www.vina.co.kr

Vision for Nature

Vision for Nature
VINA Tech

We promise that our customers will be our highest priority as we believe that we can only exist as long as our customers do.

Company Mission & Vision

Mission

Based on happiness of all our members, we offer environment-friendly products and contribute to the continuous prosperity of society

Vision

World Best Supercap Provider

Certification / Intellectual Property

KSA ISO 14001 CERTIFIED — ISO 14001	KSA ISO 9001 CERTIFIED — ISO 9001	KSA ISO/TS 16949 CERTIFIED — ISO/TS16949	INNOBIZ Innovation Association — INNOBIZ
Venture for Tomorrow — VENTURE MARK	UL	HRD — Best HRD	koita — Enterprise R&D Center
Green Certification	Export Prospect Enterprise	NET — New Excellent Technology	Component Material Specialty Enterprise

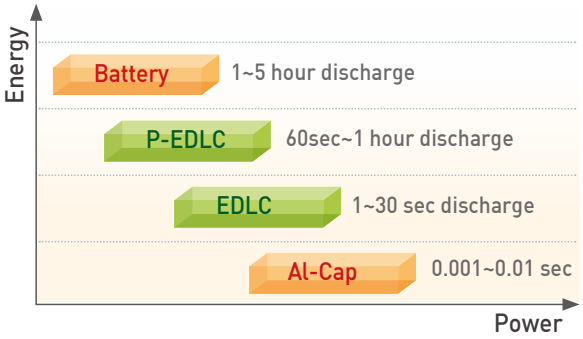
RoHS compliant

VINATech Vision for Nature

Hy-Cap / VinaTech Supercapacitor

Environment-friendly New Energy Storage Device

Hy-Cap is a brand name of VinaTech's supercapacitor products. Supercapacitor is an electrochemical energy storage device in the "power" industries.
Compared with battery, supercapacitor has one-tenth of energy, but delivers over 10 times power due to ultra low ESR. It operates more reliably in wider temperature and its life is semi-permanent, over 500,000 cycles.



EDLC [Electric Double Layer Capacitor]

FEATURES
Rated 2.5V & 2.7V & 3.0V
Higher Power Density (low ESR)
Over 500,000 cycle life
Short-term Peak Power assist applications
Operating temperature range : - Rated 2.5V : -25℃ ~ 70℃ - Rated 2.7V & 3.0V : -40℃ ~ 65℃

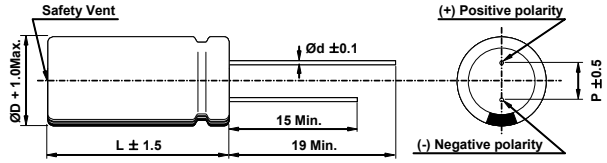
P-EDLC [Hybrid Capacitor]

FEATURES
Rated 2.3V
Higher Energy Density (2 times of EDLC)
Over 50,000 cycle life
Low current & long-term backup applications
Operating temperature range : -25℃ ~ 60℃

