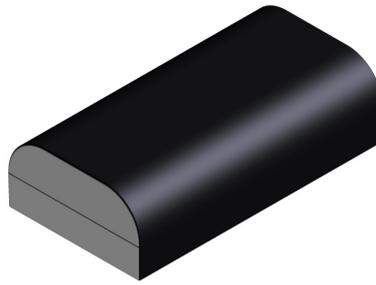


Product Information



2P/LIC 18650-26HC PCM PC
EZPack PLUS ▶ VKB 56637 702 099



VARTA EasyPack
Rechargeable Li-Ion Battery EZPack PLUS
56637 702 099 - 1ICR19/65-2
3.63V 5.2Ah 19Wh

CAUTION!

- May explode if disposed of in fire.
- Do not open.
- Must be recycled or disposed of properly.
- Do not replace by a battery other than that specified by manufacturer.
- Use specified charger only.

VARTA Storage GmbH
Made in Romania by VARTA Microbattery SRL

WW ▶ week two digits
YY ▶ year two digits

1. GENERAL

Battery rechargeable with safety circuit

- Cell ▶ LIC 18650-26HC
- PCM ▶ Yes
- NTC ▶ $10k\Omega \pm 1\%$, B25/85=3435K $\pm 1\%$
- ID ▶ $52.3k\Omega \pm 1\%$
- Configuration ▶ 2P
- Weight ▶ appr. 105g

2. ELECTRICAL SPECIFICATION

- Nominal Capacity ▶ 5200mAh min (at 0.2C and 20°C)
- Minimum Capacity ▶ 5100mAh min
- Nominal Voltage ▶ 3.63V
- Charging Method ▶ Constant Current + Constant Voltage
- Max. Charge Voltage: ▶ 4.2V
- Standard Charge Current: ▶ 1250mA
- Max. Continuous Charge Current: ▶ 2500mA (limited by PCM)
- Rec. Charge Cut Off: ▶ by time standard charge 3h
rapid charge 2.5h
by min current 0.05C
- Max. Continuous Discharge Current: ▶ 4500mA
- Rec. Discharge Cut Off: ▶ 3V
- Internal Impedance: ▶ $\leq 80m\Omega$ @ 1kHz at 4.2V
- Expected Cycle Life ▶ 300 cycles $\geq 3570mAh$

CELL PROTECTION

- Overcharge Detection ▶ $4.225V \pm 0.025V$ (0.96 to 1.4sec. delay, resume $4.025V \pm 0.05V$)
- Overdischarge Detection: ▶ $2.8V \pm 0.05V$ (61 to 90msec. delay, resume $2.8V \pm 0.1V$)
- Overcurrent Detection ▶ 5.4A to 9.2A (7.2 to 11msec. delay)

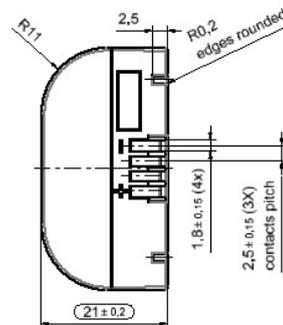
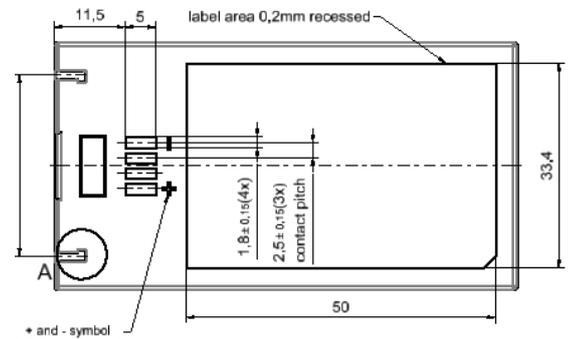
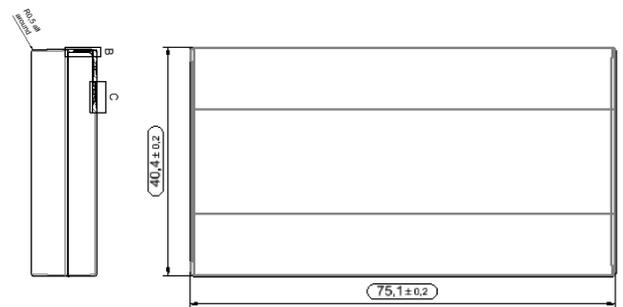
3. AMBIENT CONDITIONS

- Temperature Range
 - Charge ▶ 0 to +45°C
 - Discharge ▶ -20 to +45°C
 - Storage ▶ 1 year at -20 to +25°C
3 months at -20 to +45°C
1 month at -20 to +25°C
- Humidity ▶ $65 \pm 20\%RH$

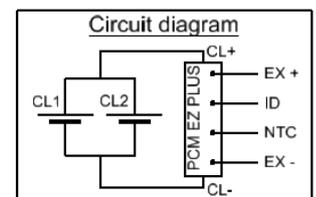
4. ENVIRONMENTAL AND SAFETY

Please follow VARTA Handling and Safety Precautions for Lilon & LiPolymer.
The cell is approved according UL1642 and UN 38.3 certified.
This battery meets the requirements of Battery Directives and the battery parts are RoHS-Compliant. This battery is UL 2054 listed and certified according to IEC 62133 edition 2.

Minimum Order Quantity: 270 pcs / Order Multiples: 135 pcs - Product for OEM customers only!

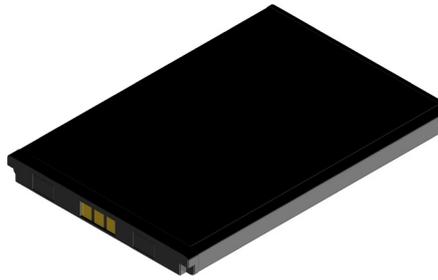


Protection Circuit Module



Product Information

1/LPP 454261 8TH PCM MM
EZPack SLIM ▶ VKB 56426 801 096



WW ▶ week two digits
YY ▶ year two digits

1. GENERAL

Battery with safety circuit and plastic metal combination

- Cell ▶ LPP 454261 8TH
- PCM ▶ Yes
- NTC ▶ 10kΩ ±1%; B-Value 3435K ±1%
- ID ▶ None
- Configuration ▶ 1P
- Weight ▶ appr. 34g

2. ELECTRICAL SPECIFICATION

- Rated Capacity ▶ 1530mAh min., 1590mAh typical
- Nominal Voltage ▶ 3.7V
- Watt-Hour Rating ▶ 5.9Wh
- Charging Method ▶ Constant Current + Constant Voltage
- Max. Charge Voltage: ▶ 4.2V (±50mV)
- Max. Continuous Charge Current: ▶ 1.6A (limited by PCM)
- Rec. Charge Cut Off: ▶ by current 50mA or time 2.5h
- Max. Continuous Discharge Current: ▶ 1.6A (limited by PCM)
- Rec. Discharge Cut Off: ▶ 3V
- Internal Impedance (1kHz): ▶ approx. 100mΩ fully charged
- Expected Cycle Life @ (1C/0.5C) @ 23 ±2°C ▶ 500 cycles ≥ 67% of initial cap.

CELL PROTECTION

- Overcharge Detection ▶ 4.275V ±0.25V (0.7 to 1.3sec. delay, resume 4.275V ±0.25V)
- Overdischarge Detection: ▶ 2.3V ±0.58V (14 to 26msec. delay, resume 2.3V ±0.58V)
- Overcurrent Detection ▶ discharge: 1.7A to 4.5A (11 to 21msec. delay)
charge: 1.6A to 5A (8 to 16 msec. delay)

3. AMBIENT CONDITIONS

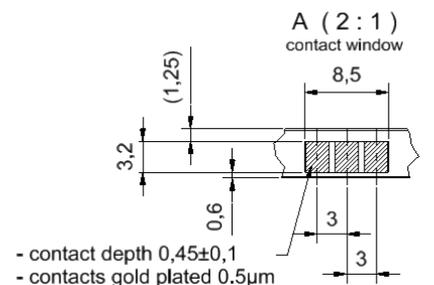
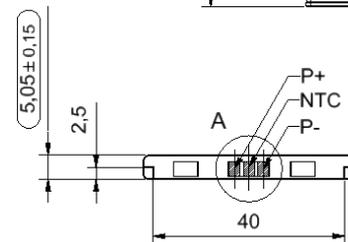
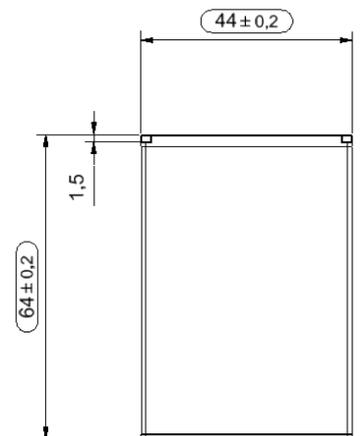
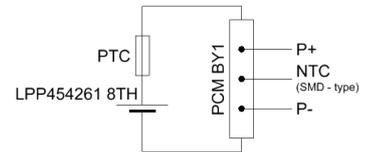
- Temperature Range
 - Charge ▶ 0 to +45°C
 - Discharge ▶ -20 to +55°C
 - Charge Retention/Storage ▶ 1 month at -10 to +45°C >85%
 - Humidity ▶ 65 ± 20%RH

4. ENVIRONMENTAL AND SAFETY

Please follow VARTA Handling and Safety Precautions for Lilon & LiPolymer.
The cell is approved according UL1642 and UN 38.3 certified.
This battery meets the requirements of Battery Directives and the battery parts are RoHS-Compliant.
This battery is UL 2054 listed and certified according to IEC 62133 edition 2.

