max. 5 x 1 min / h	**440**	V	Transient voltages up to 500 V possible (few seconds)
Reverse Voltage (U_U) max. 1 s	**2**	V	
Leakage Current (I_L) U_R / 5 min / 20 °C	**8600**	µA	
ESR typ. 100 Hz / 20°C	**13**	mΩ	
ESR max. 100 Hz / 20°C	**30**	mΩ	
Tan δ typ. 100 Hz / 20°C	**6**	%	
Z max. 10 kHz / 20°C	**24**	mΩ	
ESL typ.	**13**	nH	
Rated Ripple Current (I_R) 100 Hz / 85°C	**29,5**	A	Cooled at base of can
Operating Ripple Current Iop	**75**	A	@375 V, 300 Hz, 60°C @Heatsink, 25000 h Iop = I_R * K1 I* K2 I , limited by terminals
Useful life @ I_R, U_R, 85°C	**15000**	h	
K_1 ESR 300 Hz/ESR 100 Hz	**0,80**		
K_2 ESR 85°C / ESR 20°C	**0,5**		
K_1 I 300 Hz / I 100 Hz	**1,12**		
K1,b I 100Hz / 1,2 kHz	**1,18**		

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K2 I (60°C, case temperature)	**2,27**	
IEC Climatic category / Standards	**25/85/56** **(-25°C – 85°C)**	**IEC 384-4** **CECC 30301-803**
Colour of PA Housing	**black**	
Applications	Inverter	
Your article No.. / Project	Megamaster	

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Drawing No. : 3384
created: 03.11.2009

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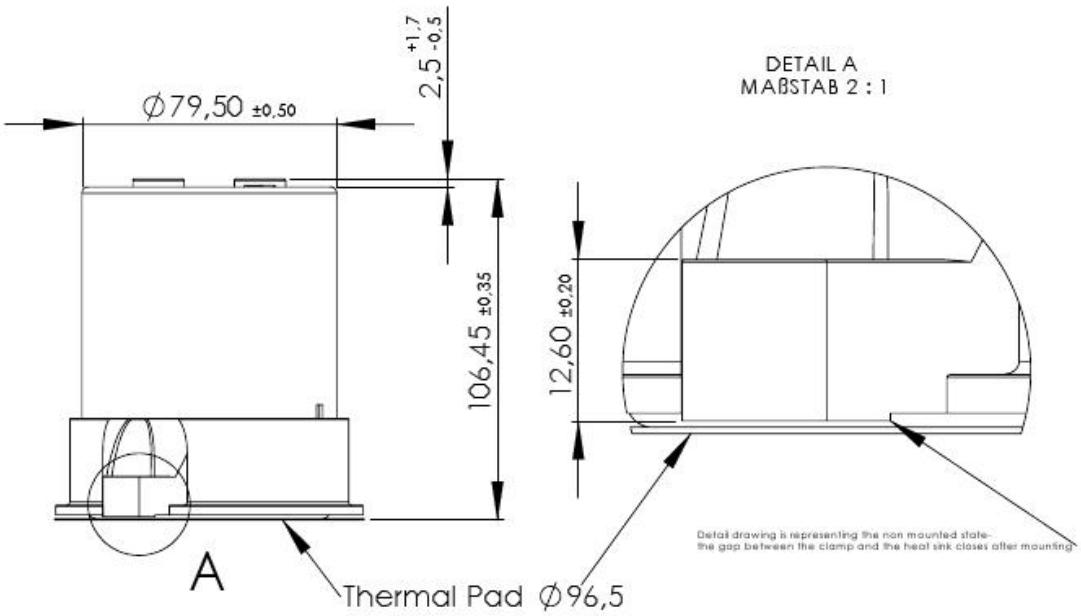