Hy-Cap / VinaTech Supercapacitor

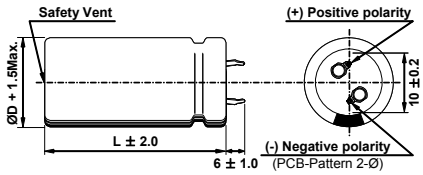
Standard Products

LEAD TYPE

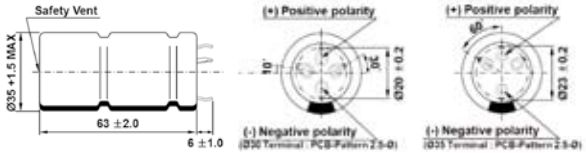


D	8	10, 13	16, 18
d	0.6		0.8
P	3.5	5.0	7.5

SNAP-IN TYPE



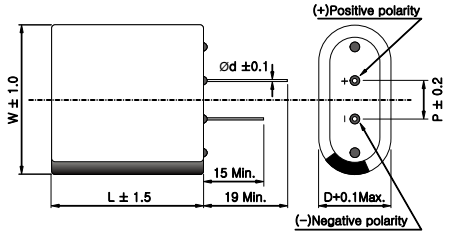
2 PIN TYPE



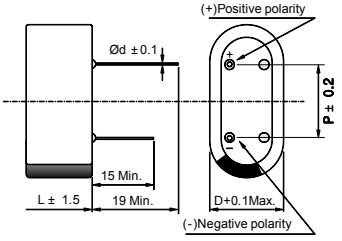
4 PIN TYPE

2 SERIAL MODULE : DRAWING

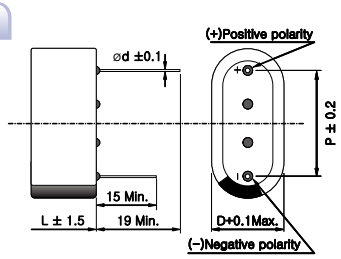
I TYPE



H TYPE



O TYPE



D = 8.5㎜

TYPE	I	O	H
P	4.7	12.3	8.5

D = 10.5㎜

TYPE	I	O	H
P	5.5	15.5	10.5

SPECIFICATION

ITEM		CHARACTERISTICS			
Product series		P-EDLC	EDLC		
Rated Voltage (V_R)		2.3 V	2.5 V	2.7 V	3.0 V
Operating Temperature		-25 ~ +60℃	-25 ~ +70℃	-40 ~ +65℃	
Capacitance Tolerance		-10 ~ +30%			
High Temperature Load Life	Measure	After 1,000 hours at V_R loaded under +60, +70, +65℃ respectively, capacitors meet the following criteria.			
	Cap. Change	≤ 30% of initial value			
	ESR Change	100% increase from specified value			
85℃ Higher Temperature		NA	Max.2.1V	Max.2.3V	Max.2.3V
Cycle Life Characteristics	Cycle	50,000	500,000		
	Cap. Change	≤ 30% of initial value			
	ESR Change	100% increase from specified value			
	Condition	Cycle of Charge/discharge from V_R to 1/2V_R			
Shelf life		2years uncharged up to 70℃ (ΔC : ≤10% of initial value / ΔESR : ≤ 50% of initial value)			

** Module specification for 2 series cells has identical characteristics to above items.
This specification can be substituted with alternative official documents(Data sheet) in detail.

RoHS compliant

VINATech Vision for Nature

Hy-Cap / VinaTech Supercapacitor

LEAD TERMINAL

PART NUMBER		Rated Voltage (V)	Capacitance (F)	ESR (mΩ)		Max. Current (A)	Leakage Current (㎃, 72hr)	Size (㎜)	Weight (g)	Volume (㎖)
				AC(1㎑)	DC			D × L		
P-EDLC	VHC 2R3 106 QG	2.3	10	220	700	0.2	0.014	10×20	2.5	1.6
	VHC 2R3 226 QG		22	120	330	0.4	0.038	10×30	3.6	2.4
	VHC 2R3 506 QG		50	60	160	0.8	0.090	16×25	8.5	5.0
	VHC 2R3 127 QG		120	45	80	2.0	0.240	18×40	16.0	10.2
EDLC	VEC 2R5 105 QG	2.5	1	250	420	0.9	0.003	08×13	1.2	0.7
	VEC 2R5 335 QG		3.3	140	350	1.8	0.008	08×20	1.7	1.0
	VEC 2R5 505 QG		5	110	270	2.7	0.012	10×20	2.2	1.6
	VEC 2R5 106 QG		10	65	150	5.0	0.027	10×30	3.2	2.4
	VEC 2R5 156 QG		15	60	130	6.4	0.035	13×25	4.5	3.1
	VEC 2R5 256 QG		25	35	100	8.9	0.060	16×25	7.6	5.0
	VEC 2R5 306 QG		30	35	70	12.1	0.070	16×30	8.5	6.0
	VEC 2R5 606 QG		60	20	50	18.8	0.120	18×40	13.7	10.2
	VEC 2R7 105 QG	2.7	1	90	150	1.2	0.002	08×13	1.1	0.7
	VEC 2R7 335 QG		3.3	50	110	3.0	0.008	08×20	1.4	1.0
	VEC 2R7 505 QG		5	35	70	5.0	0.012	10×20	2.1	1.6
	VEC 2R7 106 QG		10	20	34	10.1	0.030	10×30	3.0	2.4
	VEC 2R7 156 QG		15	25	45	12.1	0.053	13×25	4.5	3.1
	VEC 2R7 256 QG		25	15	25	20.8	0.068	16×25	6.8	5.0
	VEC 2R7 506 QG		50	10	18	35.5	0.105	18×40	11.3	10.2
	VEC 2R7 606 QG		60	10	18	47.1	0.105	18×40	11.8	10.2
	VEC 3R0 335 QG	3	3.3	50	100	3.5	0.010	08×20	1.4	1.0
	VEC 3R0 505 QG		5	35	70	5.6	0.014	10×20	2.1	1.6
	VEC 3R0 106 QG		10	20	34	11.2	0.036	10×30	3.0	2.4
	VEC 3R0 156 QG		15	25	45	13.4	0.054	13×25	4.5	3.1
	VEC 3R0 256 QG		25	15	25	23.1	0.082	16×25	6.8	5.0
	VEC 3R0 506 QG		50	10	18	39.5	0.126	18×40	11.3	10.2