Minimum Order Quantity: 300 pcs / Order Multiples: 150 pcs - Product for OEM customers only!

Protection Circuit Module



Product Information

1/LPP 443441 S PCM PC
EZPack S ▶ VKB 56455 701 099



- MM ▶ month two digits
- Y ▶ year one digit
- R ▶ week one digit

1. GENERAL

Battery with safety circuit and plastic housing

- Cell ▶ LPP 443441 S
- PCM ▶ Yes
- NTC ▶ 10 kΩ ±1%; B-Value 3435K ±1%
- ID ▶ 3.9 kΩ ±1%
- Configuration ▶ 1S
- Weight ▶ appr. 15g

2. ELECTRICAL SPECIFICATION

- Rated Capacity ▶ 630mAh min., 660mAh typical
- Nominal Voltage ▶ 3.7V
- Watt-Hour Rating ▶ 2.5Wh
- Charging Method ▶ Constant Current + Constant Voltage
- Max. Charge Voltage: ▶ 4.2V
- Max. Continuous Charge Current: ▶ 630mA
- Rec. Charge Cut Off: ▶ by current 6.3mA or time 3.5h
- Max. Continuous Discharge Current: ▶ 1260mA (limited by cell)
- Rec. Discharge Cut Off: ▶ 3V
- Internal Impedance: ▶ approx. 115 mΩ
- Expected Cycle Life @ (1C/1C) @ 23 ±5 °C ▶ >500 cycles >70% of initial cap.

CELL PROTECTION

- Overcharge Detection ▶ 4.3 ±0.02V (0.8 to 1.2sec. delay, resume 4.1V ±0.03V)
- Overdischarge Detection: ▶ 2.40V ±0.035V (76.8 to 115.2msec. delay, resume remove load & charging current)
- Overcurrent Detection ▶ 3.2A to 5.2A (9.6 to 14.4msec. delay)

3. AMBIENT CONDITIONS

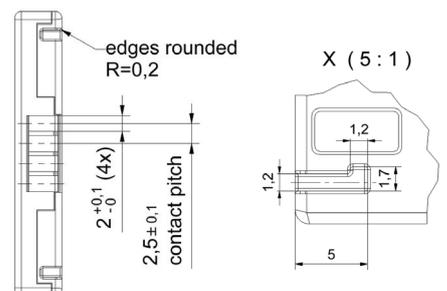
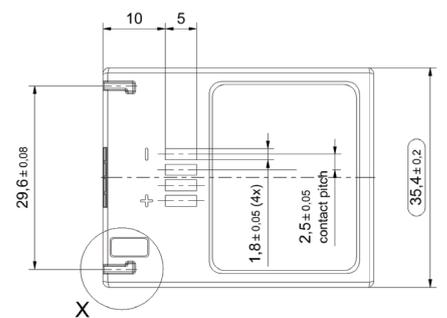
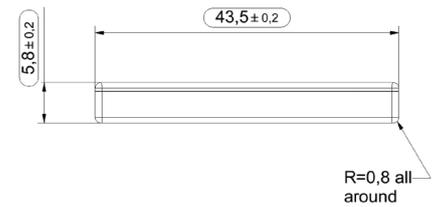
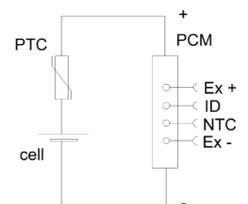
- Temperature Range
 - Charge ▶ 0 to +45°C
 - Discharge ▶ -10 to +60°C
 - Storage ▶ Less than 1 month at -20 to +60°C
Less than 3 months at -20°C to +45°C
Less than 1 year at -20°C to +30°C
- Humidity ▶ 65 ± 20%RH

4. ENVIRONMENTAL AND SAFETY

Please follow VARTA Handling and Safety Precautions for Lilon & LiPolymer. The cell is approved according UL1642 and UN 38.3 certified. This battery meets the requirements of Battery Directives and the battery parts are RoHS-Compliant. This battery is UL 2054 listed and certified according to IEC 62133 edition 2.

Minimum Order Quantity: 750 pcs / Order Multiples: 150 pcs - Product for OEM customers only!

Protection Circuit Module



Product Information

1/LPP 503562 S PCM PC
EZPack L ▶ VKB 56456 701 099



MM ▶ month two digits
Y ▶ year one digit
R ▶ week of month one digit

1. GENERAL

Battery with safety circuit and plastic housing

- Cell ▶ LPP 503562 S
- PCM ▶ Yes
- NTC ▶ 10 kΩ ±1%; B-Value 3435K ±1%
- ID ▶ 10 kΩ ±1%
- Configuration ▶ 1S
- Weight ▶ appr. 26g

2. ELECTRICAL SPECIFICATION

- Rated Capacity ▶ 1150mAh min., 1200mAh typical
- Nominal Voltage ▶ 3.7V
- Watt-Hour Rating ▶ 4.5Wh
- Charging Method ▶ Constant Current + Constant Voltage
- Max. Charge Voltage: ▶ 4.2V
- Max. Continuous Charge Current: ▶ 1150mA
- Rec. Charge Cut Off: ▶ by current 11.5mA or time 3.5h
- Max. Continuous Discharge Current: ▶ 2100mA (limited by PTC)
- Rec. Discharge Cut Off: ▶ 3V
- Internal Impedance: ▶ approx. 99mΩ
- Expected Cycle Life @ (1C/1C) @23 ±5°C ▶ >500 cycles >70% of initial cap.

CELL PROTECTION

- Overcharge Detection ▶ 4.3 ±0.02V (0.8 to 1.2sec. delay, resume 4.1V ±0.03V)
- Overdischarge Detection: ▶ 2.40V ±0.035V (76.8 to 115.2msec. delay, resume remove load & charging current)
- Overcurrent Detection ▶ 3.2A to 5.2A (9.6 to 14.4msec. delay)

3. AMBIENT CONDITIONS

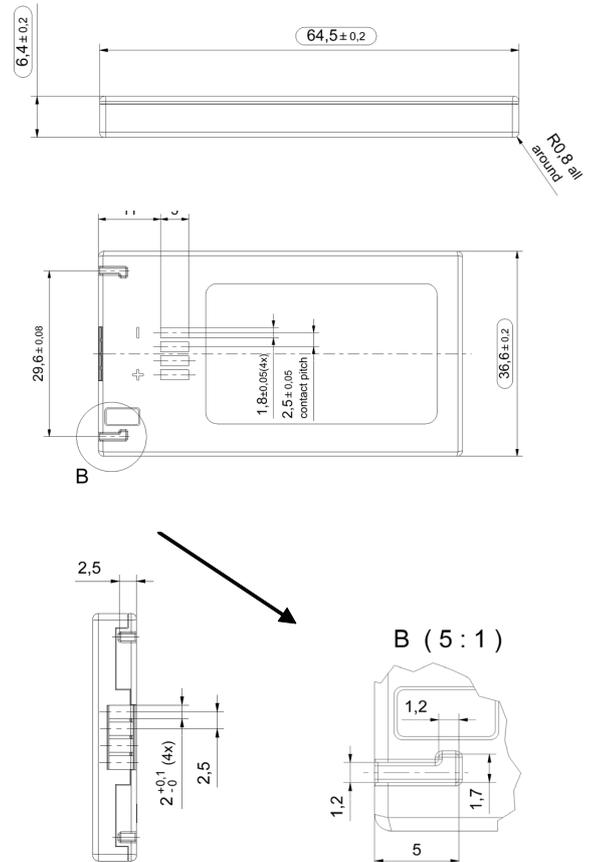
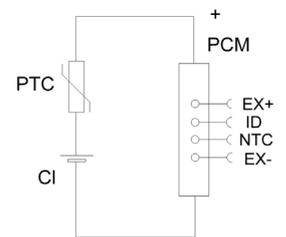
- Temperature Range
 - Charge ▶ 0 to +45°C
 - Discharge ▶ -10 to +60°C
 - Storage
 - ▶ Less than 1 month at at -20 to +60°C
 - ▶ Less than 3 months at -20°C to +45°C
 - ▶ Less than 1 year at -20°C to +30°C
- Humidity ▶ 65 ± 20%RH

4. ENVIRONMENTAL AND SAFETY

Please follow VARTA Handling and Safety Precautions for Lilon & LiPolymer.
The cell is approved according UL1642 and UN 38.3 certified.
This battery meets the requirements of Battery Directives and the battery parts are RoHS-Compliant.
This battery is UL 2054 listed and certified according to IEC 62133 edition 2.

