



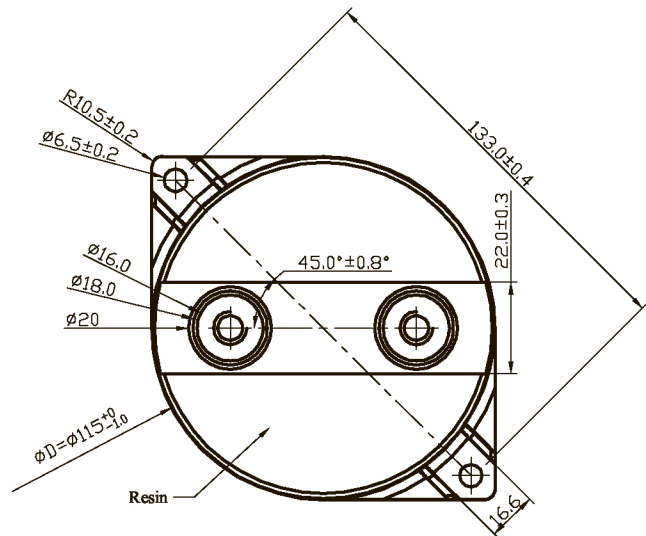
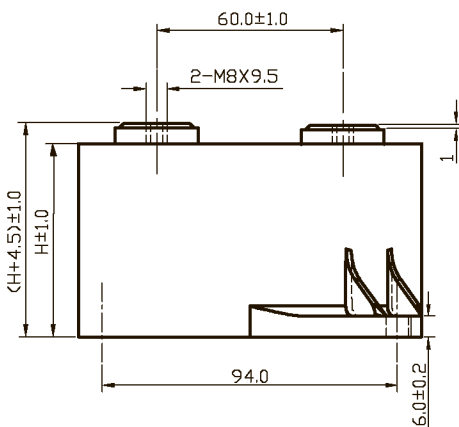
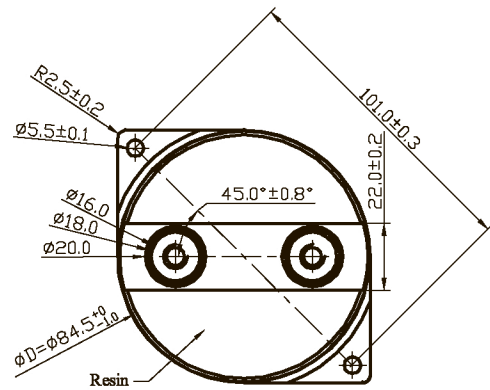
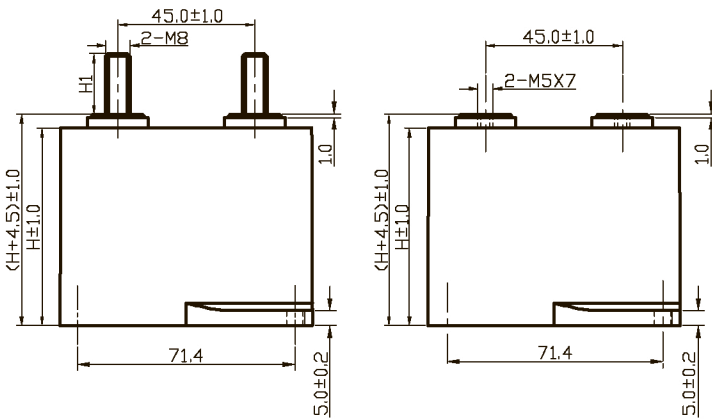
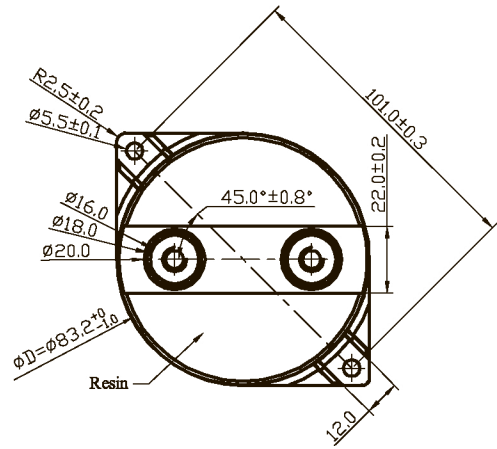
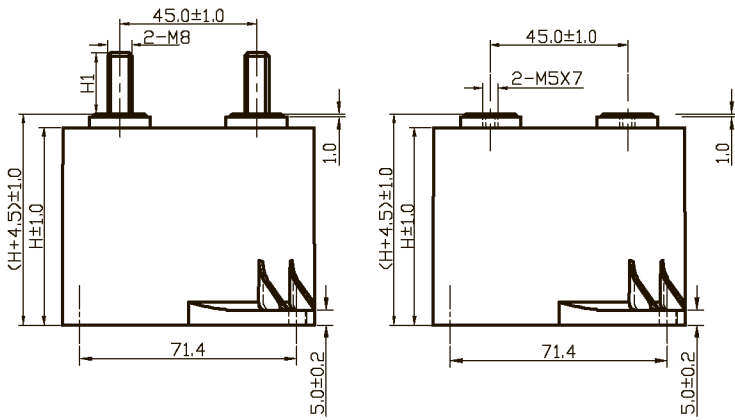
# C3A(G)

