

1.0 Reference and Address			
Report Number	104868828DET-001	Original Issued: 27-Apr-2022	Revised: None
Standard(s)	Electrochemical Capacitors [UL 810A:2008 Ed.1+R:28Mar2017]		
Applicant	MintSoft, LLC	Manufacturer 1	MintSoft, LLC
Address	895 Dove St., Suite 300 Newport Beach, CA 92660	Address	6012 Canyon Road Sanger, TX 76266
Country	USA	Country	USA
Contact	Jason Mindte	Contact	Jason Mindte
Phone	(949) 280-8318	Phone	(949) 280-8318
FAX	NA	FAX	NA
Email	jason@mindte.com	Email	jason@mindte.com

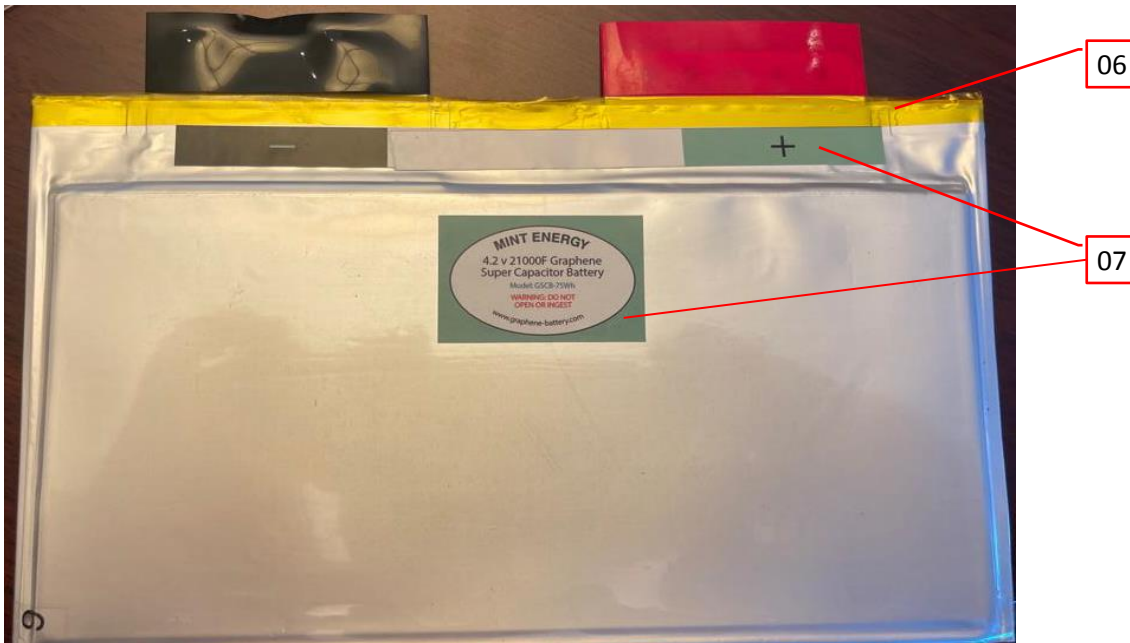
2.0 Product Description	
Product	Graphene Super Capacitor Battery
Brand name	Mint Energy
Description	The product covered by this report is 75Wh Super Capacitor
Models	GSCB-75Wh
Model Similarity	NA
Ratings	4.2Vdc, 18.75Ah, 75Wh
Other Ratings	Operating Temperature Range: -20°C to 60°C Maximum Charge / Discharge Current: 60A
Conditions of Acceptability	The products covered in this Report are incomplete in construction features or limited in performance capabilities and are intended for use and evaluation in other products. Consideration should be given to the following when the component is used in or with another product. 1) For stationary use only

3.0 Product Photographs

Photo 1 - External View of Super Capacitor GSCB-75Wh



Photo 2 - External View of Super Capacitor GSCB-75Wh



4.0 Critical Components						
Photo #	Item no. ¹	Name	Manufacturer/ trademark ²	Type / model ²	Technical data and securement means	Mark(s) of conformity ³
1	1	Terminal	Various	Various	Aluminum Thickness: 0.018in	NR
1	2	Capacitor Case	Various	Various	Overall Size Approx: 220mm X 128mm X 7.5mm Material: Aluminum Foil	NR
1	3	Anode Material (Not Shown)	Various	Various	Copper	NR
1	4	Cathode Material (Not Shown)	Various	Various	Aluminum	NR
1	5	Separator (Not Shown)	Various	Various	PDV	NR
2	6	Tape	Bertech	KPTLS-3/8	Polymide film backed by silicone adhesive with ESD properties. Film Thickness: 1 Mil Adhesive Thickness: 1 Mil Temp up to 260°C	NR
2	7	Label	3M	3812	Polyurethane for Indoor/Outdoor Use. -40°C to 100°C	UR

NOTES:

1) Not all item numbers are indicated (called out) in the photos, as their location is obvious.