Minimum Order Quantity: 600 pcs / Order Multiples: 150 pcs - Product for OEM customers only!

Protection Circuit Module



Product Information

2P/LPP503562 S PCM PC
EZPack XL ▶ VKB 56456 702 099



MM ▶ month two digits
Y ▶ year one digit
R ▶ week of month one digit

1. GENERAL

Battery with safety circuit and plastic housing

- Cell ▶ LPP 503562 S
- PCM ▶ Yes
- NTC ▶ 10 kΩ ±1%; B-Value 3435K ±1%
- ID ▶ 24 kΩ ±1%
- Configuration ▶ 2P
- Weight ▶ appr. 48g

2. ELECTRICAL SPECIFICATION

- Rated Capacity ▶ 2300mAh min., 2400mAh typical
- Nominal Voltage ▶ 3.7V
- Watt-Hour Rating ▶ 8.9Wh
- Charging Method ▶ Constant Current + Constant Voltage
- Max. Charge Voltage: ▶ 4.2V
- Max. Continuous Charge Current: ▶ 2300mA
- Rec. Charge Cut Off: ▶ by current 23mA or time 3.5h
- Max. Continuous Discharge Current: ▶ 3200mA (limited by PCM)
- Rec. Discharge Cut Off: ▶ 3V
- Internal Impedance: ▶ approx. 68mΩ
- Expected Cycle Life @ (1C/1C) @23 ±5°C ▶ >500 cycles >70% of initial cap.

CELL PROTECTION

- Overcharge Detection ▶ 4.3 ±0.02V (0.8 to 1.2sec. delay, release 4.1V ±0.03V)
- Overdischarge Detection: ▶ 2.40V ±0.035V (76.8 to 115.2msec. delay, release remove load & charging current)
- Overcurrent Detection ▶ 3.2A to 5.2A (9.6 to 14.4msec. delay)

3. AMBIENT CONDITIONS

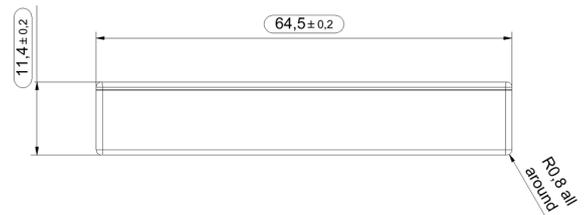
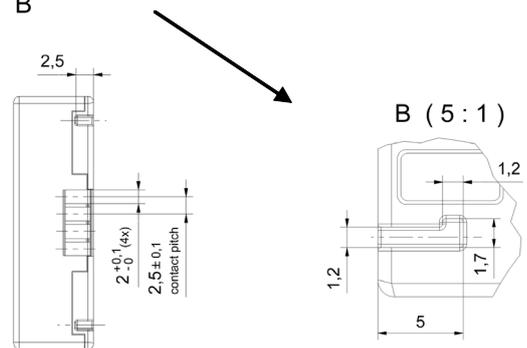
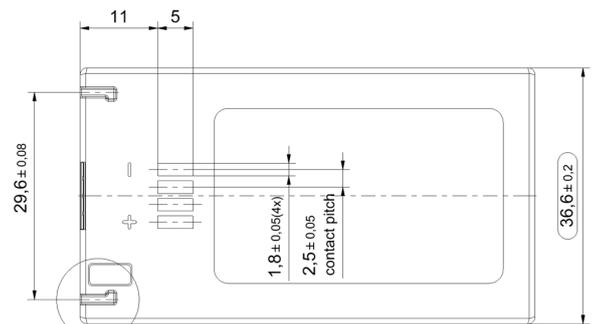
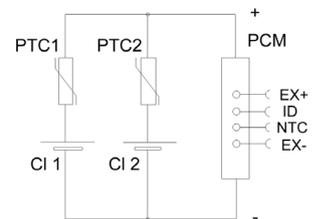
- Temperature Range
 - Charge ▶ 0 to +45°C
 - Discharge ▶ -10 to +60°C
 - Storage
 - ▶ Less than 1 month at at -20 to +60°C
 - ▶ Less than 3 months at -20°C to +45°C
 - ▶ Less than 1 year at -20°C to +30°C
- Humidity ▶ 65 ± 20%RH

4. ENVIRONMENTAL AND SAFETY

Please follow VARTA Handling and Safety Precautions for Lilon & LiPolymer.
The cell is approved according UL1642 and UN 38.3 certified.
This battery meets the requirements of Battery Directives and the battery parts are RoHS-Compliant.
This battery is UL 2054 listed and certified according to IEC 62133 edition 2.

Minimum Order Quantity: 300 pcs / Order Multiples: 100 pcs - Product for OEM customers only!

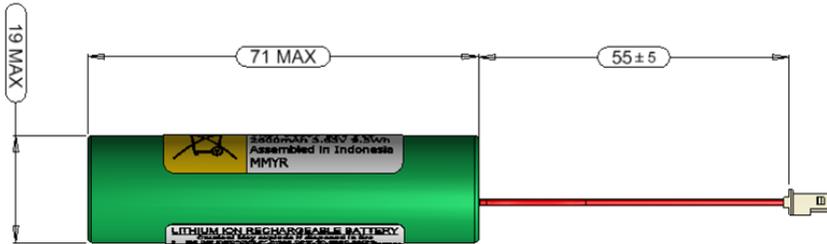
Protection Circuit Module



Product Information

1/LIC 18650 26 HC PCM S WC

▶ VKB 56637 201 016



VARTA Storage GmbH	Li-Ion
	1ICR19/65 1/LIC 18650-26HC VKB: 56637 201 016 2600mAh 3.63V 9.5Wh Assembled in Indonesia MMYR

MM ▶ month two digits
Y ▶ year one digit
R ▶ VARTA internal one digit

1. GENERAL

Battery Pack in shrink sleeve incl. safety circuit and wire connector

Cell	▶ LIC 18650-26 HC
PCM	▶ Yes
NTC	▶ None
ID	▶ None
Configuration	▶ 1S
Weight	▶ appr. 50g

2. ELECTRICAL SPECIFICATION

Rated Capacity	▶ 2550mAh min., 2600mAh nominal
Nominal Voltage	▶ 3.63V
Watt-Hour Rating	▶ 9.5Wh
Charging Method	▶ Constant Current + Constant Voltage
Max. Charge Voltage [V]:	▶ 4.2 (±50mV)
Max. Continuous Charge Current:	▶ 2500mA (limited by Connector)
Rec. Charge Cut Off:	▶ 0.05C or timer 2.5h
Max. Continuous Discharge Current:	▶ 2500mA (limited by Connector)
Rec. Discharge Cut Off:	▶ 2.75V
Internal Impedance:	▶ approx. 120mΩ
Expected Cycle Life @ (0.5C/0.5C) @ 25°C	▶ 300 cycles @ ≥ 1785mAh

CELL PROTECTION

Overcharge Detection	▶ 4.300 ± 0.025V (0.8 to 1.2sec. delay, resume 4.100V ± 0.030V)
Overdischarge Detection:	▶ 2.400V ± 0.035V (76.8 to 115.2msec. delay, resumed by removing load)
Overcurrent Detection	▶ 6A to 8A (9.6 to 14.4msec. delay)

3. AMBIENT CONDITIONS

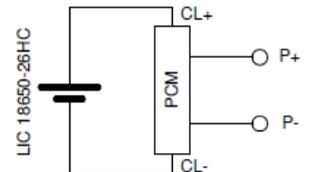
Temperature Range	
• Charge	▶ 0 to +45°C
• Discharge	▶ -20 to +60°C
• Charge Retention/ Storage [%]	▶ 1 year at -20 to +25°C > 80%
	▶ 3 months at -20°C to +45°C > 80%
	▶ 1 month at -20°C to +60°C > 80%
• Humidity	▶ 65 ± 20%RH

4. ENVIRONMENTAL AND SAFETY

Please follow VARTA Handling and Safety Precautions for Lilon & LiPolymer.
The cell used is a UL recognized component according to UL1642.
This battery meets the requirements of Battery Directives and the battery parts are RoHS-Compliant.
This battery is certified according to IEC62133 edition 2 and UN 38.3.

Minimum Order Quantity: 550 pcs / Order Multiples: 110 pcs - Product for OEM customers only!