## DC-Link Capacitor

(Dry-Type, Plastic case, Temperature 85°C )



### ■ Outline Drawing



## ■ Features

- Used in DC-Link circuits, can replace electrolytic capacitor
- Low ESR, high ripple current handling capabilities
- Low  $L_s$
- Self-healing property
- Long lifetime
- Plastic case, filled with resin

## ■ Applications

- Used in inverters of wind power and solar power
- Welders, Elevators, Motor Driver systems

## ■ Specifications

Reference Standard	GB/T 17702 ( IEC 61071 )	
Climatic Category	40/85/56	
Operating Temperature Range	-40°C ~ 85°C ( $\theta_{hs} \leq 85^\circ\text{C}$ )	
Storage Temperature Range	-40°C ~ 85°C	
Voltage Range	600Vdc ~ 1 500Vdc	
Capacitance Range	35 $\mu\text{F}$ ~ 600 $\mu\text{F}$	
Capacitance Tolerance	$\pm 5\%$ (J), $\pm 10\%$ (K)	
Voltage Proof	Between Terminals:	1.5U <sub>N</sub> (10s, 20°C $\pm 5^\circ\text{C}$ )
	Between Terminals And Case:	3 000V <sub>ac</sub> (10s, 50Hz, 20°C $\pm 5^\circ\text{C}$ )
$\tan \delta_d$	$2 \times 10^{-4}$	
IR × C <sub>N</sub>	$\geq 5\,000\text{s}$ (20°C ,100Vdc,1min)	
Over Voltage	1.1U <sub>N</sub> (30% of on-load-dur.)	
	1.15U <sub>N</sub> (30min/day)	
	1.2U <sub>N</sub> (5min/day)	
	1.3U <sub>N</sub> (1min/day)	
	1.5U <sub>N</sub> (30ms every time, 1 000 times during the life of the capacitor)	
Max. Altitude	2 000m	
Max. Torque of terminals	M5: 2.5N·m	M8:6.0N·m
Max. Torque of Installation	3.0N·m	
Installation	Any Position	
Expected lifetime	Refer to Expected lifetime curve	
Failure rate	50FIT	

The effect of altitude on convection cooling and external insulation should be taken into consideration, if the altitude exceeds 2 000m.



# C3A(G)

## Part number 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	16	17	18
C	3	A								G							

- Digit 1 to 3 Series code
- Digit 4 to 5 DC rated voltage  
 1U=600V 2K=800V 1X=900V  
 1M = 1 100V 3L=1 200V 2M=1 300V  
 3M=1 400V 4M=1 500V
- Digit 6 to 8 Rated capacitance value  
 For example: 127=12 × 10<sup>7</sup>pF=120μF
- Digit 9 Capacitance tolerance  
 J= ± 5%,K= ± 10%,
- Digit 10 Dimension code

C3A Dimension code		
ΦD	H	Code
84.5	65	1
84.5	50	2
84.5	41	3
83.2	65	4
84.5	76	5
115.0	64	6

- Digit 11 Internal use
- Digit 12 to 15 Terminals code

## ■ Table 1 Terminals code

Male terminals code

Digit 12		Digit 13		Digit 14		Digit 15	
Code	Terminal form	Code	Fix style	Code	Length of terminals	Code	Specificaions of terminal
2	Male Terminals	B	Double mounting ears in the bottom of the case	0	20mm	0	M8
				1	11mm		
				2	16mm		
				5	13mm		

Female terminals code

Digit 12		Digit 13		Digit 14		Digit 15	
Code	Terminal form	Code	Fix style	Code	Depth of terminals	Code	Specificaions of terminal
H	Thread hole type	B	Double mounting ears in the bottom of the case	3	7mm	7	M5
				4	9.5mm	1	M8

