CAGC SERIES: Surface Mount | SMD E-CAP | AEC-Q200 | 105°C, 2,000hrs

FEATURES

- Standard 105℃, 2,000 hours assured
- Voltage Range 6.3 Vdc ~ 450Vdc, 4Φ ~ 18Φ
- Capacitance Range 1μF ~ 8,200 μF
- Automotive version available, TS-16949

PART NUMBER EXAMPLE

CAGC 106 M 1H T 050 057

- 057 — Internal Code
- 050 — 5 x 5.7 mm can size
- T — Tape and Reel Packaging
- 1H — 50V Rated Voltage
- M — ±20% Tolerance
- 106 — 10μF Capacitance
- CAGC — Series

SPECIFICATIONS

Items	Performance												
Operating Temperature Range	6.3 ~ 100V							160 ~ 450V					
	-55 ˚C ~ +105˚C							-40˚C ~ +105˚C					
Capacitance Tolerance	Standard (+20% (at 120Hz, 20˚C), Option + 10% (at 120Hz, 20˚C)												
Leakage Current(at 20˚C)	Rated Voltage	6.3 ~ 100V						160 ~ 450V					
	Time	after 2 minutes						after 5 minutes					
	Case Size	4 ~ 10ϕ				12.5 ~ 18ϕ			12.5 ~ 18ϕ				
	Leakage Current	I = 0.01CV or 3 A, whichever is greater				I = 0.03CV or 4 A, whichever is greater			I = 0.04CV + 100 A				
	Where, C = rated capacitance in μF V = rated DC working voltage in V												
Dissipation Factor (Tan δ at 120Hz, 20˚C)	Rated Voltage	6.3	10	16	25	35	50	63	100	160 ~ 250	400 ~ 450		
	4 ~ 10	0.45	0.35	0.28	0.18	0.16	0.14	0.12	0.12	-	-		
	12.5 ~ 18	0.40	0.38	0.34	0.26	0.22	0.18	0.14	0.10	0.20	0.25		
	When the capacitance exceeds 1,000μF, 0.02 shall be added every 1,000μF increase.												
Low Temperature Characteristics (at 120Hz)	Impedance ratio shall not exceed the values given in the table below.												
	Rated Voltage				6.3	10	16	25	35	50	63	100	160 ~ 250	400 ~ 450
	Impedance Ratio	Z (-25˚C)/Z(+20˚C)	ϕD <12.5		4	4	3	2	2	2	2	2	3	6
			ϕD <12.5		5	4	3	2	2	2	2	2	3	6
		Z(-55/-40˚C)/Z(+20˚C)	ϕD <12.5		12	8	6	4	3	3	3	4	-	-
			ϕD <12.5		10	8	6	4	3	3	3	3	6	10
Endurance	Test Time	2,000 Hrs												
	Capacitance Change	Within +25% of initial value for ϕ D < 6.3mm; Within + 20% of initial value for ϕ D > 8mm												
	Dissipation Factor	Less than 300% of specified value for ϕ D < 6.3mm; less than 200% of specified value for ϕ D > 8mm												
	Leakage Current	Within specified value												
	*The above specifications shall be satisfied when the capacitors are restored to 20˚C after the rated voltage applied for 2,000 hrs at 105˚C													
Shelf Life Test	Test Time: 1,000 hrs; other items are the same as those for the Endurance. The rated voltage shall be applied to the capacitors before the measurements for 160 ~ 450V (Refer to JIS C 5101-4 4.1).													
Ripple Current & Frequency Multipliers	Freq. (Hz) / Cap. (μF)	50	120	1k	10k up									
	Under 1,000	0.80	1.00	1.25	1.40									
	1,000 < C < 8,200	0.85	1.00	1.15	1.25									

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DIMENSION & PERMISSIBLE RIPPLE CURRENT