※ Max. Current : EDLC 1sec. discharge to 1/2V_R / P-EDLC 60sec. discharge to 1/2V_R

※ Any Inquires for non-standard products are required to be submitted to hycap@vina.co.kr

Hy-Cap / VinaTech Supercapacitor

SNAP-IN TERMINAL

PART NUMBER		Rated Voltage (V)	Capacitance (F)	ESR (mΩ)		Max. Current (A)	Leakage Current (㎃, 72hr)	Size (㎜)	Weight (g)	Volume (㎖)
				AC(1㎑)	DC			D × L		
P-EDLC	VHC 2R3 227 QG	2.3	220	30	50	3.6	0.640	22×45	24.7	17.1
	VHC 2R3 307 QG		300	30	50	4.6	0.950	22×45	25.1	17.1
	VHC 2R3 407 QG		400	20	25	6.6	2.120	30×45	48.5	31.8
	VHC 2R3 547 QG		540	15	20	8.8	3.800	30×60	64.0	42.4
	VHC 2R3 807 QG		800	10	15	12.8	5.000	35×70	94.0	67.0
EDLC	VEC 2R5 127 QG	2.5	120	18	30	32.6	0.240	22×45	22.1	17.1
	VEC 2R5 227 QG		220	14	25	42.3	0.400	25×60	37.9	29.5
	VEC 2R5 367 QG		360	6	12	84.6	0.900	35×60	70.6	57.7
	VEC 2R5 407 QG		400	6	12	86.2	0.950	35×70	75.0	67.3
	VEC 2R5 507 QG		500	5	11	96.2	1.150	35×80	82.3	77.0
	VEC 2R7 107 QG	2.7	100	6	10	67.5	0.500	22×45	19.7	17.1
	VEC 2R7 227 QG		220	4.5	8	107.6	1.000	25×60	37.7	34.4
	VEC 2R7 367 QG		360	3	3.2	225.8	1.400	35×60	57.4	57.7
	VEC 2R7 407 QG		400	3	3.2	236.8	1.400	35×70	61.0	67.0
	VEC 2R7 507 QG		500	3	3.2	259.6	1.750	35×80	76.4	77.0
	VEC 3R0 107 QG	3.0	100	6	8	75.0	0.600	22×45	19.7	17.1
	VEC 3R0 367 QG		360	3	3.2	250.9	1.680	35×60	54.1	57.7
	VEC 3R0 407 QG		400	3	3.2	263.2	1.680	35×70	61.0	67.3
	VEC 3R0 507 QA		500	3	3.2	288.5	1.955	35×80	80.0	76.9

※ Ø22 ~ Ø30 : 2Pin (Ø30 : 4Pin Available)　※ Ø35 : 4Pin
※ Any Inquires for non-standard products are required to be contacted.