Circuit Diagram



Product Information

2S/LIC 18650 26 HC PCM S WC

▶ VKB 56637 502 016



VARTA Storage GmbH Secondary Li-Ion

2ICR19/65
2S/LIC 18650-26HC
VKB: 56637 502 016
2600mAh 7.26V 19Wh
Max. charge voltage: 8.45V
Max. charge current: 2.6A
Charging temperature: 0°C to 45°C
Assembled in Indonesia
MMYR

- MM ▶ month two digits
- Y ▶ year one digit
- R ▶ VARTA internal one digit

1. GENERAL

Li-Ion Battery Pack in shrink sleeve incl. safety circuit, wires and connector

- Cell ▶ LIC 18650-26 HC
- PCM ▶ Yes
- NTC ▶ 10kΩ; B-value: 3435 ±1%
- ID ▶ None
- Configuration ▶ 2S layflat multiple
- Weight ▶ appr. 95g

2. ELECTRICAL SPECIFICATION

- Rated Capacity ▶ 2550mAh min., 2600mAh nominal
- Nominal Voltage ▶ 7.26V
- Watt-Hour Rating ▶ 19Wh
- Charging Method ▶ Constant Current + Constant Voltage
- Max. Charge Voltage [V]: ▶ 8.4 (±50mV)
- Max. Continuous Charge Current: ▶ 2600mA (limited by Cell)
- Rec. Charge Cut Off: ▶ 0.05C or timer 3h
- Max. Continuous Discharge Current: ▶ 3000mA (limited by Wire connector)
- Rec. Discharge Cut Off: ▶ 5.5V
- Internal Impedance: ▶ approx. 220mΩ
- Expected Cycle Life @ (0.5C/0.5C) @ 25°C ▶ 300 cycles @ ≥ 1785mAh

CELL PROTECTION

- Overcharge Detection ▶ 4.325V ~ 4.375V (920msec. ~ 1380msec. delay, resume 4.100V ~ 4200V)
- Overdischarge Detection: ▶ 2.250V ~ 2.350V (115msec. ~ 173msec. delay, resume 2.800V ~ 3.000V)
- Overcurrent Detection ▶ 4A ~ 7A (7.20msec. ~ 11.00msec. delay)

3. AMBIENT CONDITIONS

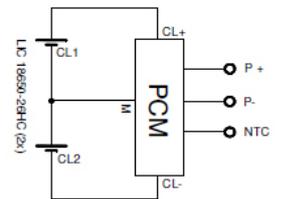
- Temperature Range
 - Charge ▶ 0 to +45°C
 - Discharge ▶ -20 to +60°C
- Storage with >80% Capacity recovery
 - ▶ 1 year at -20 to +25°C
 - ▶ 3 months at -20°C to +45°C
 - ▶ 1 month at -20°C to +60°C

4. ENVIRONMENTAL AND SAFETY

Please follow VARTA Handling and Safety Precautions for Lilon & LiPolymer.
The cell used is a UL recognized component according to UL1642.
This battery meets the requirements of Battery Directives and the battery parts are RoHS-Compliant.
This battery is certified according to IEC62133 edition 2.

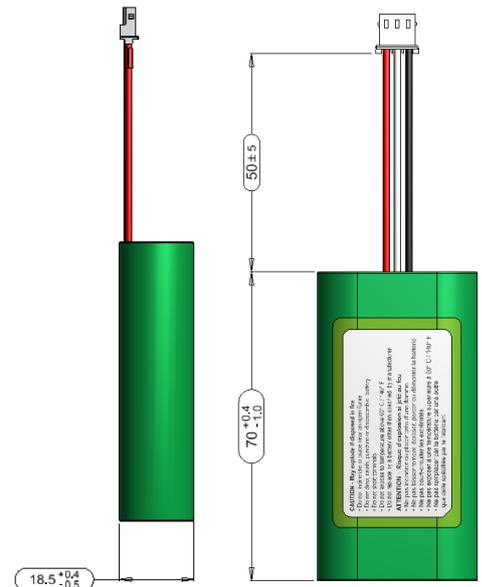
Minimum Order Quantity: 400 pcs / Order Multiples: 50 pcs - Product for OEM customers only!

Circuit Diagram



- Pin 1: red wire (+)
AWG 22 UL 1007
- Pin 2: white wire (NTC)
AWG 22 UL 1007
- Pin 3: black wire (-)
AWG 22 UL 1007

Molex connector:
Housing 5264-03
Terminal 5263 PBT

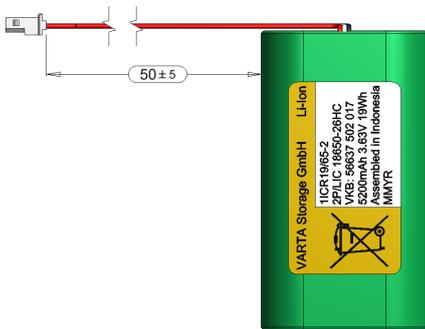


Product Information



2P/LIC 18650 26 HC PCM S WC

▶ VKB 56637 502 017



VARTA Storage GmbH	Li-Ion
	1ICR19/65-2 2P/LIC 18650-26HC VKB: 56637 502 017 5200mAh 3.63V 19Wh Assembled in Indonesia MMYR

MM ▶ month two digits
Y ▶ year one digit
R ▶ VARTA internal one digit

1. GENERAL

Li-Ion Battery Pack in shrink sleeve incl. safety circuit, wires and connector

Cell	▶ LIC 18650-26 HC
PCM	▶ Yes
NTC	▶ 10kΩ ± 3%; B-value: 3435K ± 3%
ID	▶ None
Configuration	▶ 2P
Weight	▶ appr. 95g

2. ELECTRICAL SPECIFICATION

Rated Capacity	▶ 5100mAh min., 5200mAh nominal
Nominal Voltage	▶ 3.63V
Watt-Hour Rating	▶ 19Wh
Charging Method	▶ Constant Current + Constant Voltage
Max. Charge Voltage [V]:	▶ 4.2 (±50mV)
Max. Continuous Charge Current:	▶ 2500mA (limited by PCM)
Rec. Charge Cut Off:	▶ 0.05C or timer 3h
Max. Continuous Discharge Current:	▶ 2500mA (limited by PCM)
Rec. Discharge Cut Off:	▶ 2.75V
Internal Impedance:	▶ approx. 100mΩ
Expected Cycle Life @ (0.5C/0.5C) @ 25°C	▶ 300 cycles @ ≥ 3570mAh

CELL PROTECTION

Overcharge Detection	▶ 4.250V ± 4.300V (0.6 to 1.3sec. delay, auto release)
Overdischarge Detection:	▶ 2.220V ± 2.380V (60 to 130msec. delay, auto release)
Overcurrent Detection @ charging	▶ 3.6A to 7.0A (15 to 33msec. delay)
Overcurrent Detection @ discharging	▶ 4.0A to 6.3A (9.8 to 22msec. delay)

3. AMBIENT CONDITIONS

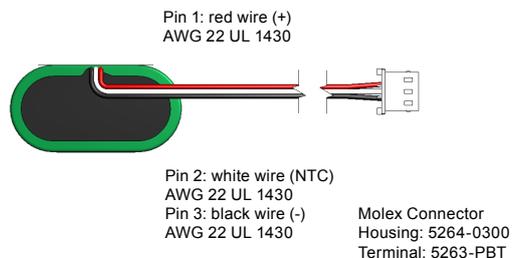
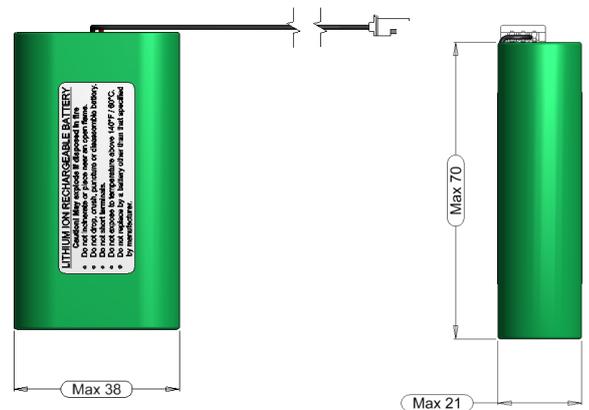
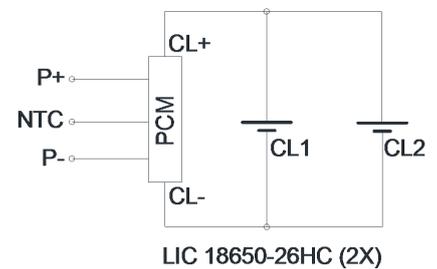
Temperature Range	▶ 0 to +45°C
• Charge	▶ -20 to +60°C
• Discharge	▶ 1 year at -20 to +25°C > 80%
• Charge Retention/ Storage [%]	▶ 3 months at -20°C to +45°C > 80%
	▶ 1 month at -20°C to +60°C > 80%
• Humidity	▶ 65 ± 20%RH

4. ENVIRONMENTAL AND SAFETY

Please follow VARTA Handling and Safety Precautions for Lilon & LiPolymer.
The cell used is a UL recognized component according to UL1642.
This battery meets the requirements of Battery Directives and the battery parts are RoHS-Compliant.
This battery is certified according to IEC62133 edition 2 and UN 38.3.

Minimum Order Quantity: 400 pcs / Order Multiples: 50 pcs - Product for OEM customers only!