2) "Various" means any type, from any manufacturer that complies with the "Technical data and securement means" and meets the "Mark(s) of conformity" can be used.

3) Indicates specific marks to be verified, which assures the agreed level of surveillance for the component. "NR" - indicates Unlisted and only visual examination is necessary. "See 5.0" indicates Unlisted components or assemblies to be evaluated periodically refer to section 5.0 for details.

5.0 Critical Unlisted CEC Components

No Unlisted CEC components are used in this report.

6.0 Critical Features

Recognized Component - A component part, which has been previously evaluated by an accredited certification body with restrictions and must be evaluated as part of the basic product considering the restrictions as specified by the Conditions of Acceptability.

Listed Component - A component part, which has been previously Listed or Certified by an accredited Certification Organization with no restrictions and is used in the intended application within its ratings.

Unlisted Component - A part that has not been previously evaluated to the appropriate designated component standard. It may also be a Listed or Recognized component that is being used outside of its evaluated Listing or component recognition.

Critical Features/Components - An essential part, material, subassembly, system, software, or accessory of a product that has a direct bearing on the product's conformance to applicable requirements of the product standard.

Construction Details - For specific construction details, reference should be made to the photographs and descriptions. All dimensions are approximate unless specified as exact or within a tolerance. In addition to the specific construction details described in this Report, the following general requirements also apply.

1. Spacing - None

2. Mechanical Assembly - None

3. Corrosion Protection - None

4. Accessibility of Live Parts - None

5. Grounding - This product is not provided with a means of grounding as it is a single cell capacitor.

6. Polarized Connection - None

7. Internal Wiring - None

8. Schematics - None

9. Markings - The product is marked on a labeling system as described in item no. 7 of Section 4.0. Applicant or brand name, model number; electrical ratings, positive and neagive terminals marked.

10. Cautionary Markings - The following are required: See Illustration 1.

11. Installation, Operating and Safety Instructions - Instructions for installation and use of this product are provided by the applicant. Refer to Illustrations 2 for details.

7.0 Illustrations

Illustration 1 - Model GSCB-75Wh User Guide Caution Statement



<p>1. Safety Instructions</p> <p>1.1 General precautions</p> <ul style="list-style-type: none">• This product is designed for use in stationary applications• Do not drop the product or subject it to heavy shocks• This product should only be serviced or repaired by a qualified technician <p>1.2 Precautions for electrical products</p> <ul style="list-style-type: none">• Protect the device from dirt, moisture, overheating, extreme temperatures• Operate in a dry room• Do not open the device• Do not continue to operate the device if damaged• Do not operate the device outside the performance limits specified in the technical data <p>1.3 Precautions for batteries</p> <ul style="list-style-type: none">• Recharge the power cell regularly during extended periods of storage• Do not allow batteries or battery components to escape into the environment• Batteries should be charged prior to use• Always use the correct charger for charging the power cell• Do not reverse charge capacitors• Use only in stationary applications• Do not subject super capacitors to adverse condition such as extreme temperatures, deep cycling and excessive over charger or over discharge• Do not attempt to take super capacitors apart or subject them to pressure or impact• Keep product away from children• Do not short-circuit the super capacitor – this can permanently damage the product• Do not burn the super capacitor• Do not solder directly to power cells or super capacitors• Store capacitors in a cool dry place• Please stop use at any sign of excess noise, temperature, or damage• When using after long term storage, fully charge the super capacitor prior to use• When not in use, disconnect the power cell• Do not mix new capacitors in use with semi-used capacitors as over-discharge may occur• When connecting a capacitor pack to a charger, ensure the correct polarity• If product becomes hot, do not touch or handle until it has cooled down• Do not remove the outer sleeve from the capacitor or cut into its housing• Before recharging, allow the product to cool in a well-ventilated place out of direct sunlight• Never put the power cell into water or seawater• Do not eat or swallow the power cell or any of its components