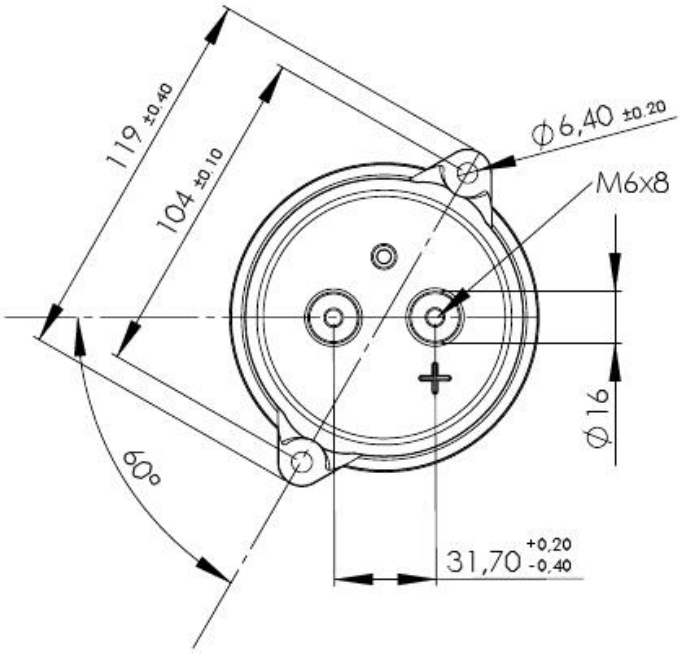

Material: Polyamid, PA66, (BASF, A3X3G5, black)

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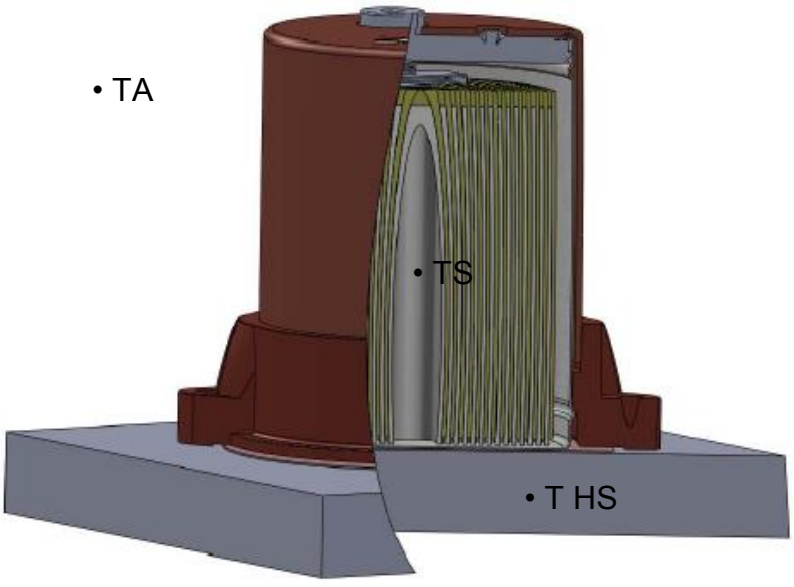
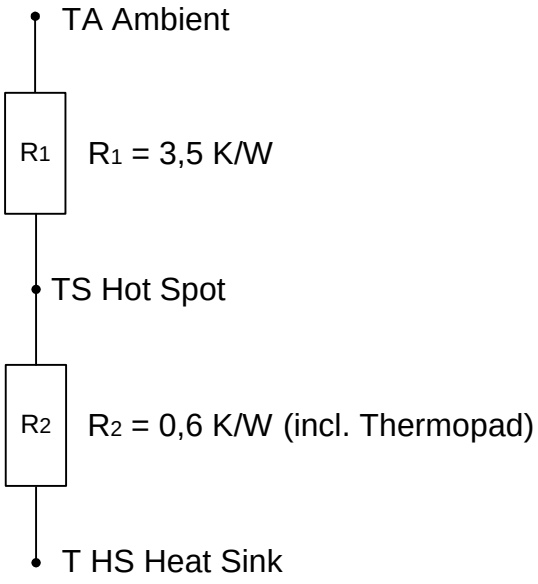
Simplified thermal model





$T_{\text{Hot Spot}} \approx PV * R_2 + T_{\text{Heat Sink}}$

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UL data for the used materials

Part	Material	Supplier	Code	UL File No.	Flame Class
Clamp and bearing ring	Polyamid 66	BASF AG	A3X2G5	E41871	V-0
Thermal pad	TC-(xx)CG-AV	Kunze	KU-CG-45AV	E48923	V-0

ONLINE CERTIFICATIONS DIRECTORY

QMFZ2.E41871
Plastics - Component

Additional information regarding this certification can be found in UL's iQ Family of Databases (www.ul.com/iq).
NEW -- for additional information concerning the individual material, click on the material designation.