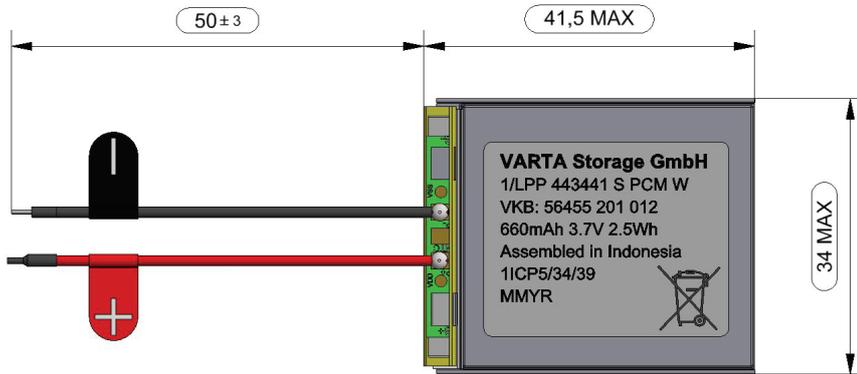
Circuit Diagram



Product Information



1/LPP 443441 S PCM W
 ▶ VKB 56455 201 012



VARTA Storage GmbH
 1/LPP 443441 S PCM W
 VKB: 56455 201 012
 660mAh 3.7V 2.5Wh
 Assembled in Indonesia
 1ICP5/34/39
 MMYR

MM ▶ month two digits
 Y ▶ year one digit
 R ▶ week one digit

1. GENERAL

Battery Pack including safety circuit and wires
 Cell ▶ LPP 443441 S
 PCM ▶ Yes
 NTC ▶ None
 ID ▶ None
 Configuration ▶ 1S
 Weight ▶ appr. 13g

2. ELECTRICAL SPECIFICATION

Rated Capacity ▶ 630mAh min., 660mAh nominal
 Nominal Voltage ▶ 3.7V
 Watt-Hour Rating ▶ 2.5Wh
 Charging Method ▶ Constant Current + Constant Voltage
 Max. Charge Voltage: ▶ 4.2V (±50mV)
 Max. Continuous Charge Current: ▶ 630mA (limited by cell DS)
 Rec. Charge Cut Off: ▶ 6.3mA or timer 2.5h
 Max. Continuous Discharge Current: ▶ 1260mA (limited by cell DS)
 Rec. Discharge Cut Off: ▶ 3V
 Internal Impedance: ▶ approx. 130mΩ
 Expected Cycle Life @ (1C/1C) @ 23 ±5°C ▶ 500 cycles ≥70%

CELL PROTECTION

Overcharge Detection ▶ 4.275V ± 25mV (0.7 to 1.3sec. delay, resume 4.275V ± 25mV)
 Overdischarge Detection: ▶ 2.30V ± 58mV (14 to 26msec. delay, resume 2.3V ± 58mV)
 Overcurrent Detection ▶ 2.0A to 4.5A (8 to 16msec. delay @ discharge)

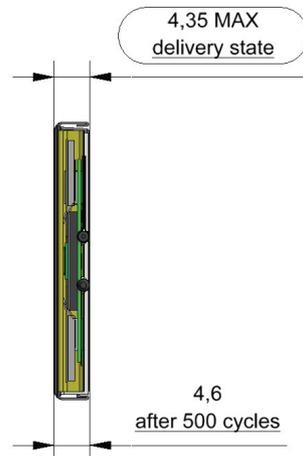
3. AMBIENT CONDITIONS

Temperature Range
 • Charge ▶ 0 to +45°C
 • Discharge ▶ -10 to +60°C
 • Storage Temperature
 ▶ 1 year at -20 to + 30°C with >80% capacity recovery
 ▶ 3 months at -20 to 45°C with >80% capacity recovery
 ▶ 1 month at -20 to 60°C with >80% capacity recovery
 • Humidity ▶ 65 ± 20%RH

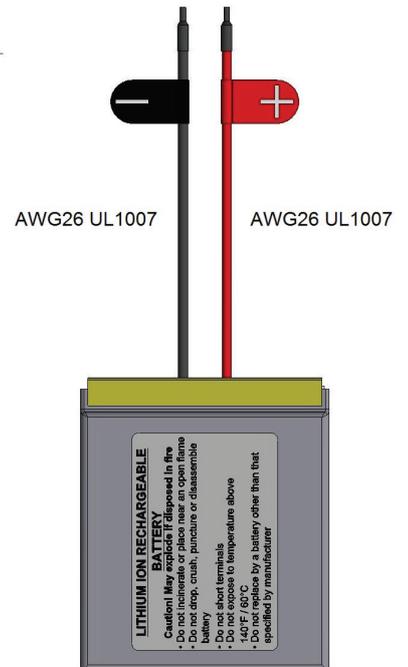
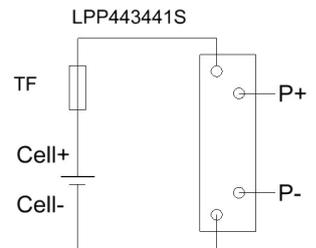
4. ENVIRONMENTAL AND SAFETY

Please follow VARTA Handling and Safety Precautions for Lilon & LiPolymer.
 The cell used is a UL recognized component according to UL1642.
 This battery meets the requirements of Battery Directives and the battery parts are RoHS-Compliant.
 The battery is certified according to IEC62133 edition 2 and UN 38.3.

Minimum Order Quantity: 600 pcs / Order Multiples: 120 pcs - Product for OEM customers only!



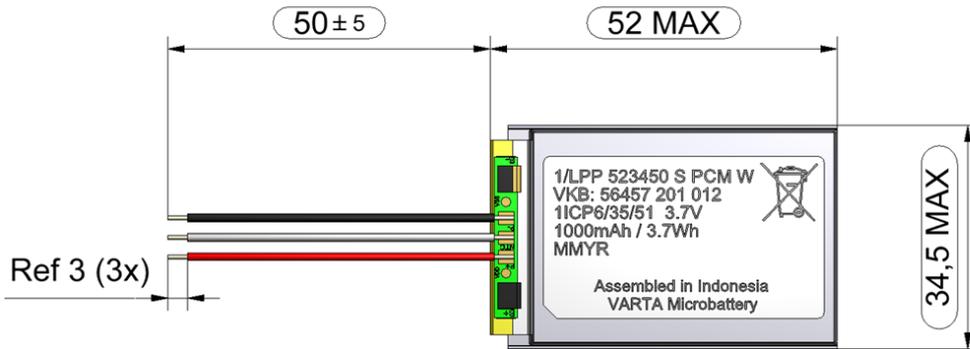
Circuit Diagram



Product Information



1/LPP 523450 S PCM W
 ▶ VKB 56457 201 012



1/LPP 523450 S PCM W
 VKB: 56457 201 012
 11CP6/35/51 3.7V
 1000mAh / 3.7Wh
 MMYR

Assembled in Indonesia
 VARTA Microbattery

MM ▶ month two digits
 Y ▶ year one digit
 R ▶ week one digit

1. GENERAL

Battery Pack incl. safety circuit & wires

- Cell ▶ LPP 523450 S
- PCM ▶ Yes
- NTC ▶ 10kΩ ±1%; B-value 3380K
- ID ▶ None
- Configuration ▶ 1S layflat
- Weight ▶ appr. 20g

2. ELECTRICAL SPECIFICATION

- Rated Capacity ▶ 950mAh min., 1000mAh typical
- Nominal Voltage ▶ 3.7V
- Watt-Hour Rating ▶ 3.7Wh
- Charging Method ▶ Constant Current + Constant Voltage
- Max. Charge Voltage: ▶ 4.2V
- Max. Continuous Charge Current: ▶ 1000mA (limited by cell DS)
- Rec. Charge Cut Off: ▶ 10mA or timer 3.5h
- Max. Continuous Discharge Current: ▶ 2000mA (limited by cell DS)
- Rec. Discharge Cut Off: ▶ 3V
- Internal Impedance: ▶ approx. 100mΩ
- Expected Cycle Life @ (1C/1C) @ 23 ±5°C ▶ 500 cycles ≥ 800mAh

CELL PROTECTION

- Overcharge Detection ▶ 4.275V ±25mV (0.7 to 1.3sec. delay, release 4.275V ±25mV)
- Overdischarge Detection: ▶ 2.3V ±58mV (14 to 26msec. delay, resume 2.3V ±58mV)
- Overcurrent Detection ▶ 2A to 4.5A (8 to 16msec. delay)

3. AMBIENT CONDITIONS

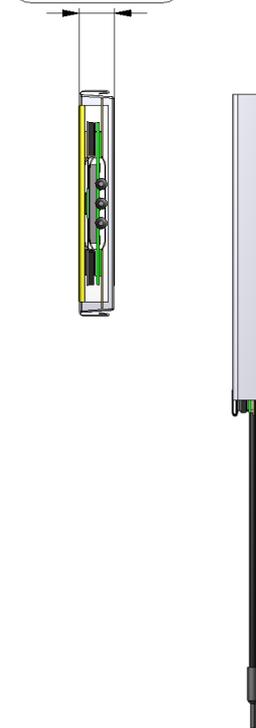
- Temperature Range
 - Charge ▶ 0 to +45°C
 - Discharge ▶ -10 to +60°C
 - Storage
 - ▶ 1 year at -20 to +30°C >80%
 - ▶ 3 months at -20 to +45°C >80%
 - ▶ 1 month at -20 to +60°C >80%
- Humidity ▶ 65 ± 20%RH