7.0 Illustrations

Illustration 2 - Model GSCB-75Wh User Guide Technical Data

2. Technical Data		
Specification	Value	Unit
Nominal Voltage	4.00	V
Max Surge Voltage	4.25	V
Max Continuous Voltage	4.20	V
Minimum Voltage	3.80	V
Nominal Current	20.00	A
Continuous Current	40.00	A
Peak Current	60.00	A
Capacitance	21,000.00	f
Charge Rating	2C	
Discharge Rating	2C	
Energy Storage (Watt Hours)	75.00	Wh
Energy Storage (Amp Hours)	18.75	Ah
Internal Resistance	≤ 1.50	mΩ
Leakage Current	≤ 0.278	mA/h
Leakage Current Per Month	≤ 0.200	Ah
Leakage Rate Per Month	≤ 1.067	%
Cycle Life	43,000	
Operating Temp. Range	-20 to 60	°C
Storage Temp. Range	-20 to 55	°C
Protection Class	IP30	
Product Weight	350	grams
Dimensions	220x128x7.5	mm

8.0 Test Summary			
Evaluation Period	01/28/2022 - 04/26/2022		Project No. G123456789
Sample Rec. Date	22-Nov-2021	Condition	Production
Sample ID	SN 1 - 40		
Test Location	45000 Helm Street Suite 150, Plymouth, MI 48170		
Test Procedure	Testing Lab		
Determination of the result includes consideration of measurement uncertainty from the test equipment and methods. The product was tested as indicated below with results in conformance to the relevant test criteria.			
The following tests were performed:			
Test Description	UL 810A:2008 Ed.1 +R:28Mar2017		
Charge/Discharge Cycling Conditioning	12.2	--	--
Temperature Cycling Conditioning	12.3	--	--
Oven Exposure Conditioning	12.4	--	--
Short-Circuit at 55°C Test	13	--	--
Abnormal Charge Test	14	--	--
Heating Test	16	--	--
Dielectric Voltage-Withstand Test	17	--	--
Shock Test	18.4	--	--
Vibration Test	18.5	--	--

8.1 Signatures			
A representative sample of the product covered by this report has been evaluated and found to comply with the applicable requirements of the standards indicated in Section 1.0.			
Completed by:	Nick Diamond	Reviewed by:	Kirk Palmer
Title:	Sr. Associate Engineer	Title:	Department Manager
Signature:		Signature:	

9.0 Correlation Page For Multiple Listings	
The following products, which are identical to those identified in this report except for model number and Listee name, are authorized to bear the ETL label under provisions of the Intertek Multiple Listing Program.	
BASIC LISTEE	MintSoft, LLC
Address	895 Dove St., Suite 300 Newport Beach, CA 92660
Country	USA
Product	Graphene Super Capacitor Battery

MULTIPLE LISTEE 1	None
Address	
Country	
Brand Name	
ASSOCIATED MANUFACTURER	
Address	
Country	
MULTIPLE LISTEE 1 MODELS	
BASIC LISTEE MODELS	

MULTIPLE LISTEE 2	None
Address	
Country	
Brand Name	
ASSOCIATED MANUFACTURER	
Address	
Country	
MULTIPLE LISTEE 2 MODELS	
BASIC LISTEE MODELS	

MULTIPLE LISTEE 3	None
Address	
Country	
Brand Name	
ASSOCIATED MANUFACTURER	
Address	
Country	
MULTIPLE LISTEE 3 MODELS	
BASIC LISTEE MODELS	

10.0 General Information

The Applicant and Manufacturer have agreed to produce, test and label ETL Listed products in accordance with the requirements of this Report. The Manufacturer has also agreed to notify Intertek and to request authorization prior to using alternate parts, components or materials.

COMPONENTS

Components used shall be those itemized in this Intertek report covering the product, including any amendments and/or revisions.

LISTING MARK

The ETL Listing mark applied to the products shall either be separable in form, such as labels purchased from Intertek, or on a product nameplate or other media only as specifically authorized by Intertek. Use of the mark is subject to the control of Intertek.

The mark must include the following four items:

- 1) applicable country identifiers "US" and/or "C" or "US", "C" and "EU"
- 2) the word "Listed" or "Classified" or "Recognized Component" (whichever is appropriate)
- 3) a control number issued by Intertek
- 4) a product descriptor that identifies the standards used for certification. Example:

For US standards, the words, "Conforms to" shall appear with the standard number along with the word, "Standard" or "Std." Example: "Conforms to ANSI/UL Std. XX."

