

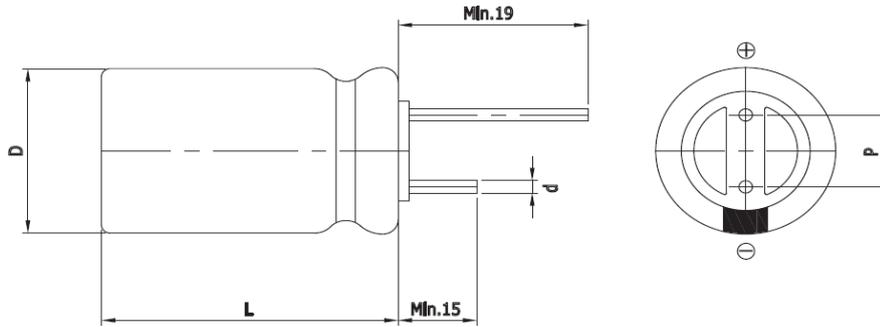
USER GUIDANCE (VPC Series)

- ※ VPC series are packed and shipped while charged. Short circuits between terminals can cause over-heating, which is dangerous. Use with caution in accordance with this user manual.

1.Product Overview

The Vina Pulse Capacitor(VPC) is a hybrid capacitor that has a longer lifetime, a wider temperature range with cost savings, and lower ESR to output a higher discharge current at the same size. Use the product according to its use and conditions of use.

2.Product specifications



- Exterior dimensions

Part Number	Size [mm]			
	D (Φ)	L (mm)	d (Φ)	P (mm)
VEL08203R8306G	08 + 0.1	20 ± 1.5	0.8 ± 0.1	3.5 ± 0.5
VEL10303R8107G	10 + 0.1	30 ± 1.5	0.8 ± 0.1	5.0 ± 0.5
VEL13253R8157G	13 + 0.1	25 ± 1.5	0.8 ± 0.1	5.0 ± 0.5
VEL13353R8257G	13 + 0.1	35 ± 1.5	0.8 ± 0.1	5.0 ± 0.5

-Electrical characteristics

Part Number	Operating Voltage (V)	Min. Voltage (V)	Operating Temperature (°C)	Impedance AC-ESR (1kHz) (mΩ)	Capacitance (F)	Terminal Type
VEL08203R8306G	3.8	2.5	-25 to 70	350	30	Lead
VEL10303R8107G	3.8	2.5	-25 to 70	90	100	Lead
VEL13253R8157G	3.8	2.5	-25 to 70	50	150	Lead
VEL13353R8257G	3.8	2.5	-25 to 70	40	250	Lead

Note: Unless otherwise stated, all tests are based on room temperature and room humidity.

*Room temperature:(25 ±5°C) Room humidity:(60 ± 20% RH)

3. Use and storage conditions

- 1) Operating temperature range: -25 ° to 70°C
(-40°C to +85°C, depending on some conditions)
- 2) Operating voltage range: 2.5V to 3.8V
- 3) Storage temperature range: 5°C to 35°C (20±5°C recommended)
- 4) Storage humidity range: 65% RH or less (non-condensation)

4. Cautions when handling

Please observe the following cautions when using the product:

○ Do not use or store the product for a long time at voltages below the lower voltage(2.5V).

• Use below the lower voltage or store for a long time can significantly shorten the lifetime and make it difficult to return to normal when recharging. Pay particular attention to storage, handling and circuit design.

○ Do not use or store the product for a long time at voltages more than 3.8V.

• Use above the upper limit voltage or store for a long time can significantly shorten the lifetime and cause electrolyte leakage due to high temperatures.

○ Do not short-circuit the product or reverse the anode and cathode terminal connections.

• Shorting the product can significantly degrade the electrical characteristics and may not be recharged or discharged.

• VPC products are polarised on the outer sleeve to identify terminals, and the terminal length is different. Check the external sleeve and terminal length before connecting the terminals.

○ Do not disassemble, change the product or damage it with sharp objects such as knives or nails.

○ Do not hit the product with a hammer or similar object.

○ Do not drop the product or give excessive shock or vibration.

• Do not use if the product is impacted by external factors as the shape is damaged, heating, leakage of electrolytes, or gas may occur.