4. ENVIRONMENTAL AND SAFETY

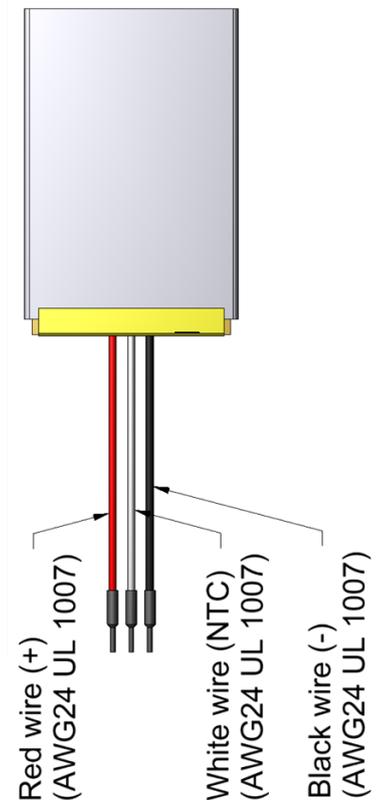
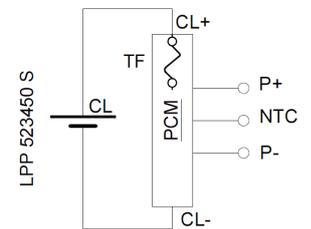
Please follow VARTA Handling and Safety Precautions for Lilon & LiPolymer.
 The cell used is a UL recognized component according to UL1642 and UN 38.3 certified.
 The cell is IEC 62133 edition 2 certified.
 This battery meets the requirements of Battery Directives and the battery parts are RoHS-Compliant.

Minimum Order Quantity: 600 pcs / Order Multiples: 120 pcs - Product for OEM customers only!

5,3 MAX



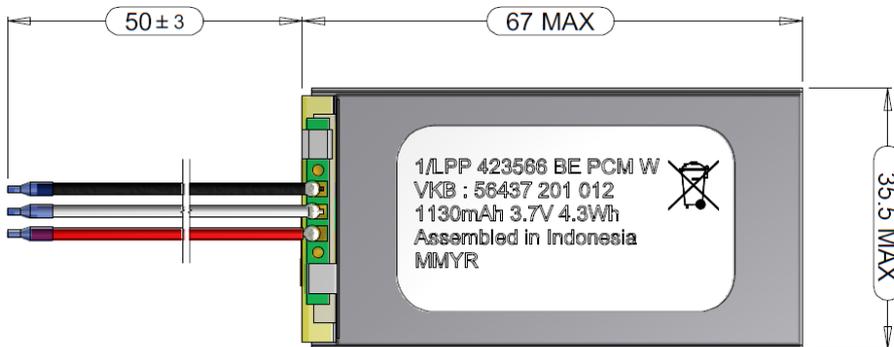
Circuit Diagram



Product Information



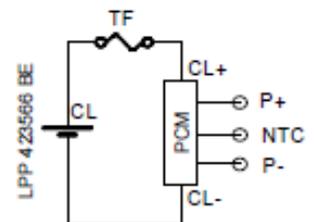
1/LPP 423566 BE PCM W
 ▶ VKB 56437 201 012



1/LPP 423566 BE PCM W
 VKB : 56437 201 012
 1130mAh 3.7V 4.3Wh
 Assembled in Indonesia
 MMYR

MM ▶ month two digits
 Y ▶ year one digit
 R ▶ plant one digit

Circuit Diagram



1. GENERAL

Battery Pack including safety circuit and wires

- Cell ▶ LPP 423566 BE
- PCM ▶ Yes
- NTC ▶ 10 kΩ ± 1%; B-Value 3380 ± 1%
- ID ▶ None
- Configuration ▶ 1S
- Weight ▶ appr. 26g

2. ELECTRICAL SPECIFICATION

- Rated Capacity ▶ 1130mAh min., 1160mAh typical
- Nominal Voltage ▶ 3.7V
- Watt-Hour Rating ▶ 4.3Wh
- Charging Method ▶ Constant Current + Constant Voltage
- Max. Charge Voltage [V]: ▶ 4.2 (±50mV)
- Max. Continuous Charge Current: ▶ 1130mA (limited by cell DS)
- Rec. Charge Cut Off: ▶ by current 20mA or timer 2.5h
- Max. Continuous Discharge Current: ▶ 2000mA (limited by PCM)
- Rec. Discharge Cut Off: ▶ 3V
- Internal Impedance: ▶ approx. 120mΩ
- Expected Cycle Life @ (C/2) @ 20°C ▶ 400 cycles >75% of initial cap.

CELL PROTECTION

- Overcharge Detection ▶ 4.275V ± 25mV (0.7 to 1.3sec. delay, resume 4.275V ± 25mV)
- Overdischarge Detection: ▶ 2.30V ± 85mV (14 to 26msec. delay, resume 2.3V ± 58mV)
- Overcurrent Detection ▶ 2.0A to 4.0A (8 to 16msec. delay)

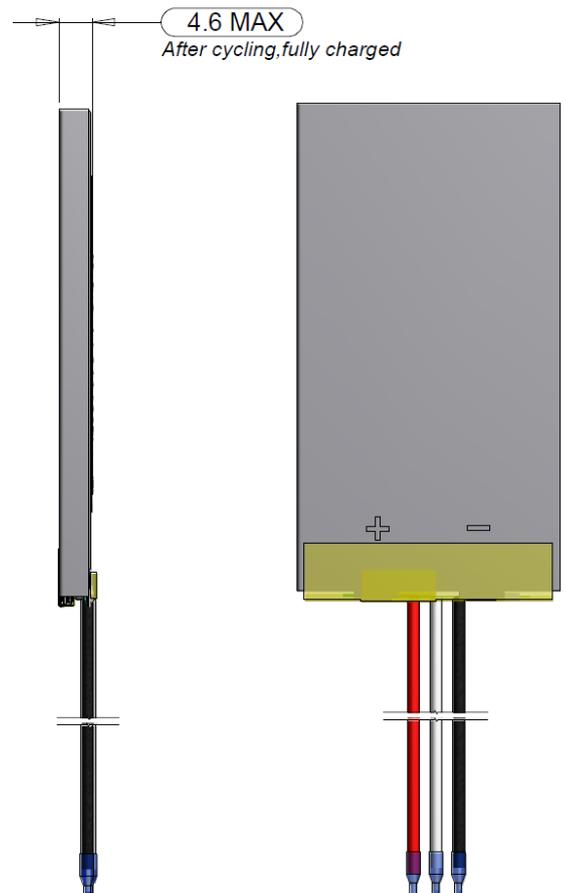
3. AMBIENT CONDITIONS

- Temperature Range
 - Charge ▶ 0 to +45°C
 - Discharge ▶ -20 to +60°C
 - Storage Temperature ▶ 6 months at -20 to +35°C
 - ▶ 1 month at -20°C to +45°C
- Humidity ▶ 65 ± 20%RH

4. ENVIRONMENTAL AND SAFETY

Please follow VARTA Handling and Safety Precautions for Lilon & LiPolymer.
 The cell used is a UL recognized component according to UL1642 and UN 38.3 certified.
 The cell is IEC 62133 edition 2 certified.
 This battery meets the requirements of Battery Directives and the battery parts are RoHS-Compliant.

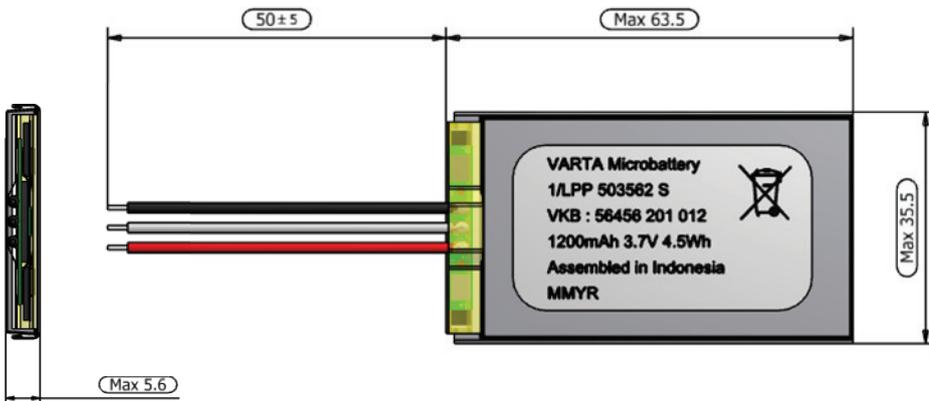
Minimum Order Quantity: 600 pcs / Order Multiples: 120 pcs - Product for OEM customers only!