2 SERIES MODULE

PART NUMBER	Rated Voltage (V)	Capacitance (F)	ESR (mΩ)		Max. Current (A)	Leakage Current (㎃, 72hr)	Size (㎜)	Weight (g)	Volume (㎖)
			AC(1㎑)	DC			D × W × L		
VEC 5R0 504 QG	5.0	0.5	510	880	0.9	0.004	8.5×17×15.5	3.0	2.2
VEC 5R0 155 QG		1.5	300	735	1.8	0.008	8.5×17×22	3.8	3.2
VEC 5R0 255 QA		2.5	240	630	2.4	0.012	8.5×17×27	4.6	3.9
VEC 5R0 255 QG		2.5	240	560	2.6	0.012	10.5×21×22.5	5.0	5.0
VEC 5R0 355 QG		3.5	180	420	3.5	0.020	10.5×21×22.5	5.4	5.0
VEC 5R0 505 QG		5.0	150	315	5.0	0.027	10.5×21×32	7.0	7.1
VEC 5R0 755 QG		7.5	120	270	6.2	0.035	13×26×28	9.6	9.5
VEC 5R4 504 QG	5.4	0.5	190	315	1.2	0.004	8.5×17×15.5	2.6	2.2
VEC 5R4 155 QG		1.5	110	230	3.0	0.008	8.5×17×22	3.3	3.2
VEC 5R4 255 QG		2.5	90	190	4.6	0.012	8.5×17×27	4.5	3.9
VEC 5R4 255 QG		2.5	90	150	4.9	0.012	10.5×21×22.5	4.7	5.0
VEC 5R4 355 QG		3.5	70	120	6.7	0.020	10.5×21×22.5	4.8	5.0
VEC 5R4 505 QG		5.0	50	75	9.8	0.030	10.5×21×32	6.6	7.1
VEC 5R4 755 QG		7.5	50	95	11.8	0.053	13×26×28	9.6	9.5
VEC 6R0 155 QG	6.0	1.5	110	210	3.4	0.008	8.5×17×22	3.3	3.2
VEC 6R0 255 QG		2.5	90	130	5.7	0.012	10.5×21×22.5	4.7	5.0
VEC 6R0 505 QG		5.0	50	70	11.1	0.030	10.5×21×32	6.6	7.1

※ Any Inquires for non-standard products are required to be submitted to hycap@vina.co.kr

RoHS compliant

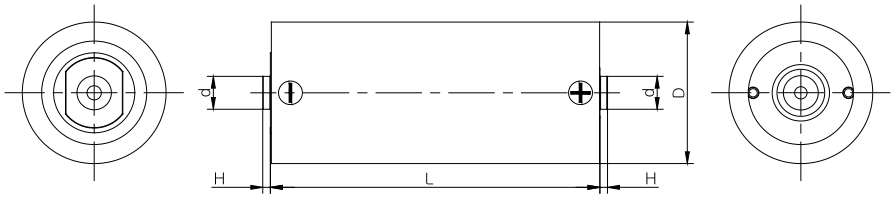
VINATech Vision for Nature

2.7V series

FEATURES

- Weldable Terminal
- Rated 2.7V
- High power density and ultra low ESR
- Suitable for Electric Power Storage
- Charge and Discharge efficiency are higher than in batteries

DRAWING



Dimension (mm)		
D (±0.2)	H (±0.125)	d (0/-0.05)
Φ60.4	3.2	Φ14

SPECIFICATION

ELECTRICAL		
Rated Voltage(VR)		2.7V
Capacitance Tolerance		0 ~ +20%
Operating Temperature range		-40 ~ +65°C
Storage Temperature range		-40 ~ +70°C
Low temperature Characteristics	Capacitance change	Within ± 5% of initial value at +20°C
	ESR change	Within ± 150% of initial value at +20°C
Endurance	After 1,500hr application of rated voltage at +65°C	
	Capacitance change	Within -20% of initial value
	ESR change	Within 2 times of initial value
Life test	After 10years at rated voltage and 25°C	
	Capacitance change	Within -20% of initial value
	ESR change	Within 2 times of initial value
Cycle Life	Capacitors cycles between rated voltage under constant current at 25°C (1,000,000 cycle)	
	Capacitance change	Within -20% of initial value
	ESR change	Within 2 times of initial value

PART NUMBER	Rated Voltage (V)	Capacitance (F)	ESR (mΩ)		Max Peak Current (A)	LC(72hr) (mA, Max.)	Size (㎜)	Energy Density		Weight (g)	Volume (㎖)
			AC(1㎑)	DC			D x L	(Wh/kg)	(Wh/L)		
VEC 2R7 657 HG-W	2.7	650	0.50	0.70	603	1.5	60.4x51.5	3.06	3.97	215	166
VEC 2R7 128 HG-W		1200	0.38	0.50	1013	2.7	60.4x74.0	3.92	5.27	310	230
VEC 2R7 168 HG-W		1600	0.34	0.45	1256	3.0	60.4x85.0	4.70	6.19	345	262
VEC 2R7 208 HG-W		2000	0.26	0.35	1588	4.2	60.4x102.0	4.94	6.52	410	311
VEC 2R7 308 HG-W		3000	0.21	0.28	2201	5.2	60.4x138.0	5.68	7.34	535	414