○ Do not use or store the product in a place where conditions are available; High temperature, direct sunlight, heaters or other heat sources near, where humidity is high, condensation or freezing.

• Excessive high temperatures, direct sunlight, and near heat sources may result in electrolyte leaks and gas escaping with heat generation.

○ Do not use or store the product in an environment exposed to liquids such as solvents or oils.

- **Do not use or store the product in an environment full of oil-based gas components.**
 - Fire may occur due to heat of the product.

- **Do not use or store the product in an environment exposed to sea water or salt-filled air.**

- **Do not use or store the product in an environment full of corrosive gases.**
 - Prolonged storage or use of corrosive substances may cause short-circuiting of terminals, rapid product degradation and leakage of electrolytes.

- **If you touch conductive parts such as terminals, wear personal protective equipment such as insulated gloves.**
 - The VPC series is shipped on a charged state, so it can be burned by the terminals.

- **When carrying the product, do not hold lead terminal.**
 - Excessive force on the terminal may occur possibilities leakage, and the cause of the internal short circuit.

- **If it is used with other batteries, please contact VINATech first.**
 - If you'd like to connect with another battery, you may need to make adjustments depending on the battery.

- **If you have unusual conditions such as leakage, abnormal odor, smoke or release of heat, stop using the product and contact us or your distributor immediately.**

- **Do not rub when the leaked electrolyte comes in to contact with the skin or eyes. When the electrolyte is in a mouth, please wash it on the flow water and talk with doctor.**

- **When the product is shipped, the voltage is "equal to or more than 3.5V", but if you combine cells that have not been used for a long time, equalize the voltage of the cell before use.**
 - For cells that have not been used for a long time, the voltage may be reduced to a non-ideal, which may affect other cells due to overcurrent during module configuration.

- **If the variation or electrical characteristics of the product's appearance differ from the catalogue, discontinue use of the product and take appropriate action or replace it.**

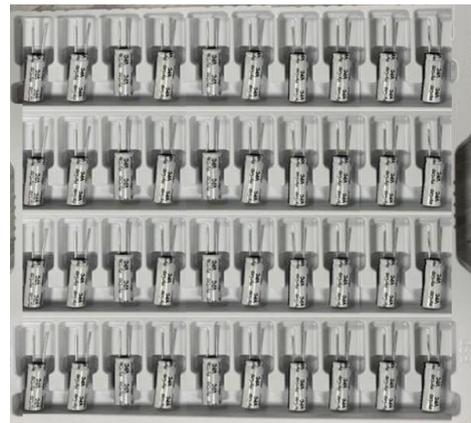
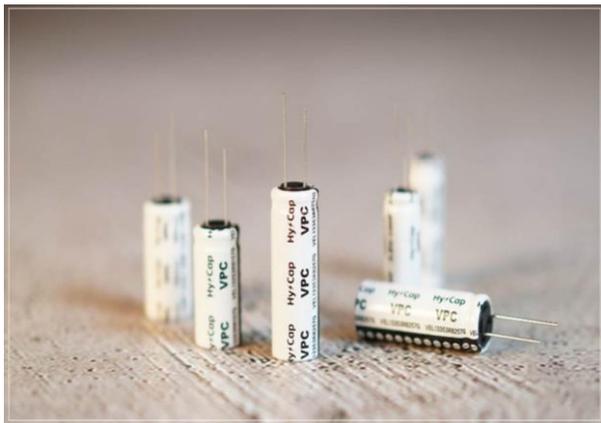
- **When disposing of cells, insulate the anode lead terminals (+) and cathode lead terminals (-) to avoid short circuits and dispose of them in accordance with local, national rules and regulations.**

5. Warranty and reliability

- Before exporting or accompanying VINATech's battery products and/or technical

information to third parties, you must meet the terms of the Foreign Exchange and Foreign Trade Control Act, the Export Control Regulation (EAR) and the procedures set forth in the Relevant Ordinances, Laws and Regulations and Regulations as well as in the United States. VINATech is not responsible for any problems caused by failure not to follow the necessary procedures.

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- The contents of this document may change without prior notice. Before making plans for mass production, it's recommended to contact VINATech in advance.



* VEL Series * VEL product packaging

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