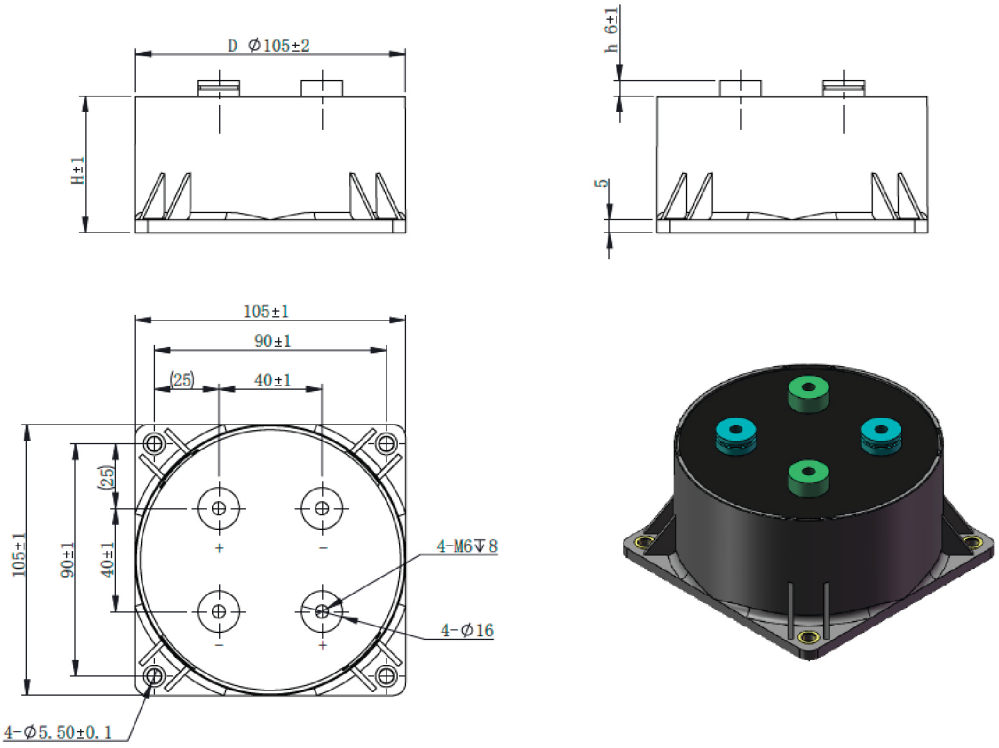
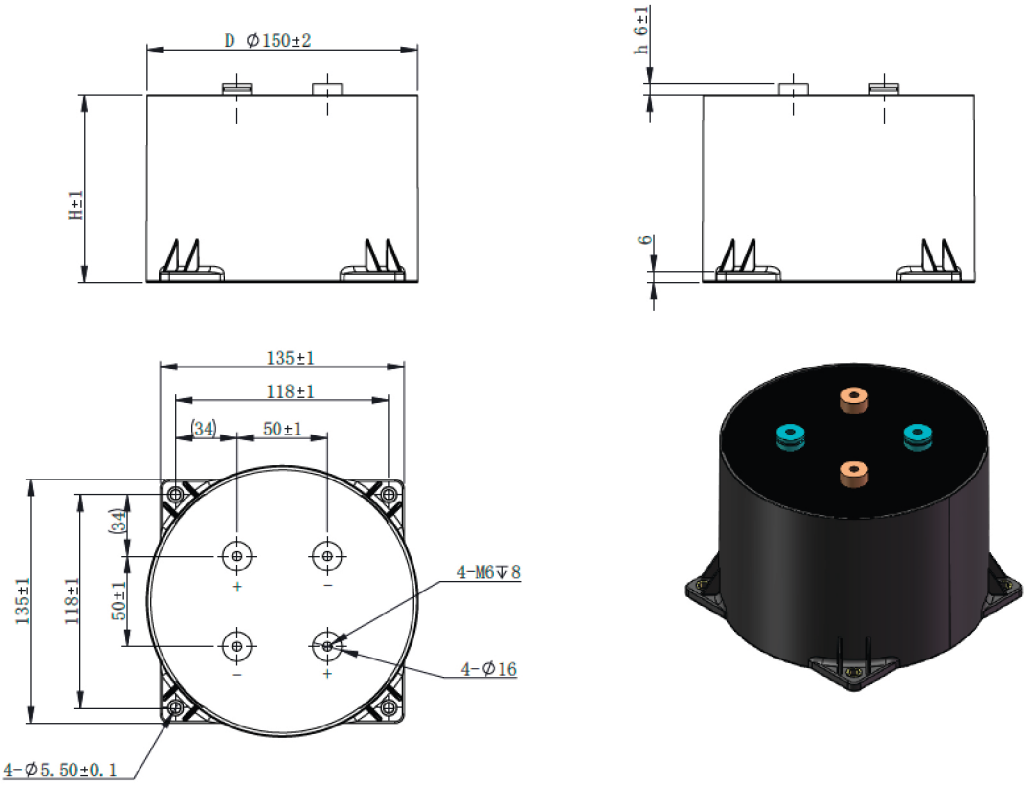
Low-ESL DC-Link Capacitor（Temperature 105℃）

■ Outline Drawing　　D=105mm



D=150mm



Note: There may be a slight potting material creeping at the bottom of the outside terminals.

