



# Supercapacitor

## VPC VINA PULSE CAPACITOR

The new powerful VPC series offers High Energy Density, ultra low Leakage Current, low ESR and high energy from a new miniaturised Lithium Hybrid Capacitor development. VINATech have responded to market requests with 30F capacitance in 08 x 20 can, 100F, 150F and 250F family products.

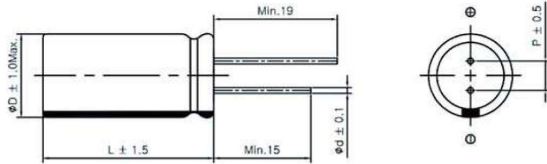
Ideally suited to supporting Battery powered products and IoT applications.

### Features

- Ultra Low Self Discharge
- High Operating Voltage
- High Energy Density
- High Capacitance
- Wide Operating Temperature Range



### Drawing



<b>D (Ø)</b>	8	10	13	13
<b>L (mm)</b>	20	30	25	35
<b>d (Ø)</b>	0.8			
<b>P (mm)</b>	3.5	5.0		

Item	Spec. value	Test methods
Operating Voltage Range	2.5 V to 3.8 V (2.5 V to 3.5 V @ 85 °C)	
Operating Temp. Range	-25 °C – 85 °C (-40 °C – 85 °C @ in Li/SOCL <sub>2</sub> battery system)	
Load Life @ 70 °C	Capacitance : ≤ 30 % of initial value ESR : ≤ 2 times of specified value Appearance : No abnormality	- Temperature : 70 ± 2 °C, 85 ± 2 °C - Time : 1,000 hours - Voltage : 3.8 V, 3.5 V and measure the floating charge characteristics after returning to normal temperature and humidity.
Load Life @ 85 °C		- Temperature : 85 ± 2 °C, -40 ± 2 °C - Duration : 30 min - Cycle Numbers : 100 cycles
Heat cycle characteristics		- Temperature : 25 ± 2 °C - Cycle Number : 50,000 - Discharge Current : 20 C - rate - Cut-off Voltage : 2.5 V (DOD 100 %)
Cycle Life		
Low Temperature characteristics	Capacitance : ≤ 50 % of initial value ESR : Less than 20 times of specified spec.	The specification shall be met lower category temperature range of -25 °C

#1 Reference IEC62813 4.2  
#2 1sec. Discharge to 3.2 V

Part Number	Rated Voltage (V <sub>r</sub> )	Rated Capacitance (F)	ESRAC (mΩ)	ESRDC (mΩ)	Leakage Current (µA)	Self Discharge (V)	Rated Current (A)	Pulse Current (A)	Weight (g)	Energy Density	Capacity
	Surge Voltage (4.0 V)	@ 25 °C #1	@ 25 °C 1 kHz	@ 25 °C 100 msec	@ 25 °C 72 hr	@ 25 °C #1	@ 25 °C	@ 25 °C #2		Wh/kg	Ah/kg
VEL08203R8306G	3.8	30	350	700	1	-3 %	0.15	0.5	1.9	17.961	5.702
VEL10303R8107G		100	100	200	2		0.4	2.0	4.2	27.083	8.598
VEL13253R8157G		150	70	140	3		0.5	3.0	6.2	27.520	8.737
VEL13353R8257G		250	50	100	5		0.75	5.0	8.2	34.680	11.009

\* Energy Density (Wh) :  $[0.5 \times C \times ((V_{rated}^2) - (V_{min}^2))] / 3600$   
\* Capacity (Ah) :  $(C \times (V_{rated} - V_{min})) / 3600$