Unit: mm

	V.DC	6.3V (0J)		10V (1A)		16V (1C)		25V (1E)		35V (1V)		50V (1H)		63V (1J)		100V (2A)	
μF	Code	ΦD x L	mA	ΦD x L	mA	ΦD x L	mA	ΦD x L	mA	Φ D xL	mA	Φ D xL	mA	ΦD x L	mA	ΦD x L	mA
1	105											4 x 5.7	8	4 x 5.7	8		
2.2	225											4 x 5.7	12	4 x 5.7	12		
3.3	335											4 x 5.7	14	5 x 5.7	17		
4.7	475							4 x 5.7	17	4 x 5.7	17	5 x 5.7	20	6.3 x 5.7	22		
10	106					4 x 5.7	20	4 x 5.7	20	5 x 5.7	27	6.3 x 5.7	32	6.3 x 5.7	32		
22	226	4 x 5.7	22	4 x 5.7	22	5 x 5.7	30	5 x 5.7	30	6.3 x 5.7	44	6.3 x 5.7	38	6.3 x 7.7	58	8 x 10	100
33	336	5 x 5.7	34	5 x 5.7	34	5 x 5.7	34	6.3 x 5.7	46	6.3 x 5.7	46	6.3 x 7.7	65	8 x 10	140	10 x 10	150
47	476	5 x 5.7	38	5 x 5.7	38	6.3 x 5.7	48	6.3 x 5.7	48	6.3 x 7.7	80	6.3 x 7.7	70	8 x 10	170	12.5 x 13.5	250
100	107	6.3 x 5.7	69	6.3 x 5.7	69	6.3 x 5.7	69	6.3 x 7.7	100	8 x 10	240	8 x 10	210	10 x 10.3	310	12.5 x 13.5	380
220	227	6.3 x 7.7	120	6.3 x 7.7	120	6.3 x 7.7	120	8 x 10 10 x 7.7	270 270	8 x 10	270	10 x 10.3	330	12.5 x 13.5	470	16 x 16.5	450
330	337	8 x 10	290	8 x 10	290	8 x 10 10 x 7.7	290 290	8 x 10	290	10 x 10	370	12.5 x 13.5	490	16 x 16.5	650	18 x 16.5 16 x 21.5	590 750
470	477	8 x 10	320	8 x 10 10 x 7.7	320 320	10 x 10	380	10 x 10	380	12.5 x 13.5	520	12.5 x 16	550	16 x 16.5	700	18 x 21.5	980
1,000	108	10 x 10	410	10 x 10.3	410	12.5 x 13.5	550	12.5 x 16	550	16 x 16.5	800	18 x 16.5	990				
2,200	228	12.5 x 13.5	680	12.5 x 13.5	680	16 x 16.5	900	16 x 16.5	900	18 x 16.5	1,050						
3,300	338	12.5 x 16	850	16 x 16.5	950	16 x 16.5	950	18 x 16.5 16 x 21.5	1,150 1,200								
4,700	478	16 x 16.5	1,000	16 x 16.5	1,000	18 x 16.5 16 x 21.5	1,225 1,275	18 x 21.5	1,300								
6,800	688	18 x 16.5 16 x 21.5	1,290 1,350	18 x 16.5 16 x 21.5	1,290 1,350												
8,200	828	18 x 21.5	1,450	18 x 21.5	1,450												

	V.DC	160V (2C)		200V (2D)		250V (2E)		400V (2G)		450V (2W)	
μF	Code	Φ D xL	mA	Φ D xL	mA	Φ D xL	mA	D x L	mA	D x L	mA
3.3	335					12.5 x 13.5	60			12.5 x 13.5	40
4.7	475					12.5 x 13.5	65	12.5 x 13.5	45	12.5 x 13.5	45
10	106			12.5 x 13.5	80	12.5 x 13.5	70	12.5 x 13.5	50	12.5 x 16	75
22	226			12.5 x 16	10	12.5 x 13.5	105	16 x 16.5	85	16 x 16.5	85
33	336	12.5 x 13.5	95	12.5 x 16	120	16 x 16.5	180	18 x 16.5	100	18 x 16.5	100
47	476	16 x 16.5	240	16 x 16.5	220	16 x 16.5	220	18 x 21.5	130		
100	107	16 x 16.5	250	18 x 16.5	280	18 x 16.5	260				

Fig. 1

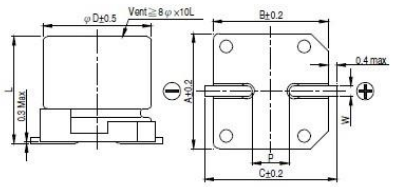
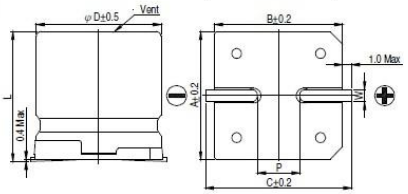