Product Information



1/LPP 503562 S PCM W
 ▶ VKB 56456 201 012



VARTA Microbattery
 1/LPP 503562 S
 VKB : 56456 201 012
 1200mAh 3.7V 4.5Wh
 Assembled in Indonesia
 MMYR

MM ▶ month two digits
 Y ▶ year one digit
 R ▶ week one digit

1. GENERAL

Battery with safety circuit & wires

- Cell ▶ LPP 503562 S
- PCM ▶ Yes
- NTC ▶ 10kΩ ± 1%; B-value 3380
- ID ▶ None
- Configuration ▶ 1S
- Weight ▶ appr. 23g

2. ELECTRICAL SPECIFICATION

- Rated Capacity ▶ 1150mAh min., 1200mAh nominal
- Nominal Voltage ▶ 3.7V
- Watt-Hour Rating ▶ 4.5Wh
- Charging Method ▶ Constant Current + Constant Voltage
- Max. Charge Voltage: ▶ 4.2V
- Max. Continuous Charge Current: ▶ 1150mA (limited by cell DS)
- Rec. Charge Cut Off: ▶ 11.5mA or timer 2.0h
- Max. Continuous Discharge Current: ▶ 2A (limited by PCM)
- Rec. Discharge Cut Off: ▶ 3V
- Internal Impedance: ▶ approx. 100mΩ
- Expected Cycle Life @ (1.0C/1.0C) @ 23.5°C ▶ 500 cycles > 70%

CELL PROTECTION

- Overcharge Detection ▶ 4.275V ± 25mV (0.7 to 1.3sec. delay, resume 4.275V ± 25mV)
- Overdischarge Detection: ▶ 2.3V ± 58mV (14 to 26msec. delay, resume 2.3V ± 58mV)
- Overcurrent Detection ▶ 2A to 4.5A (8 to 16msec. delay @ discharge)

3. AMBIENT CONDITIONS

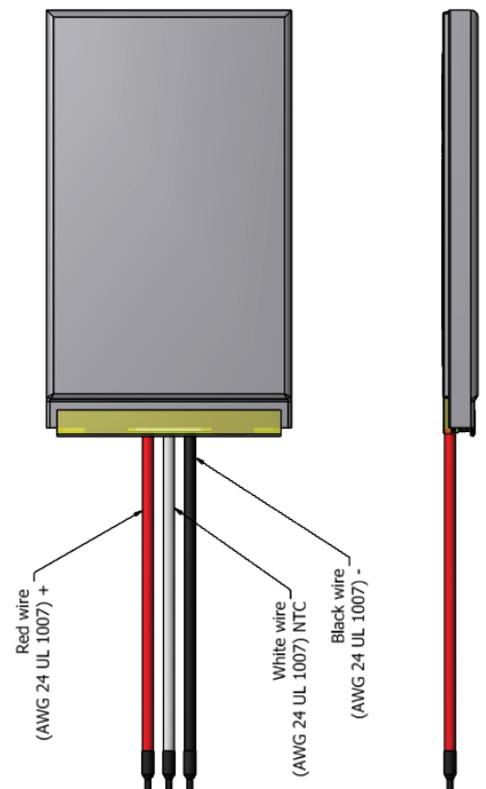
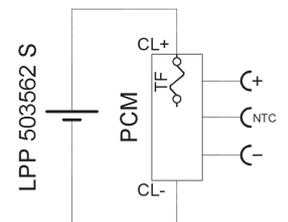
- Temperature Range
 - Charge ▶ 0 to +45°C
 - Discharge ▶ -10 to +60°C
 - Storage with >60% recovery
 - ▶ 1 year at -20 to +30°C
 - ▶ 3 months at -20 to +45°C
 - ▶ 1 month at -20 to +60°C
- Humidity ▶ 65 ± 20%RH

4. ENVIRONMENTAL AND SAFETY

Please follow VARTA Handling and Safety Precautions for Lilon & LiPolymer.
 The cell used is a UL recognized component according to UL1642 and UN 38.3 certified.
 The cell is IEC 62133 edition 2 certified.
 This battery meets the requirements of Battery Directives and the battery parts are RoHS-Compliant.

Minimum Order Quantity: 600 pcs / Order Multiples: 120 pcs - Product for OEM customers only!

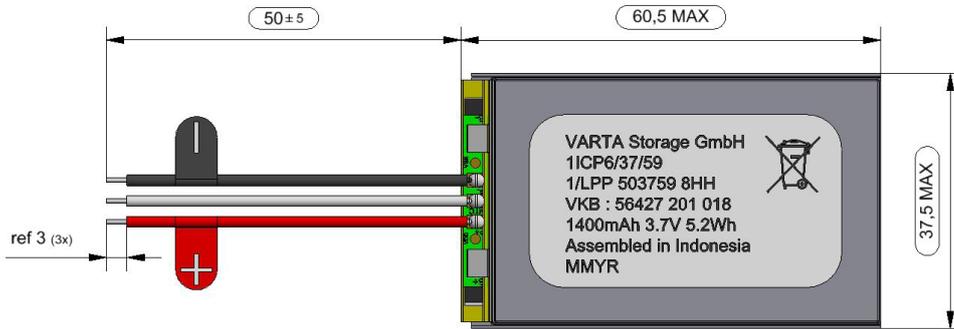
Circuit Diagram



Product Information



1/LPP 503759 8HH PCM W
 ▶ VKB 56427 201 018



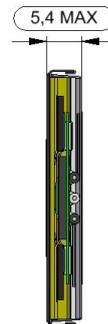
VARTA Storage GmbH
 1ICP6/37/59
 1/LPP 503759 8HH
 VKB : 56427 201 018
 1400mAh 3.7V 5.2Wh
 Assembled in Indonesia
 MMYR

MM ▶ month two digits
 Y ▶ year one digit
 R ▶ week one digit

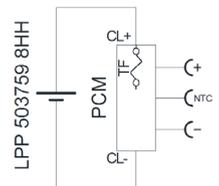
1. GENERAL

Battery Pack in shrink sleeve incl. safety circuit & wires

- Cell ▶ LPP 503759 8HH
- PCM ▶ Yes
- NTC ▶ 10kΩ ± 1%; B-value 3380
- ID ▶ None
- Configuration ▶ 1S
- Weight ▶ appr. 25g



Circuit Diagram



2. ELECTRICAL SPECIFICATION

- Rated Capacity ▶ 1320mAh min., 1400mAh typical
- Nominal Voltage ▶ 3.7V
- Watt-Hour Rating ▶ 5.2Wh
- Charging Method ▶ Constant Current + Constant Voltage
- Max. Charge Voltage: ▶ 4.2V (±50mV)
- Max. Continuous Charge Current: ▶ 1980mA (limited by cell DS)
- Rec. Charge Cut Off: ▶ 50mA or timer 2.5h
- Max. Continuous Discharge Current: ▶ 2000mA (limited by PCM)
- Rec. Discharge Cut Off: ▶ 3V
- Internal Impedance: ▶ approx. 100mΩ
- Exp. Cycle Life @ (1C/0.5C) @ 23 ±2°C ▶ 500 cycles ≥ 1098mAh

CELL PROTECTION

- Overcharge Detection ▶ 4.275V ± 25mV (0.7 to 1.3sec. delay, resume 4.275V ± 25mV)
- Overdischarge Detection: ▶ 2.3V ± 58mV (14 to 26msec. delay, resume 2.3V ± 58mV)
- Overcurrent Detection ▶ 2A to 4.5A (8 to 16msec. delay @ discharge)

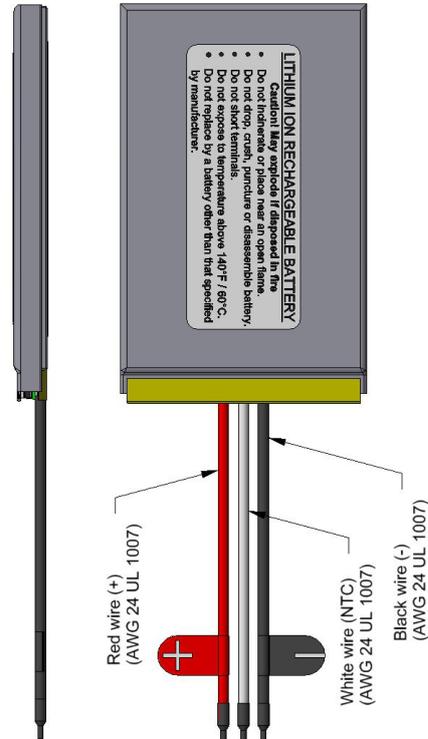
3. AMBIENT CONDITIONS

- Temperature Range
 - Charge ▶ 0 to +45°C
 - Discharge ▶ -20 to +60°C
- Storage Capacity Recovery Rate ▶ 1 month at -10 to +45°C > 85%
- Humidity ▶ 65 ± 20%RH

4. ENVIRONMENTAL AND SAFETY

Please follow VARTA Handling and Safety Precautions for Lilon & LiPolymer.
 The cell used is a UL recognized component according to UL1642.
 This battery meets the requirements of Battery Directives and the battery parts are RoHS-Compliant.
 The battery is certified according to IEC 62133 edition 2 and UN 38.3.

