

CD288HD Series

+125°C, High Temperature (耐高温), High Ripple Current(高纹波)



FEATURES 特点

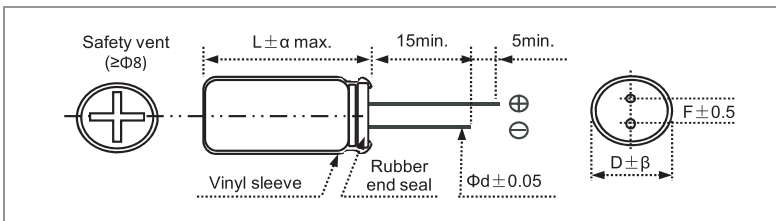
1. High Temperature ,high ripple current at high frequency,load life of 3,000~5,000 hours at 125°C.
2. Specially designed for electronic ballast and energy saving lamp.

SPECIFICATIONS 规格表

Item 项目	Performance Characteristics 特性参数							
Operation Temperature Range 工作温度范围	-40°C~+125°C							
Rated Working Voltage Range 额定电压范围	160 to 450 VDC							
Nominal Capacitance Range 静电容量范围	1 to 220μF							
Capacitance Tolerance 静电容量允许偏差	±20% (120Hz 20°C)							
Leakage Current 漏电流	LC≤0.02CV +25 (μA) Whichever is greater measured after 2 minutes application of rated working voltage at +20 °C 施加额定工作电压充电2分钟后读数。 [C: 静电容量(μF), V: 额定电压(V)]							
Dissipation Factor (tan δ) 损失角正切值 (120Hz,+20°C)	Working Voltage(v)	160	200	250	350	400	450	
	tan δ(max.)	0.15	0.15	0.15	0.20	0.20	0.20	
Low Temperature characteristics 温度特性(阻抗比)	Impedance ratio max. at 120 Hz 阻抗比最大值							
	Working Voltage(V)	160	200	250	350	400	450	
	Z(-25°C)/ Z(+20°C)	3	3	3	5	5	6	
High Temperature Loading (Endurance) 高温负荷寿命(耐久性)	Test conditions 试验条件				Post test requirements at +20°C 试验后特性应满足如下要求			
	Duration 持续时间	3,000 hours [Φ≧6.3: 3,000 hours]			Leakage current 漏电流	≧ Initial specified value 初始规格值		
	Ambient temp. 环境温度	+125°C			Cap. Change 静电容量变化率	within ±30% of initial measured value 初始测试值的±30%内		
	Applied voltage 施加电压	DC voltage with maximum permissible ripple current specified at +105°C 施加直流电压与额定纹波电流(所加电压峰值[DC+AC]不超过额定工作电压)			D.F.(tan δ) 损失角正切值	≤300% of initial specified value 3倍初始规格值		
					Before test requirement: Resumed 16 hours at normal temperature 测试前将电容在常温中放置16小时			
Shelf Life 高温储存寿命	Test conditions 试验条件				Post test requirements at +20°C 试验后特性应满足如下要求			
	Duration 持续时间	1000 hours			Leakage current 漏电流	≧ Initial specified value 初始规格值		
	Ambient temp. 环境温度	+105°C			Cap. Change 静电容量变化率	within ±30% of initial measured value 初始测试值的±30%内		
	Applied voltage 施加电压	(None) 无			D.F.(tan δ) 损失角正切值	≤300% of initial specified value 3倍初始规格值		
◆(Before the measurements, the capacitor shall be pretreated by applying DC working voltage for 30min, after discharged and then stored under standard atmospheric conditions for 24-48 hours) 测试前应将电容在常温中施加工作电压30分钟, 放电后在标准气压下放置24~48小时								
Other 其他	JIS C-5101 (IEC 60384)							

CD288HD

CASE SIZE TABLE 尺寸图 (Unit : mm)

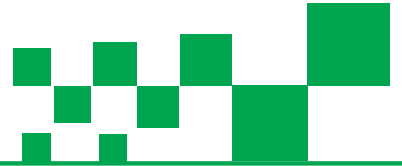


ΦD	8	10	13	16	18
F	3.5	5.0		7.5	
Φd	0.6	0.6		0.8	
α	(L<20)1.5			(L≥20)2.0	
β	(D<20)0.5			(D≥20)1.0	