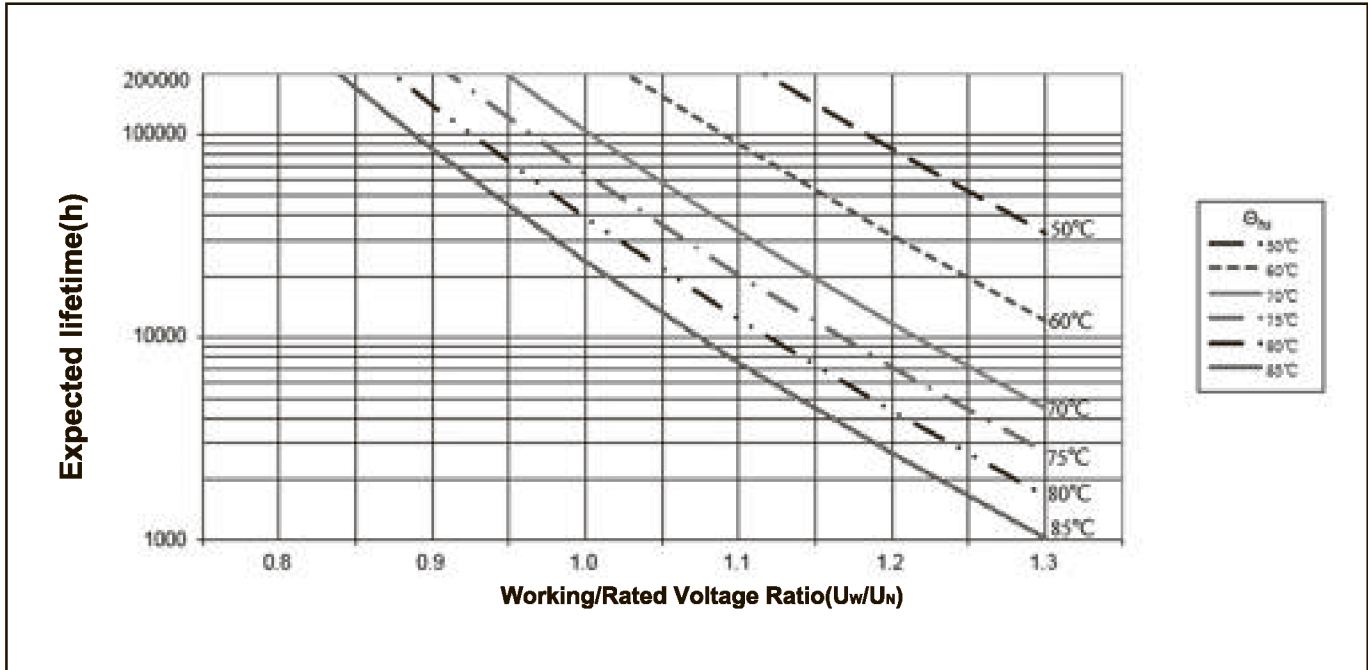
Digit 16 to 18 Internal use

■ Technical data ( mm )