Fig. 2



LEAD SPACING AND DIAMETER

D	L	A	B	C	W	P±0.2	Fig. No.
4	5.7 ± 0.3	4.3	4.3	5.1	0.5 ~ 0.8	1.0	1
5	5.7 ± 0.3	5.3	5.3	5.9	0.5 ~ 0.8	1.5	1
6.3	5.7 ± 0.3	6.6	6.6	7.2	0.5 ~ 0.8	2.0	1
6.3	7.7 ± 0.3	6.6	6.6	7.2	0.5 ~ 0.8	2.0	1
8	10.0 ± 0.5	8.4	8.4	9.0	0.7 ~ 1.1	3.1	1
10	7.7 ± 0.3	10.4	10.4	11.0	0.7 ~ 1.3	4.7	1
10	10.0 ± 0.5	10.4	10.4	11.0	0.7 ~ 1.3	4.7	1
10	10.3 ± 0.5	10.4	10.4	11.0	0.7 ~ 1.3	4.7	1
13	13.5 ± 0.5	13.0	13.0	13.7	1.1 ~ 1.4	4.4	2
13	16.0 ± 0.5	13.0	13.0	13.7	1.1 ~ 1.4	4.4	2
16	16.5 ± 0.5	17.0	17.0	18.0	1.1 ~ 1.4	6.4	2
16	21.5 ± 0.5	17.0	17.0	18.0	1.1 ~ 1.4	6.4	2
18	16.5 ± 0.5	19.0	19.0	20.0	1.1 ~ 1.4	6.4	2
18	21.5 ± 0.5	19.0	19.0	20.0	1.1 ~ 1.4	6.4	2

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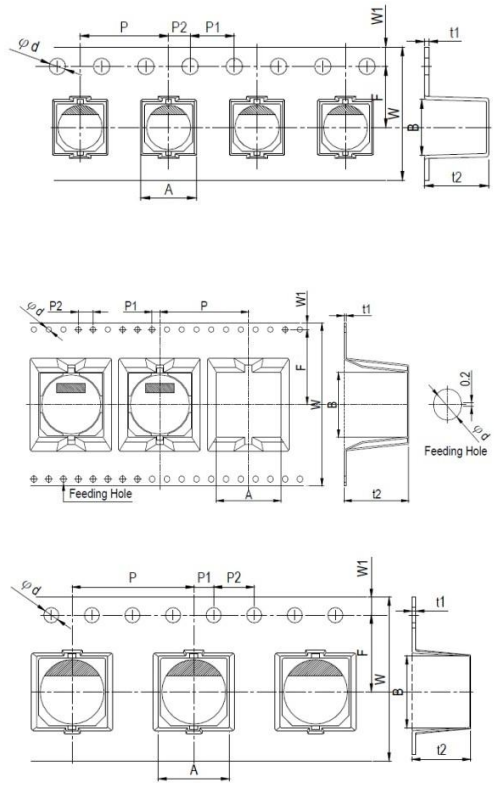
TAPING SPECIFICATIONS

ΦD x L	A	B	d	F	P	P1	P2	t1	t2	W	W1	Fig. No.
3 ~ 4 x 4.5 ~5.3	5.0	5.0	1.5	5.5	8.0	2.0	4.0	0.4	5.8	12.0	1.75	1-1
4 x 5.7	5.0	5.0		5.5	8.0				6.2			
5 x 4.5 ~ 5.3	6.0	6.0		5.5	12.0				5.8			
5 x 5.7 (*)	6.0	6.0		5.5	12.0				6.2			
6.3 x 4.5 ~ 5.3	7.0	7.0		7.5	12.0				5.8	16.0		1-2
6.3 x 5.7									6.2			
6.3 x 5.9*									6.2			
6.3 x 7.0*									6.8			
6.3 x 7.7									8.3			
8 x 6.5	8.7	8.7							6.8			
8 x 6.7*									6.8			
8 x 10				11.5	16.0				11.0	24.0		
8 x 12*									13.0			
10 x 7.7*	10.7	10.7							10.0			
10 x 10 (9.9*)									11.0			
10 x 12.7*									14.0			
12.5 x 13.5	13.4	13.4		14.2	24.0			0.5	15.0	32.0		1-3
12.5 x 13.5 (G)	13.7	13.7		14.2	24.0				15.0	32.0		
12.5 X 16	13.4	13.4		14.2	24.0				17.5	32.0		
12.5 X 16 (G)	13.7	13.7		14.2	24.0				17.5	44.0		
16 X 16.5	17.5	17.5		20.2	28.0				17.5	44.0		
16 X 16.5 (G)	17.5	17.5		20.2	28.0				17.5	44.0		
16 X 21.5	17.5	17.5		20.2	28.0				22.5	44.0		
18 X 16.5	19.5	19.5		20.2	32.0				17.5	44.0		
18 X 21.5	19.5	19.5		20.2	32.0				22.5	44.0		
Tolerance	+0.2	+0.2	+0.1 / -0	+0.1	+0.2	+0.1	+0.1	+0.1	+0.2	+0.3	+0.15	



REEL SPECIFICATIONS

Unit: mm

Case Size	3 ~ 4Φ	5Φ	6.3Φ	8Φ x 6.5 ~ 7.0L	8Φ x 10 ~ 12L	10Φ	12.5Φ	16 ~ 18Φ
W	14	14	18	18	26	26	34	46
A	380	380	380	380	380	380	380 / 450	380 / 450
t	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0