Multiplier for Ripple Current vs. Frequency 纹波电流频率修正系数

Frequency Coefficient 频率系数

Cap(μF)	120 Hz	1K Hz	10K Hz	100K Hz
1~5.6	0.20	0.40	0.80	1.00
6.8~180	0.40	0.75	0.90	1.00
≧220	0.5	0.85	0.94	1.00



CD288HD Series

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STANDARD RATINGS 标准品一览表

U _R (Surge Voltage)Code		160(200)2C		200(250)2D		250(300)2E		350 (400) 2V	
Cap.(μF)	Code	Case Size	Ripple	Case Size	Ripple	Case Size	Ripple	Case Size	Ripple
1	001							8×12	51
2.2	2P2					8×12	64	10×16	70
3.3	3P3	8×12	70	8×12	73	10×13	80	10×16	84
4.7	4P7	10×13	76	10×13	80	10×16	88	10×20	105
6.8	6P8	8×16	88	8×16	94	10×16	96	13×21	176
8.2	8P2	10×16	96	10×16	100	10×16	104	13×21	192
10	010	10×16	200	10×16	200	10×16	224	13×21	224
15	015	10×16	336	10×20	336	13×21	360	13×25	240
22	022	10×16	350	13×21	400	13×21	430	16×25	252
		10×20	380						
33	033	10×20	410	13×21	480	13×25	480	16×30	360
		13×21	430						
47	047	13×25	528	13×25	528	16×25	518	16×35	475
68	068	16×25	547	16×25	547	16×30	662	18×35	612
100	101	16×25	806	16×35	806	18×30	864		
150	151	18×30	979	18×35	979	18×25			
220	221	18×35	1008						

Maximum Allowable Ripple Current (mA rms) at 125°C 100KHz

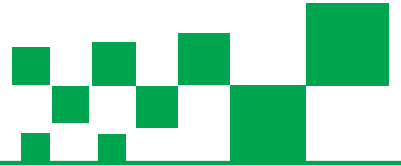
Case Size ΦD x L(mm)

U _R (Surge Voltage)Code		400(450)2G		450(500)2W					
Cap.(μF)	Code	Case Size	Ripple	Case Size	Ripple				
1	001	10×13	58	8×16	64				
2.2	2P2	10×16	74	10×16	77				
3.3	3P3	10×16	88	10×16	88				
4.7	4P7	10×20	104	10×20	104				
5.6	5P6	13×21	112	13×21	112				
6.8	6P8	13×21	176	13×21	120				
8.2	8P2	13×21	208	13×21	224				
10	010	13×21	224	13×21	256				
15	015	13×25	256	13×25	336				
100	101			22×32	530				

Maximum Allowable Ripple Current (mA rms) at 125°C 100KHz

Case Size ΦD x L(mm)

Specifications are subject to change without notice. Should a safety or technical concern arise regarding the product, please be sure to contact our sales offices or agents immediately



Application Guidelines For Aluminum Electrolytic Capacitors



鋁電解電容器使用需知

1. 電路設計的注意事項

- (1) 在確認使用環境及安裝環境的基礎上，在電容器的產品目錄及規格書上所規定的性能範圍內進行設計。
- (2) 在設計上，應該避免在下述情況下使用：
 - ① 不可超過電容器的最高使用溫度。
 - ② 不可有超過額定紋波電流的電流通過。
 - ③ 不可有超過額定電壓的電壓通過電容器。
- (a) 要注意紋波電壓(交流部分)重疊到直流電壓上時的峰值不可超過額定電壓。
- (b) 當兩個電容器串聯時，通過各個電容器的電壓不可超過額定電壓。此時，要在各個電容器上並聯用於防止漏損電流的分壓電阻器。
- ④ 電容器為極性電容器。要確認有無連接反向電壓或交流電壓。在極性反轉電路中請用雙極性電容器，但是雙極性電容器也不可以用於交流電路。
- (3) 進行電路設計時，請選用與機器壽命相符的電容器。
- (4) 在需要重復進行急速充放電的電路中請選用與條件相符的電容器的。
- (5) 電容器的外殼、輔助引出端子與正、負極以及電路板間必須完全隔離。
- (6) 當電容器套管的絕緣不能保證時，在有絕緣性能特定要求的地方請不要使用。需要外套具有絕緣功能時請諮詢我們。
- (7) 電容器如果在以下環境中使用，可能會發生故障。
 - ① 直接與水、油類、鹽水相接觸的環境或高溫高濕或結露的環境。