U <sub>N</sub> (Vdc)	C <sub>N</sub> (μF)	ESR @10kHz (mΩ)	L <sub>s</sub> (nH)	R <sub>th</sub> (K/W)	Î (A)	I <sub>max</sub> (A)		Dimension		Weight (kg)	Part number	Expected lifetime
						55°C	65°C	ΦD	H			
600	170	0.8	25	6.8	2 051	74	60	84.5	41	≈ 0.35	C3A1U177-3G****+++	Lifetime curve
	260	0.9	32	5.3	2 193	79	64	84.5	50	≈ 0.40	C3A1U267-2G****+++	
	380	1.0	40	5.0	2 135	77	63	84.5	65	≈ 0.48	C3A1U387-1G****+++	
	380	1.0	40	5.2	2 135	76	62	83.2	65	≈ 0.47	C3A1U387-4G****+++	
	600	1.1	40	3.4	3 791	89	73	115.0	64	≈ 0.90	C3A1U607-6G****+++	
800	100	0.9	25	6.8	2 074	70	57	84.5	41	≈ 0.35	C3A2K107-3G****+++	
	150	1.0	32	5.3	2 174	75	61	84.5	50	≈ 0.40	C3A2K157-2G****+++	
	220	1.1	40	5.0	2 123	73	60	84.5	65	≈ 0.48	C3A2K227-1G****+++	
	220	1.1	40	5.2	2 123	72	59	83.2	65	≈ 0.47	C3A2K227-4G****+++	
	350	1.3	40	3.4	3 798	82	67	115.0	64	≈ 0.90	C3A2K357-6G****+++	
900	100	0.9	25	6.8	2 074	70	57	84.5	41	≈ 0.35	C3A1X107-3G****+++	
	150	1.0	32	5.3	2 174	75	61	84.5	50	≈ 0.40	C3A1X157-2G****+++	
	220	1.1	40	5.0	2 123	73	60	84.5	65	≈ 0.48	C3A1X227-1G****+++	
	220	1.1	40	5.2	2 123	72	59	83.2	65	≈ 0.47	C3A1X227-4G****+++	
	350	1.3	40	3.4	3 798	82	67	115.0	64	≈ 0.90	C3A1X357-6G****+++	
1 100	66	1.2	25	6.8	1 828	60	49	84.5	41	≈ 0.35	C3A1M666-3G****+++	
	100	1.3	32	5.3	1 936	66	53	84.5	50	≈ 0.40	C3A1M107-2G****+++	
	140	1.5	40	5.0	1 805	63	51	84.5	65	≈ 0.48	C3A1M147-1G****+++	
	140	1.5	40	5.2	1 805	62	50	83.2	65	≈ 0.47	C3A1M147-4G****+++	
	190	1.7	45	4.6	2 003	61	50	84.5	76	≈ 0.55	C3A1M197-5G****+++	
	150	1.5	45	4.6	1 861	65	53	84.5	76	≈ 0.55	C3A1M157-5G****+++	
	230	1.4	40	3.4	3 333	79	64	115.0	64	≈ 0.90	C3A1M237-6G****+++	
1 300	47	1.3	25	6.8	1 780	58	47	84.5	41	≈ 0.35	C3A2M476-3G****+++	
	70	1.4	32	5.3	1 853	63	51	84.5	50	≈ 0.40	C3A2M706-2G****+++	
	100	1.8	40	5.0	1 763	57	47	84.5	65	≈ 0.48	C3A2M107-1G****+++	
	100	1.8	40	5.2	1 763	56	46	83.2	65	≈ 0.47	C3A2M107-4G****+++	
	130	1.9	45	4.6	1 874	58	47	84.5	76	≈ 0.55	C3A2M137-5G****+++	
	160	1.6	40	3.4	3 170	74	60	115.0	64	≈ 0.90	C3A2M167-6G****+++	
1 400	40	1.3	25	6.8	1 742	58	47	84.5	41	≈ 0.35	C3A3M406-3G****+++	
	56	1.5	32	5.3	1 735	61	50	84.5	50	≈ 0.40	C3A3M566-2G****+++	
	86	1.8	40	5.0	1 743	57	47	84.5	65	≈ 0.48	C3A3M866-1G****+++	
	86	1.8	40	5.2	1 743	56	46	83.2	65	≈ 0.47	C3A3M866-4G****+++	
	110	1.9	45	4.6	1 823	58	47	84.5	76	≈ 0.55	C3A3M117-5G****+++	
	130	1.7	40	3.4	2 961	72	58	115.0	64	≈ 0.90	C3A3M137-6G****+++	
1 500	35	1.4	25	6.8	1 198	56	45	84.5	41	≈ 0.35	C3A4M356-3G****+++	
	50	1.6	32	5.3	1 636	59	48	84.5	50	≈ 0.40	C3A4M506-2G****+++	
	76	1.9	40	5.0	1 656	56	45	84.5	65	≈ 0.48	C3A4M766-1G****+++	
	76	1.9	40	5.2	1 656	55	45	83.2	65	≈ 0.47	C3A4M766-4G****+++	
	95	2.1	45	4.6	1 692	55	45	84.5	76	≈ 0.55	C3A4M956-5G****+++	
	110	1.8	40	3.4	2 693	70	57	115.0	64	≈ 0.90	C3A4M117-6G****+++	



## Expected lifetime curve



1. "-" =capacitance tolerance code, J= ± 5%,K= ± 10%.
2. "\*\*\*\*\*" =terminals code(refer to table1),terminals can be male or female.
3. "+++" =Internal use.
4. "I<sub>max</sub>" = Maxium r.m.s current at  $\Theta_{amb}$ .  $\Theta_{hs}$  will reach the maximum value on this condition.
5. "R<sub>th</sub>" = R<sub>th</sub> between hotspot and ambient on natural cooling condition.
6. The length of terminals H1 available on request (refer to table1).
7. Other capacitance and dimensions are available on request.
8. \*  $\Theta_{hs} = \Theta_{amb} + I_{rms}^2 \times ESR \times R_{th}$ .