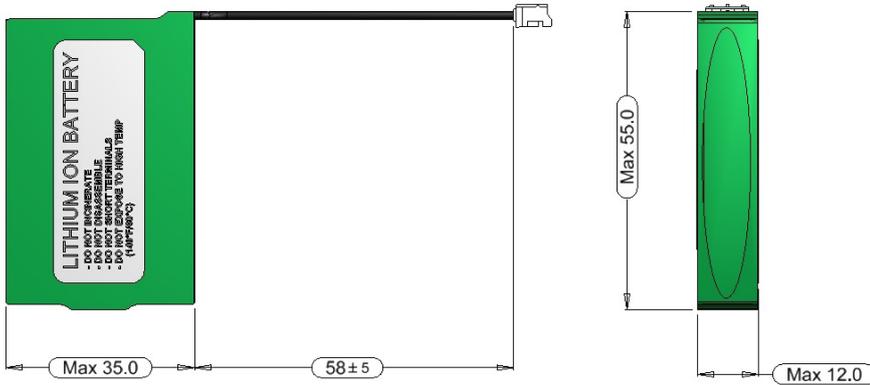
Minimum Order Quantity: 600 pcs / Order Multiples: 120 pcs - Product for OEM customers only!



Product Information

1/LIP 103450 SC PCM S WC

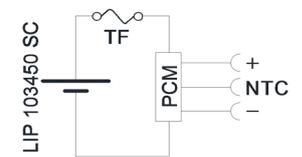
▶ VKB 56429 201 016



VARTA Storage GmbH	Li-Ion
	1/LIP 103450 SC VKB : 56429 201 016 2030mAh 3.7V 7.6Wh Assembled in Indonesia MMYR

MM ▶ month two digits
Y ▶ year one digit
R ▶ plant one digit

Circuit Diagram



1. GENERAL

Li-Ion Battery Pack in shrink sleeve including safety circuit and wire connector

Cell	▶ LIP 103450 SC
PCM	▶ Yes
NTC	▶ 10 kΩ ± 1%; B-Value = 3435 ± 1%
ID	▶ None
Configuration	▶ 1S
Weight	▶ appr. 43g

2. ELECTRICAL SPECIFICATION

Rated Capacity	▶ 2000mAh min., 2030mAh typical
Nominal Voltage	▶ 3.7V
Watt-Hour Rating	▶ 7.4Wh
Charging Method	▶ Constant Current + Constant Voltage
Max. Charge Voltage [V]:	▶ 4.2 (±50mV)
Max. Continuous Charge Current:	▶ 1500mA (limited by PCM)
Rec. Charge Cut Off:	▶ 100mA or timer 3h
Max. Continuous Discharge Current:	▶ 1500mA (limited by PCM)
Rec. Discharge Cut Off:	▶ 3V
Internal Impedance:	▶ approx. 140mΩ
Expected Cycle Life @ (0.5C/0.5) @ 20°C	▶ 300 cycles >80% of min. capacity ▶ 500 cycles >70% of min. capacity

CELL PROTECTION

Overcharge Detection	▶ 4.275V ± 25mV (0.96 to 1.4sec. delay, resume 4.075V ± 50mV, remove charge current)
Overdischarge Detection:	▶ 2.30V ± 50mV (30 to 46msec. delay, resume 2.3V ± 100mV @ charge current)
Overcurrent Detection	▶ 5.2A to 8.0A (7.2 to 11msec. delay)

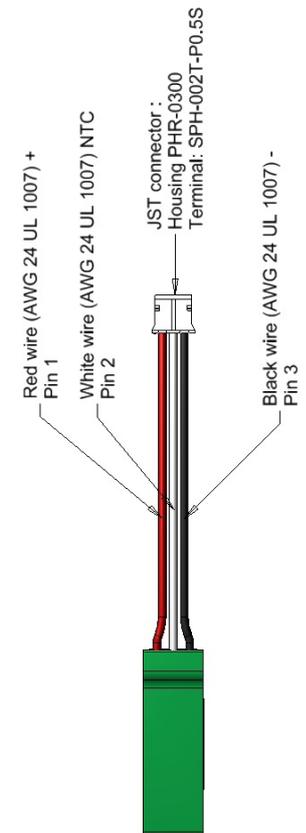
3. AMBIENT CONDITIONS

Temperature Range	
• Charge	▶ 0 to +45°C
• Discharge	▶ -20 to +60°C
• Storage Temperature	▶ 1 year at -20 to +20°C > 80% ▶ 3 months at -20°C to +45°C > 80% ▶ 1 month at -20°C to +60°C > 80%
• Humidity	▶ 65 ± 20%RH

4. ENVIRONMENTAL AND SAFETY

Please follow VARTA Handling and Safety Precautions for Lilon & LiPolymer.
The cell used is a UL recognized component according to UL1642 and UN38.3 certified.
This battery meets the requirements of Battery Directives and the battery parts are RoHS-Compliant.
The battery is certified according to IEC62133 edition 2.

Minimum Order Quantity: 500 pcs / Order Multiples: 100 pcs - Product for OEM customers only!

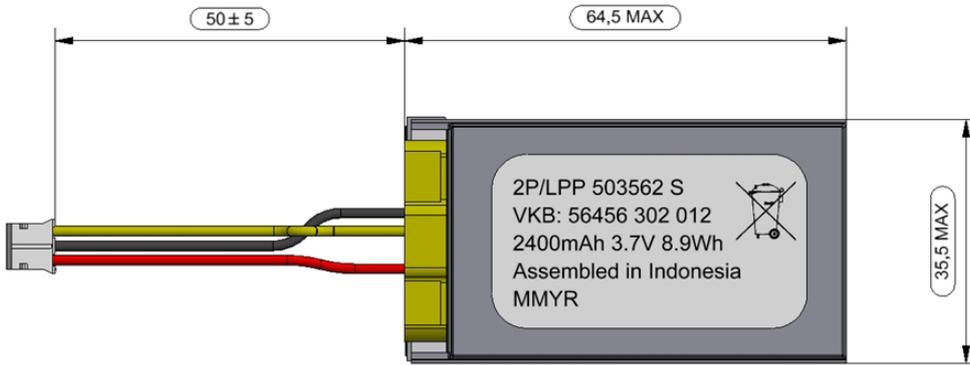


Product Information



2P/LPP 503562 S PCM WC

▶ VKB 56456 302 012



2P/LPP 503562 S
 VKB: 56456 302 012
 2400mAh 3.7V 8.9Wh
 Assembled in Indonesia
 MMYR

MM ▶ month two digits
 Y ▶ year one digit
 R ▶ week one digit

1. GENERAL

Battery Pack including safety circuit & wires with connector

Cell	▶ LPP 503562 S
PCM	▶ Yes
NTC	▶ 10kΩ ± 1%; B-value 3435K ± 1%
ID	▶ None
Configuration	▶ 2P stack up
Weight	▶ appr. 45g

2. ELECTRICAL SPECIFICATION

Rated Capacity	▶ 2300mAh min., 2400mAh nominal
Nominal Voltage	▶ 3.7V
Watt-Hour Rating	▶ 8.9Wh
Charging Method	▶ Constant Current + Constant Voltage
Max. Charge Voltage:	▶ 4.2V
Max. Continuous Charge Current:	▶ 1150mA (limited by cell DS)
Rec. Charge Cut Off:	▶ 23mA or timer 3.5h
Max. Continuous Discharge Current:	▶ 2000mA (limited by connector)
Rec. Discharge Cut Off:	▶ 3V
Internal Impedance:	▶ approx. 90mΩ
Expected Cycle Life @ (1.0C/1.0C) @ 23.5°C	▶ 500 cycles > 70%

CELL PROTECTION

Overcharge Detection	▶ 4.3V ± 20mV (0.8 to 1.2sec. delay, resume 4.1V ± 30mV)
Overdischarge Detection:	▶ 2.4V ± 35mV (76.8 to 115.2msec. delay, @ remove loader & charging current)
Overcurrent Detection	▶ 3.2A to 5.2A (9.6 to 14.4msec. delay @ discharge)

3. AMBIENT CONDITIONS

Temperature Range	
• Charge	▶ 0 to +45°C
• Discharge	▶ -10 to +60°C
• Storage with >80% capacity recovery	▶ 1 year at -20 to +30°C ▶ 3 months at -20 to +45°C ▶ 1 month at -20 to +60°C
• Humidity	▶ 65 ± 20%RH

4. ENVIRONMENTAL AND SAFETY

Please follow VARTA Handling and Safety Precautions for Lilon & LiPolymer.
 The cell used is a UL recognized component according to UL1642 and UN 38.3 certified.
 The cell is IEC 62133 edition 2 certified.
 This battery meets the requirements of Battery Directives and the battery parts are RoHS-Compliant.

Minimum Order Quantity: 600 pcs / Order Multiples: 120 pcs - Product for OEM customers only!

Circuit Diagram