1. Caution During Circuit Design

- (1) Please make sure the application and mounting conditions to which the capacitor will be exposed are within the conditions specified in the catalog or alternate product specification (Referred as to specification here after).
- (2) Design Aluminum Electrolytic Capacitors, please pay attention to the points listed below:
 - ① The capacitor shall not be used in an ambient temperature which exceeds the operating temperature specified in the specification.
 - ② Do not apply excessive current which exceeds the allowable ripple current.
 - ③ Make sure that no excess voltage (that is higher than the rated voltage) is applied to the capacitor.
- (a) Please pay attention so that the peak voltage, which is DC voltage overlapped by ripple current, will not exceed the rated voltage.
- (b) In the case where more than 2 aluminum electrolytic capacitors are used in series, please make sure that applied voltage will be lower than rated voltage and the voltage be will applied to each capacitor equally using a balancing resistor in parallel with the capacitors.
- ④ Aluminum electrolytic capacitors are polarized. Make sure that no reverse voltage or AC voltage is applied to the capacitors. Please use Bi-polar capacitors for a circuit that can possibly see reversed polarity. Even Bi-polar capacitors can not be used for ac voltage application.
- (3) Appropriate capacitors which comply with the life requirement of the products should be selected when designing the circuit.
- (4) For a circuit that repeats rapid charging/discharging of electricity, an appropriate capacitor that is capable of enduring such a condition must be used.
- (5) Aluminum case, cathode lead wire, anode lead wire and circuit pattern must be isolated.
- (6) The sleeve of capacitors is not recognized as an insulator, and therefore, the standard capacitor should not be used in a place where insulation function is needed. Please consult with us should you require a higher grade of insulating sleeve.
- (7) Capacitors may fail if they are used under the following conditions:
 - ① Damp conditions such as water, saltwater spray, or oil spray or fumes. High humidity or humidity condensation situations.



Application Guidelines For Aluminum Electrolytic Capacitors

鋁電解電容器使用需知



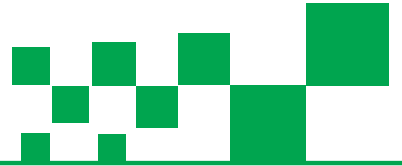
- ② 充滿有毒氣體(硫化物、亞硫酸、亞硝酸、氯氣、氨水等)的環境。
 - ③ 不能置於日照、O₃、紫外線及有放射性物質環境下使用。
 - ④ 有酸性及鹼性溶劑濺落的環境。
 - ⑤ 振動或衝擊條件超過交貨仕様書規定範圍的惡劣環境。
- (8) 在設計電容器的安裝時，必須確認下述內容：
- ① 線路板的孔距必須與電容器兩端子的間距相吻合。
 - ② 在電容器防爆閥的上方盡量不要安裝配線及其它元件，應在防爆閥的上空保留一定的空間。
 - ③ 請勿在電容器的四周及電路板的背面(電容器下面)配置發熱元件。
- (9) 電容器的電氣特性根據溫度及頻率的變動及變化，請在確認該變化量的基礎上進行電路設計。
- (10) 在雙面印刷板上安裝電容器時，電容器的安裝位置避免多餘的基板孔和過孔。
- (11) 並聯兩個以上的電容器時，要充分考慮電流平衡。
- (12) 串聯兩個以上的電容器時，要充分考慮電壓平衡和插入並聯用分壓阻抗。
- ② In an atmosphere filled with toxic gasses (such as hydrogen sulfide, sulfurous acid, nitrous acid, chlorine, ammonia, etc.)
 - ③ Being exposed to direct sunlight, ozone, ultraviolet ray, or radiation.
 - ④ Being exposed to acidic or alkaline solutions.
 - ⑤ Under severe conditions where vibration and/or mechanical shock exceed the applicable ranges of the specification.
- (8) In designing a circuit, the following matters should be ensured in advance to the capacitor assembly on the P.C. board.
- ① Design the appropriate hole spacing to match the lead pitch of capacitors.
 - ② Do not locate any wiring and circuit patterns directly above the capacitor vent. Ensure enough free space above the capacitor vent.
 - ③ Do not design a circuit board so that heat generating components are placed near an aluminum electrolytic capacitor or reverse side of P.C. board (under the capacitor).
- (9) Electrical characteristics may vary depending on changes in temperature and frequency. Please consider this variation when you design circuits.
- (10) When you mount capacitors on the double-sided P.C boards, do not place capacitors on circuit patterns or over on unused holes.
- (11) When you install more than 2 capacitors in parallel, consider the balance of current flowing through the capacitors.
- (12) If more than 2 aluminum electrolytic capacitors are used in series, make sure the applied voltage will be lower than the rated voltage and that voltage will be applied to each capacitor equally using a balancing resistor in parallel with each capacitor.