C3V

■ Features

- Low ESL，less than 8nH
- Low-ESR，high rms current capability
- Self-healing property
- Plastic case, filled with flame retardant resin

■ Applications

- High frequency inverter

■ Specifications

Reference standards	GB/T 17702(IEC 61071)，AEC-Q200D-2010
Rated Voltage(U_N)	500Vdc～1 500Vdc
Capacitance Range(C_N)	51μF~1 100μF
Capacitance Tolerance	±5%(J)，±10%(K)
Dielectric dissipation factor ($\tan\delta_d$)	2×10^{-4}
Operating temperature range	-40℃～105℃($\theta_{hs}\leq105°C$)
Storage temperature range	-40℃～105℃
Over Voltage	1.1U_N (30% of on-load-dur.)
	1.15 U_N (30min/day)
	1.2 U_N (5min/day)
	1.3 U_N (1min/day)
	1.5 U_N (30ms every time, 1 000 times during the whole life)
Self-Inductance (Ls)	＜8nH
Insulation Resistance(IR×C_N)	≥10 000 s (20℃, 500V, 1min after charging completed)
Test voltage between terminals	1.5U_N(10s, 20℃±5℃)
Case	Plastic
Expected lifetime	100 000h@Max.U_N, θ_{hs} =70℃
Failure rate	100 FIT
Max. Torque of terminals	M6: 5.0N.m
Max. Torque of installation	3.0N.m
Installation	任意方向 Any Position

■ Part number code system

The 15 digits part number is formed as follow:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
C	3	V												

Digit 1 to 3 Series code
C3V

Digit 4 to 5 DC rated voltage
2H=500V,1U=600V, 2V=700V, 2K=800V,1X=900V, 1M=1 100V 2M=1 300V,4M=1 500

Digit 6 to 8 Rated capacitance value
For example: 387=38×10^7 pF= 380μF

Digit 9 Capacitance tolerance
J=±5%,K=±10%

Digit 10 to 15 Internal use

■ Technical data

$U_{N,105℃}$ (V)	C_N (μF)	ΦD ±1.0	H ±1.0	ESL (nH)	ESR @10kHz (mΩ)	R_{th} (K/W)	I_{max} (A)	$\hat{I}$ (A)	f_r (kHz)	Weight (kg)	Part number
500	450	105	53	6	0.61	5.9	81	2 650	97	0.9	C3V2H457-******
	1 100	105	104	8	0.82	4.4	80	2 500	54	1.4	C3V2H118-******
600	290	105	53	6	0.68	5.9	76	2 630	121	0.9	C3V1U297-******
	740	105	104	8	0.9	4.4	77	2 590	65	1.4	C3V1U747-******
700	220	105	53	6	0.75	5.9	72	2 520	139	0.9	C3V1V227-******
	600	105	104	8	0.95	4.4	75	2 590	73	1.4	C3V1V607-******
800	160	105	53	6	0.83	5.9	70	2 350	162	0.9	C3V2K167-******
	430	105	104	8	1.07	4.4	70	2 390	86	1.4	C3V2K437-******
900	140	105	53	6	0.76	5.9	72	2 370	174	0.9	C3V1X147-******
	380	105	104	8	1.03	4.4	71	2 430	91	1.4	C3V1X387-******
1 100	95	105	53	6	0.85	5.9	68	2 300	211	0.9	C3V1M956-******
	250	105	104	8	1.22	4.4	65	2 240	113	1.4	C3V1M257-******
	600	150	104	8	0.55	2.8	122	5 340	73	2.6	C3V1M607-******
1 300	67	105	53	6	0.98	5.9	63	2 030	251	0.9	C3V2M676-******
	180	105	104	8	1.38	4.4	62	2 010	133	1.4	C3V2M187-******
	430	150	104	8	0.63	2.8	114	4 770	86	2.6	C3V2M437-******
1 500	51	105	53	6	1.09	5.9	60	1 770	288	0.9	C3V4M516-******
	140	105	104	8	1.51	2.8	59	1 800	150	1.4	C3V4M147-******
	330	150	104	8	0.69	4.4	108	4 200	98	2.6	C3V4M337-******

1. "-"=capacitance tolerance code, J=±5%,K=±10%.
2. "******"=Internal use, please contact the technical engineer to confirm the complete code.
3. "R_{th}" = The thermal resistance between hotspot and ambient depend on natural cooling condition.
4. "I_{max}" = Maximum r.m.s current passing through the terminals during continuous operation, which is calculated depended on the temperature rise of no more than 30℃.
5. "$\hat{I}$" = The Max. permitted repetitive peak current during continuous operation.
6. "f_r" =The resonance frequency of capacitor.

■ Lifetime expectancy curve

For capacitors application, various factors will affect the expected life of capacitors such as voltage, temperature, current, network harmonics, lighting or radiation and other unknown factors. The following lifetime curve only considers the effects of voltage and temperature. Based on the qualified results of long-term durability test, the lifetime curve of the capacitor under different working conditions is calculated by using the theoretical calculation formula of lifetime. Therefore, the lifetime curve is only used as a reference for selection, and does not represent the actual service life of the capacitor, nor does it represent the quality assurance requirements.