2.7V series

FEATURES

- Threaded Terminal
- Rated 2.7V
- High power density and ultra low ESR
- Suitable for Electric Power Storage
- Charge and Discharge efficiency are higher than in batteries

DRAWING

Dimension (mm)	
D (±0.2)	H (±0.125)
Φ60.4	14

SPECIFICATION

ELECTRICAL		
Rated Voltage(VR)		2.7V
Capacitance Tolerance		0 ~ +20%
Operating Temperature range		-40 ~ +65°C
Storage Temperature range		-40 ~ +70°C
Low Temperature Characteristics	Capacitance change	Within ± 5% of initial value at +20°C
	ESR change	Within ± 150% of initial value at +20°C
Endurance	After 1,500hr application of rated voltage at +65°C	
	Capacitance change	Within -20% of initial value
	ESR change	Within 2 times of initial value
Life Test	After 10years at rated voltage and 25°C	
	Capacitance change	Within -20% of initial value
	ESR change	Within 2 times of initial value
Cycle Life	Capacitors cycles between rated voltage under constant current at 25°C(1,000,000 cycle)	
	Capacitance change	Within -20% of initial value
	ESR change	Within 2 times of initial value

PART NUMBER	Rated Voltage (V)	Capacitance (F)	ESR (mΩ)		Max Peak Current (A)	LC(72hr) (mA, Max.)	Size (㎜)	Energy Density		Weight (g)	Volume (㎖)
			AC(1㎑)	DC			D × L	(Wh/kg)	(Wh/L)		
VEC 2R7 657 HG-T	2.7	650	0.50	0.70	603	1.5	60.4x51.5	2.99	2.89	220	228
VEC 2R7 128 HG-T		1200	0.38	0.50	1013	2.7	60.4x74.0	3.86	4.37	315	292
VEC 2R7 168 HG-T		1600	0.34	0.45	1256	3.0	60.4x85.0	4.63	5.24	350	324
VEC 2R7 208 HG-T		2000	0.26	0.35	1588	4.2	60.4x102.0	4.88	5.65	415	372
VEC 2R7 308 HG-T		3000	0.21	0.28	2201	5.2	60.4x138.0	5.63	6.58	540	476

RoHS compliant

VINATech Vision for Nature

High Power Standard Module

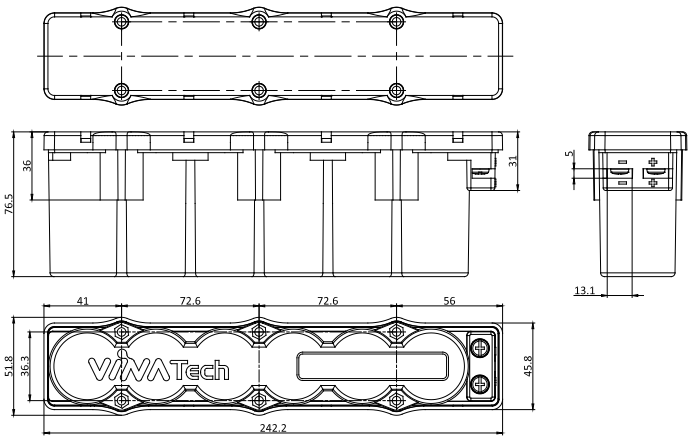
FEATURES

- Ultra-low internal resistance
- High power and reliable performance
- Over 500,000 duty cycles
- Compact & fully enclosed splash proof design

TYPICAL APPLICATIONS

- Automotive
- Consumer electronics
- Portable power tools
- Renewable energy system
- Short term UPS & Telecom
- Wind pitch control

