



Datasheet

Model ELF217074L 12V 2Ah

Daniel Beck
Königsteiner Straße 4
61449 Steinbach

Doc. Version 1.2
07.08.2020

For any questions: Please contact us.

info@eremit.de
+49 (0) 1602614589
www.eremit.de

EREMIT is an in germany registered trademark.

This specification is applies to describe the related battery product in this Specification and the battery/cell supplied by EREMIT

All batteries are originally produced by Bixell Technology limited.

Page 1: Main information
Page 2-4: Cell Characteristics
Page 5: Protection board Data
Page 6: Charge/Discharge notes; Cell Parts
Page 7: Warranty

Number	Description	Ratings	Remarks
1;	Nominal Capacity	2Ah	At 1C CC discharge
2;	Minimal capacity	2Ah	
3;	Nominal Voltage	12,8V	
4;	Delivery voltage	13,1V	On delivery
5;	Charge voltage	14,65V	
6;	Standart Charging	0.5C Standart	2.5 hour nominal
		1C max.	1 hour rapid
7;	Standart discharging	3C CC to 8V	
		5C max. To 8V	
		8C Pulse	Pulse below 1 second

8;	Cell internal impedance	≤180mOhm	Measured at 1khz after 50% Charge
9;	Operating temperature	0-45°C	Maximum -10° - 60°C
		Recommended	10 - 34°C

10; Long time storage (-5°C – 30°C)

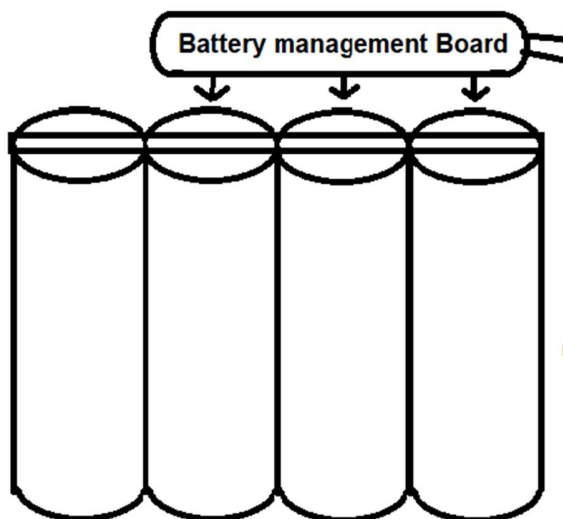
If the battery need be stored for a long time, the voltage should be 13.2V, and stored in the condition as storage proposal. It need at least one charge & discharge cycle every year.

Maximum sizes: 21 x 70 x 74mm

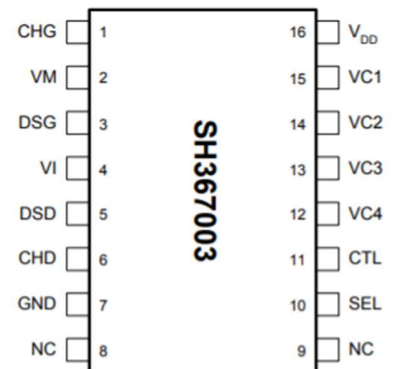
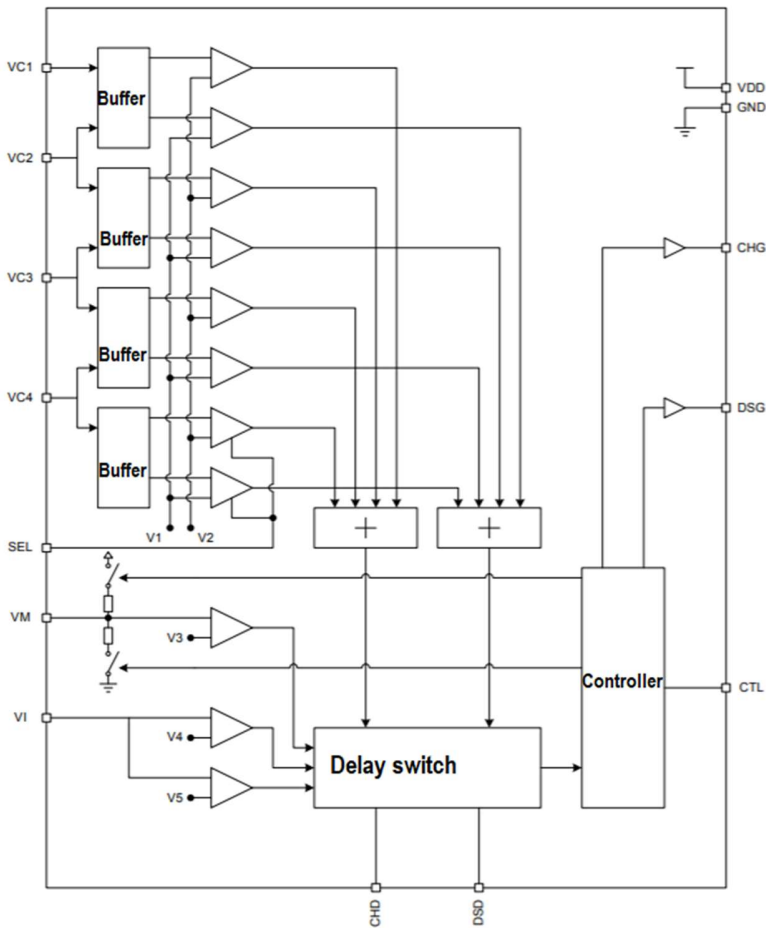
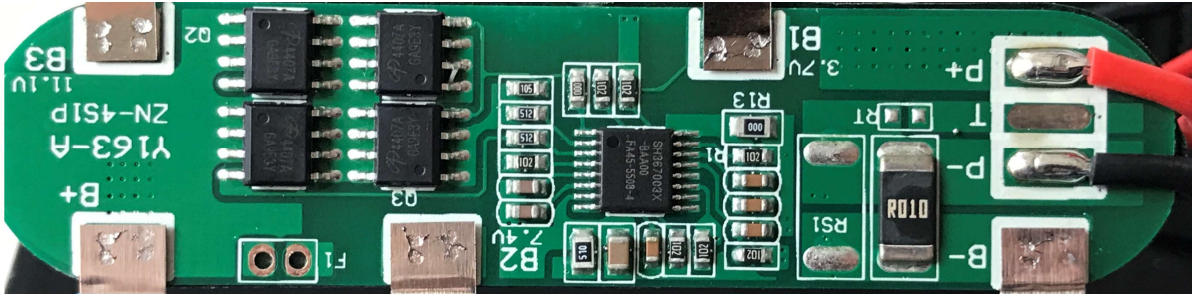
Maximum weight: 0,185kg