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Plastics - Component

See General Information for Plastics - Component

BASF SE
ENGINEERING PLASTICS EUROPE
E-KTE/MP - F206
67056 LUDWIGSHAFEN, GERMANY

E41871

		Min.		H	H	RTI			H	D	
		Thk	Flame	W	A	Elec	Mech		V	4	C
Material Dsg	Color	mm	Class	I	I		Imp	Str	T	9	T
									R	5	I
Polyamide 66 (PA66), glass reinforced, "Ultramid", furnished as pellets.											
A3X2G5	NC, BK	0.40	HB	4	0	110	115	-	1	6	0
		0.60	HB	2	0	110	115	-			
	NC, BK, GY	0.81	V-0	0	0	120	115	130			
		3.0	V-0, 5VA	0	0	120	115	130			

Typ : GW58240075101

ONLINE CERTIFICATIONS DIRECTORY

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QMFZ2.E48923
Plastics - Component

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Plastics - Component

See General Information for Plastics - Component

SHIN-ETSU CHEMICAL CO LTD E48923
SILICONE DIV
6-1 OHTEMACHI 2-CHOME
CHIYODA-KU, TOKYO 100-0004 JAPAN

									H	D	
		Min.		H	H	RTI			V	4	C
		Thk	Flame	W	A	Elec	Mech		T	9	T
Material Dsg	Color	mm	Class	I	I		Imp	Str	R	5	I
EPR/SI, furnished as two liquid components.											
Silicone (SI), conductive, furnished as sheets, tape, vulcanized parts.											
TC-(xx)CG-AV	ALL	0.15	V-0	4	0	150	150	150	0	0	0
		0.45	V-0	2	0	150	150	150			
		0.75	V-0	2	0	150	150	150			

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Material Data sheet

Element	Material	CAS No.	Weight %
Winding*	Aluminium	7429-905	33
	Paper	9004-34-6	12
Electrolyte*	Ethylene Glycol	107-21-1	21
	Ammonium Borate	12007-521-1	5
Case	Aluminium	7429-905	8
Disk	Phenolic Resin	9003-35-4	5
Gasket	EPDM Rubber	25038-36-2	0,3
Vent	Silicone	NA	0,03
Terminal	Aluminium	7429-905	1
Clamp and Bearing Ring	Polyamide PA66	63428-83-1	13
Bottom Pad	Silicone	NA	1

* Additives of the winding and electrolyte over 1 W% are not shown

The used housing materials are well known and tested to be chemically stable under the specified UN and IR load conditions, in the temperature range of –25°C to +85°C.

Whereas it is well known that the winding plus electrolyte will deteriorating during the lifetime under the specified load conditions.

The used electrolyte system is self extinguishing. From experience we assume that the borate is reacting with ethylene glycol to form a chemically stable borate glycol ester accompanied by water formation. From experience this ester withstands 85°C for long life times. The formed water partially diffuse out of the capacitor during lifetime. Volatile Ammonia which forms out of the Ammonium kation in the conducting salt in the electrolyte will also partially evaporate. This effect will reduce the electrical conductivity over lifetime and will increase the ESR value.

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Mounting

Position

Upright position is recommended to prevent electrolyte leakage in case of vent opening**.**

Horizontal mounting is also possible but the vent must faces upwards.

Terminals

Maximum torques values should not be exceed:

Torque moments are given in Nm

M6 screw head

Minimum screw-in depth of 7 mm with max. torque 6 Nm
Maximum screw-in depth of 9 mm with a max torque 9 Nm.

Ring Clamp

Maximum torques values should not be exceed:

Torque moments in Nm

Minimum	Nominal	Maximum
3	5	10

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Voltage free storage and reforming	GW58240075101 can be stored voltage free for ca. 2 years at a storage temperature of <= 42°C without a necessary reforming step. For storage times over 2 years a reforming process according to IEC 60384-4 should be proceeded. For build in capacitors an operating for one hour at rated voltage without load is sufficient for oxide layer regeneration. Generally a reforming process should be performed in applying rated voltage over a serial resistor of 1 kOhm at the capacitor for one hour. After that treatment the capacitor must be stored for 48 h at room temperature (20-30°C) voltage free. The leakage current must then be measured, at latest after 48 h.