For Canadian standards, the words "Certified to CAN/CSA Standard CXX No. XX." shall be used, or abbreviated, "Cert. to CAN/CSA Std. CXX No. XX."

Can be used together when both standards are used.

If all standards on the ATM have the same standard title, the shared title or its abbreviation may be used in place of the examples above. Example: "Medical Electrical Equipment" or "MEE"; "Information Technology Equipment" or "ITE"; "Audio/Video Information And Communication Technology Equipment" or "A/V ICTE".

Note: A facsimile must be submitted to Intertek, Attn: Follow-up Services for approval prior to use.

The facsimile need not have a control number. A control number will be issued **after signed Certification Agreements** have been received by the Follow-up Services office, approval of the facsimile of your proposed Listing Mark, satisfactory completion of the Listing Report, and scheduling of a factory assessment in your facility.

MANUFACTURING AND PRODUCTION TESTS

Manufacturing and Production Tests shall be performed as required in this Report.

FOLLOW-UP SERVICE

Periodic unannounced audits of the manufacturing facility (and any locations authorized to apply the mark) shall be scheduled by Intertek. An audit report shall be issued after each visit. Special attention will be given to the following:

1. Conformance of the manufactured product to the descriptions in this Report.
2. Conformance of the use of the ETL mark with the requirements of this Report and the Certification Agreement.
3. Manufacturing changes.
4. Performance of specified Manufacturing and Production Tests.

In the event that the Intertek representative identifies non-conformance(s) to any provision of this Report, the Applicant shall take one or more of the following actions:

1. Correct the non-conformance.
2. Remove the ETL Mark from non-conforming product.
3. Contact the issuing product safety evaluation center for instructions.

10.1 Evaluation of Unlisted Components

Because Unlisted Components are uncontrolled, and they do not fall under a third party follow up program, Intertek may require these components to be tested and/or evaluated at least once annually, more often for certain components, as part of the independent certification process. The Unlisted Components in Section 5.0 require testing and/or evaluation as indicated.

The Applicant will be notified, in writing, via the applicable contact methods, as defined in Section 1.0, when these components must be selected and sent to Component Evaluation Center (CEC) for re-evaluation.

Due to particular testing requirements, some components may be requested to be shipped to specific labs. Thus, specific shipment destination(s) for each sample will be provided in the written notification.

Managing CEC Location:
Intertek Testing Services NA Inc.
ETL Component Evaluation Center
1717 Arlingate Ln.
Columbus, Ohio 43228 USA
Attn: CEC Safety

Sample Disposition: Due to the destructive nature of the testing, all samples will be discarded at the conclusion of testing unless, the manufacturer specifically requests the return of the samples. The request for return must accompany the initial component shipment.

11.0 Manufacturing and Production Tests

The manufacturer agrees to conduct the following Manufacturing and Production Tests as specified:

Required Tests

Dielectric Voltage Withstand Test

11.1 Dielectric Voltage Withstand Test

Method

One hundred percent of production of the products covered by this Report shall be subjected to a routine production line dielectric withstand test.

The test shall be conducted on products, which are fully assembled. Prior to applying the test potential, all switches, contactors, relays, etc., should be closed so that all primary circuits are energized by the test potential. If all primary circuits cannot be tested at one time, then separate applications of the test potential shall be made.

The test voltage specified below shall be applied between primary circuits and accessible dead-metal parts. The test voltage may be gradually increased to the specified value but must be maintained at the specified value for one second or one minute as required.

Test Equipment

The test equipment shall incorporate a transformer with an essentially sinusoidal output, a means to indicate the applied test potential, and an audible and/or visual indicator of dielectric breakdown.

The test equipment shall incorporate a voltmeter in the output circuit to indicate directly the applied test potential if the rated output of the test equipment is less than 500VA.

If the rated output of the test equipment is 500VA or more, the applied test potential may be indicated by either:

- 1 - a voltmeter in the primary circuit;
- 2 - a selector switch marked to indicate the test potential; or
- 3 - a marking in a readily visible location to indicate the test potential for test equipment having a single test potential output.

In cases 2 and 3, the test equipment shall include a lamp or other visual means to indicate that the test potential is present at the test equipment output. All test equipment shall be maintained in current calibration.

Products Requiring Dielectric Voltage Withstand Test:

<u>Product</u>	<u>Test Voltage</u>	<u>Test Time</u>
All products covered by this Report.	1008V	60 s
	or	
	3024V	1 s