2. 安裝的注意事項

- (1) 除了定期點檢時為檢測電氣性能而拆卸的電容器外，對組裝到設備上已經通電的電容器，拆除後均不能再使用。
- (2) 當電容器產生再生電壓時，請通過約1KΩ的電阻器進行放電。

2. Caution For Assembling Capacitors

- (1) Once a capacitor has been assembled in the set and power applied, even if a capacitor is discharged, an electric potential (restricting voltage) may exist between the terminals.
- (2) Electric potential between positive and negative terminal may exist as a result of returned electromotive force, so please discharge the capacitor using a 1KΩ resistor.



Application Guidelines For Aluminum Electrolytic Capacitors

鋁電解電容器使用需知

- (3) 長期保存的電容器,需通過約1KΩ的電阻加壓處理.
 - (4) 請確認電容器的規格(靜電容量及額定電壓)及極性後,才可進行安裝。
 - (5) 掉落在地上的電容器及本體已經變形的電容器,請勿再使用。
 - (6) 安裝時請確認电路板的孔距是否與電容器兩端子的間距吻合。
 - (7) 自動插入機扭結固定電容器引線的強度不可過大。
 - (8) 焊接時請注意以下內容:
 - ① 焊接條件(溫度、時間)不可超出承認書中所規定的範圍。
 - ② 請勿讓烙鐵的烙鐵頭接觸到電容器的本體及不要將電容器本體浸入焊錫溶液中。
 - ③ 在進行焊接時,避免其它物件倒下碰到電容器。
 - ④ 在進行焊接時,除端子外電容器其它部位不可附著有焊劑。
 - (9) 電容器焊接在电路板後,請注意以下內容:
 - ① 不可將電容器本體傾斜、扭轉等。
 - ② 不可讓其它物體碰到電容器。
 - (10) 電解電容器不得以鹵化化學藥品類似溶劑,作為電容器洗滌用。
 - (11) 在使用固定劑與塗層劑時,电路板與電容器的封口部之間須乾淨,不可留有焊劑殘渣及污垢。
- (3) Leakage current of aluminum electrolytic capacitors may be increased during long storage time. In this case, the capacitors should be subject to voltage treatment a 1KΩ resistor before use.
 - (4) Please confirm ratings (voltage and capacitance) and polarity before in stalling capacitors on the P.C. board.
 - (5) Do not drop capacitors on the floors and damage , nor use a capacitors that was dropped.
 - (6) Please confirm that lead spacing of the capacitor matches the hole spacing of the P.C. board prior to installation.
 - (7) Please pay attention that the clinch force is not too strong when capacitors are places and fixed by an automatic insertion machine.
 - (8) Soldering
 - ① Soldering condition (temperature and times) must be confirmed to be within su'scon specification.
 - ② Soldering iron should never touch the capacitors body and do not dip capacitors body into melted solder.
 - ③ Please avoid contact between other components and the aluminum capacitor.
 - ④ Please avoid having flux adhere to any portion except the terminal.
 - (9) After Soldering
 - ① Do not bend or twist the capacitors body after soldering on P.C. board.
 - ② Do not hit the capacitors and isolate capacitors from the P.C. board or other device when stacking P.C boards in store.
 - (10) Standard Aluminum Electrolytic Capacitors should be free from halogenated solvents during P.C. board cleaning after soldering.
 - (11) Do not use halogenated adhesives and coating materials to fix aluminum electrolytic capacitors.