DRAWING



SPECIFICATION

ELECTRICAL	VEM16R0606QG
Rated Capacitance	60 F
Maximum ESR_{DC}, initial	22 mΩ
Rated Voltage	16 V
Maximum Peak Current(1 second)	200 A
Maximum Continuous Current	20A
Leakage Current, maximum	22 mA
TEMPERATURE	
Operating Temperature	-40°C ~ 65°C
Storage Temperature	-40°C ~ 70°C
CELL VOLTAGE MANAGEMENT	
Cell Voltage Management	ACTIVE / PASSIVE
PHYSICAL	
Mass, typical	0.67 kg
Power Terminals	M5 Thread
Environmental Protection	IP54
POWER & ENERGY	
Usable Specific Power	2,400 W/kg
Specific Energy, E_{max}	3.33 Wh/kg
Stored Energy	2.13 Wh
LIFE	
High Temperature (1500 hours)	Capacitance: -20% of initial value, ESR: Within 2 times of initial value
Room Temperature (25°C)	Capacitance: -20% of initial value, ESR: Within 2 times of initial value
Cycle Life	500,000 cycles

16V Standard MODULE

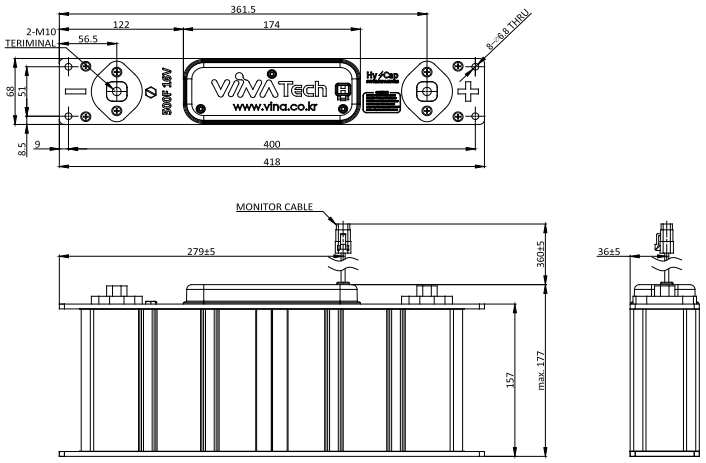
FEATURES

- Ultra-low internal resistance
- High power and reliable performance
- Over 1,000,000 duty cycles
- Compact & fully enclosed splash proof design

TYPICAL APPLICATIONS

- Automotive
- Industrial
- Telecommunications
- Transportation
- Uninterruptible Power Supplies(UPS)
- Wind turbines

DRAWING



SPECIFICATION

ELECTRICAL	VEM16R0507QG
Rated Capacitance	500 F
Maximum ESR_{DC}, initial	2.1 mΩ
Rated Voltage	16 V
Maximum Peak Current(1 second)	2000 A
Leakage Current, maximum	5.2 mA
TEMPERATURE	
Operating Temperature	-40°C ~ 65°C
Storage Temperature	-40°C ~ 70°C
PHYSICAL	
Mass, typical	5.5 kg
Power Terminals	M10
Environmental Protection	IP65
POWER & ENERGY	
Usable Specific Power	2,700 W/kg
Specific Energy, E_{max}	3.2 Wh/kg
Stored Energy	17.8 Wh
LIFE	
High Temperature (1500 hours)	Capacitance: -20% of initial value, ESR: Within 2 times of initial value
Room Temperature (25°C)	Capacitance: -20% of initial value, ESR: Within 2 times of initial value
Cycle Life	1,000,000 cycles

RoHS compliant

VINA Tech Vision for Nature

48V Standard MODULE

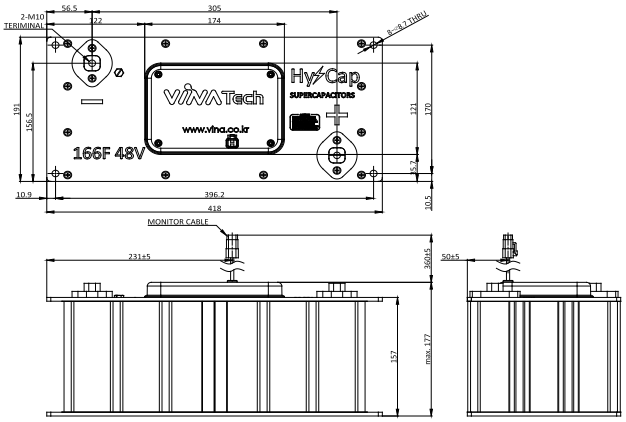
FEATURES

- Ultra-low internal resistance
- High power & reliable performance
- Over 1,000,000 duty cycles
- Compact & fully enclosed splash proof design