Battery Characteristics

Number	Description	Ratings	Remarks
1;	Standart Charge	Charging cell initially with constant current at 0.5C to 14.6V, then with constant voltage at 14.6V till charge current is below 0.05C	
2;	Rated capacity	Capacity means the discharge capacity of the cell, which is measured with discharge current of 1C with 8V cut-off voltage after standard charge.	>2Ah
3;	Cycle life	Test condition: Carge 0.5C to 14.6V -> discharge 0.5C to 8.0V 80% or more of 1 st cycle capacity at 0.5C discharge of operation	>2000
4;	Self discharge	After standart charging stored 1 month under storage condition descriped in page 2; then measured the capacity with 0.2C till 3.0V	Above 95% residual capacity

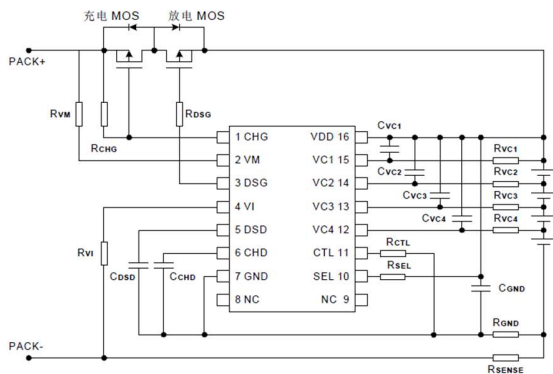


PCM Design



Protection circuit Data

Item	Symbol	Content (single cell)	Criterion
Over charge Protection	V_{DET1}	Over charge detection voltage	$3.9V \pm 0.05V$
	tV_{DET1}	Over charge detection delay time	0.96~1.4s
	V_{REL1}	Over charge release voltage	$3.8 \pm 0.05V$
Over discharge protection	V_{DET2}	Over discharge detection voltage	$2V \pm 0.1V$
	tV_{DET2}	Over discharge detection delay time	100ms
	V_{REL2}	Over discharge release voltage	$2.0V \pm 0.10V$
Over current protection	V_{DET3}	Over current detection voltage	100~300mv
	I_{DP}	Over current detection current	20A
	tV_{DET3}	Detection delay time	10~15ms
		Release condition	Cut load
Short protection		Detection condition	Exterior short circuit
	T_{SHORT}	Detection delay time	50 μ s
		Release condition	Cut short circuit
Interior resistance	R_{DS}	Main loop electrify resistance	n/a
Current consumption	I_{DD}	Current consume in normal operation	6 μ A Type 16 μ A Max



Over-Discharge

Short time over discharge does not affect the battery function, but long time over discharges can damage battery performance, and can't use any more. due to its own self-discharge characteristics also lead to over-discharge, to prevent over-discharge occurs, the battery should maintain the certain electric quantity, the battery shall be charged periodically to maintain between 13V and 13.3V. Over-discharging may causes loss of cell performance, characteristics, or battery functions. The electrical products shall be equipped with a device to prevent further discharging exceeding a cut-off voltage specified in the Product Specification. Also the charger shall be equipped with a device to control the recharging procedures.

Charging

Charging current : Do not surpass the largest charging current that specification stipulated。

Charging voltage : Do not surpass the highest limited voltage that specification stipulated。

Charging temperature : within temperature scope that specification stipulated。

Charge with constant current, then with the constant voltage, no reverse charge, which is dangerous

Period of Warranty

The period of warranty is two year from the date of shipment. Replacement is guaranteed within warranty if battery with defects proven due to manufacturing process instead of the customer's abuse and misuse.

Page 7