TYPICAL APPLICATIONS

- Automotive
- Industrial
- Telecommunications
- Bus, Train
- Uninterruptible Power Supplies(UPS)

DRAWING



SPECIFICATION

ELECTRICAL	VEM48R0167QG
Rated Capacitance	166 F
Maximum ESR_{DC}, initial	6.3 mΩ
Rated Voltage	48 V
Maximum Peak Current(1 second)	1,900 A
Leakage Current, maximum	5.2 mA
TEMPERATURE	
Operating Temperature	-40°C ~ 65°C
Storage Temperature	-40°C ~ 70°C
PHYSICAL	
Mass, typical	13.5 kg
Power Terminals	M10
Environmental Protection	IP65
POWER & ENERGY	
Usable Specific Power	3,300 W/kg
Specific Energy, E_{max}	3.9 Wh/kg
Stored Energy	52.8 Wh
LIFE	
High Temperature (1500 hours)	Capacitance: -20% of initial value, ESR: Within 2 times of initial value
Room Temperature (25°C)	Capacitance: -20% of initial value, ESR: Within 2 times of initial value
Cycle Life	1,000,000 cycles

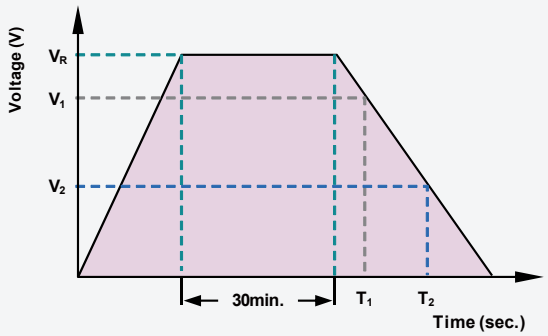
Hy-Cap / VinaTech Supercapacitor

RELIABILITY ITEMS TESTED & SPECIFICATION

ITEM		PASSING CRITERIA	TEST CONDITION
Cycle Life	Cap. Change	≤ 30% of initial value	• 1 cycle : Charge & discharge from V_R and 1/2V_R at 25℃ ① EC series : 500,000 cycles ② HC series : 50,000 cycles ③ HG Series : 1,000,000 cycles
	ESR Change	100% increase from specified value	
	Appearance	No remarkable change	
High Temp. Load Life	Cap. Change	≤ 30% of initial value	• Temp. : T_{Max} ± 2℃ • Voltage : V_R VDC • Test Time : T_{Max} : 1,000 (+48)hrs
	ESR Change	100% increase from specified value	
	Appearance	No remarkable change	
Temperature Characteristics (* 2.7V case)	Cap. Change	≤ 5% of initial value	• Temperature : T_{Min} ± 2℃ • Storage time : 12 hours • No load
	ESR Change	100% increase from specified value	
	Appearance	No remarkable change	
Vibration Resistance	Cap. Change	≤ 30% of initial value	• Amplitude : 1.5㎜ • Frequency : 10~55㎐ • Direction : X,Y,Z (2 hours) • Test time : 6 hours
	ESR Change	100% increase from specified value	
	Appearance	No remarkable change	
Soldering Effect	Cap.	Specified value	• Soldering Temp. : 310 ± 5℃ • Immersion time : 1 ± 0.2 sec. • Dip Length : To 1.6㎜ (auto-soldering)
	ESR	Specified value	
	Appearance	No remarkable change	
Humidity	Cap. Change	≤ 10% of initial value	• Rated Voltage • Temperature : 70℃ ± 2℃ • Relative Humidity : 90% • Test Time : 72hrs
	ESR Change	100% increase from specified value	
	Appearance	No remarkable change	

MEASUREMENT OF CAPACITANCE & ESR

Capacitance (F)



$$C(F) = I \times \frac{(T_2 - T_1)}{(V_1 - V_2)}$$

Where

V_R	Rated Voltage
V_1	$0.8V_R$
V_2	$0.4V_R$
I	Discharge Current (1mA per farad)

DC ESR(R_d) is calculated by voltage drop (ΔV) which is measured by the period of time from discharge start to 10 milli-seconds later.
The discharge current(A) for test and measurement, 40 x Capacitance(F) x Rated Voltage(V_R) would be recommended

Equivalent Series Resistance (ESR)

AC ESR is measured by 4-probe impedance analyzer.
*Condition : Potentiostat mode, AC amplitude : 5mV, Frequency : 1㎑

RoHS compliant

It is only customers that let us exist

Hy-Cap / VinaTech Supercapacitor

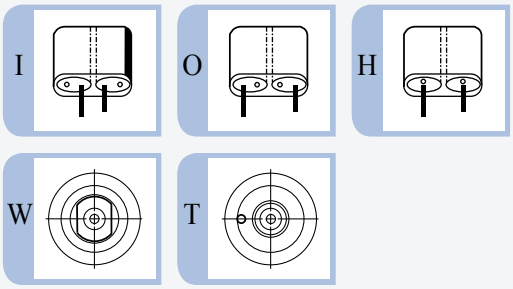
Part Number

PART NUMBER SYSTEM

VEC 2R7 357 QG - H

Terminal Code for Module & Axial Type Cells

(2 or 3 serial connection)



Design Code

ex) G : Standard

Nonstandard items only available under negotiation

Capacitance Tolerance

CODE	TOLERANCE	CODE	TOLERANCE
K	-10 ~ +40%	H	0 ~ +20%
Q	-10 ~ +30%	V	-10 ~ +20%

Capacitance Code

ex) 305 : 3F (30 × 10^5 μF)

357 : 350F (35 × 10^7 μF)

Rated Voltage

VOLTAGE	2.3 V	2.5 V	2.7 V	3.0 V
CODE	2R3	2R5	2R7	3R0

Series

CODE	Full name
VHC	Hybrid Capacitor
VEC	EDLC
VEM	EDLC Module

NOTE ON USING HY-CAP

1. Make sure of polarity(+and –marking) when using.
2. Do not use higher than rated voltage.
   In case of connecting more than 2 units for modules, we recommend “unit voltage -0.2” per unit for the sake of safer voltage balancing (e.g. 2.5V in case of 2.7V unit).
3. please store or use products under the proper conditions.
4. When soldering, be aware of proper conditions in order to avoid excessive heat or time on the products.

※ For more details, please contact us.

Hy-Cap / VinaTech Supercapacitor

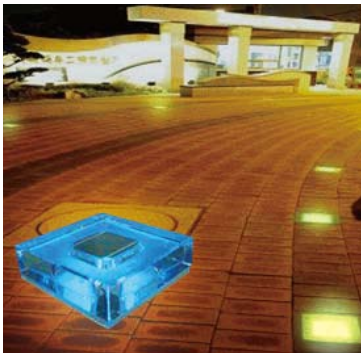
Application

UPS / DVR

- Peak Power Assist (Bridge power)
- Improve battery's life & down-sizing

SOLAR & EMERGENCY LIGHT

- Solar LED light, Exit light
- Easy Installation
- No maintenance



AMR / TELECOMMUNICATION

- Long life : No maintenance
- Wider temperature : -40℃ to +65(70)℃

VEHICLE ELECTRONICS

- Navigation system backup
- Black Box (Driving recorder)
- Battery Assist (Car-audio)

RoHS compliant

VINATech Vision for Nature

It is only customers that let us exist

Hy-Cap / VinaTech Supercapacitor

Application

SOLAR

- Energy Storage to power for solar heliostat-tracking
- No maintenance / replacement
- Wider operating temperature

WINDMILL (PITCH CONTROL)

- Instant peak power providing
- No maintenance & replacement
- Semi-permanent

HYBRID ELECTRIC VEHICLE

- Engine + Electric motor with supercapacitor (covering peak power when acceleration or engine starting)
- Long life cycle (over 500,000 cycles)

OTHER APPLICATION

- Electric Valve (actuator)
- Electric Toy
- Industrial Robotics
- SSD (Solid State Drive)

VISION FOR NATURE

Our products shall contribute to protection & elevation of environment, which is also adhered in production activities

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Vision for Nature
VINA Tech

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