3.組裝使用注意事項

- (1) 不可直接觸摸電容器的端子,有導致觸電的危險。
- (2) 不可有導電體靠近電容器的兩端子,避免電容器端子之間短路。

3.Caution For Assembling Capacitors

- (1) Do not directly touch terminal by hand.
- (2) Do not short between terminals with conductor near the capacitor.



Application Guidelines For Aluminum Electrolytic Capacitors

鋁電解電容器使用需知

(3) 裝配了電容器的設備請不要在以下環境中使用：

- ① 直接與水、油類、鹽水相接觸的環境或高溫高濕或結露的環境。
- ② 充滿有毒氣體(硫化物、亞硫酸、亞硝酸、氯氣、氨水等)的環境。
- ③ 不能置於日照、O₃、紫外線及有放射性物質環境下使用。
- ④ 有酸性及鹼性溶劑濺落的環境。
- ⑤ 振動或衝擊條件超過交貨仕様書規定範圍的惡劣環境。

4. 電容器的保養與檢修

電容器在工業機器中使用時要進行定期檢修，檢修時請注意電容器的外觀及電氣性能是否符合產品的標準。

5. 安全注意事項

- (1) 在設備使用過程中，電容器的防爆閥開裂，並冒出氣體時，應切斷設備的主電源或從設備上拔下電線插頭。
- (2) 電容器的防爆閥開裂時，因為超過100°C 高溫氣體噴出，臉不要接近。噴出的氣體進入眼睛時，立即用清水清洗眼睛。如果噴出的電解液濺到皮膚上，請立即使用肥皂進行沖洗。

6. 儲蓄條件

- (1) 電容器的保管建議在室溫5~30°C、相對濕度為75%的條件下保管。
- (2) 不要保存在所述的環境中保管。
 - ① 直接與水、油類、鹽水相接觸的環境或高溫高濕或結露的環境。
 - ② 充滿有毒氣體(硫化物、亞硫酸、亞硝酸、氯氣、氨水等)的環境。
 - ③ 不能置於日照、O₃、紫外線及有放射性物質環境下使用。
 - ④ 有酸性及鹼性溶劑濺落的環境。

(3) Do not use conditions for assembling capacitors.

- ① Damp conditions such as water, saltwater spray, or oil spray or fumes. High humidity or humidity condensation situations.
- ② In an atmosphere filled with toxic gasses (such as hydrogen sulfide, sulfurous acid, nitrous acid, chlorine, ammonia, etc.)
- ③ Being exposed to direct sunlight, ozone, ultraviolet ray, or radiation.
- ④ Being exposed to acidic or alkaline solutions.
- ⑤ Under severe conditions where vibration and/or mechanical shock exceed the applicable ranges of the specification.

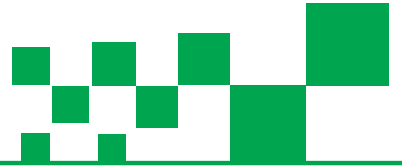
4. Maintenance Inspection

Please periodically inspect the capacitors that are installed in industrial equipment. Remarkable abnormality such as vent operation, leaking electrolyte etc. Capacitance, dielectric loss tangent, leakage current, and items specified in the specification.

- (1) If you see smoke due to operation of safety vent, turn off the main switch or pull out the plug from the outlet.
- (2) Do not bring your face near the capacitor when the pressure relief vent operates, because the gasses emitted from that are over 100°C. If the gas gets into your eyes, please flush your eyes immediately in pure water. If you breathe the gas, immediately wash out your mouth and throat with water. Do not ingest electrolyte. If your skin is exposed to electrolyte, please wash it away using soap and water.

6. Storage

- (1) It is recommended to keep capacitors between the ambient temperatures of 5°C to 35°C and a relative humidity of 75% or below.
- (2) Confirm that the environment does not have any of the following conditions:
 - ① Damp conditions such as water, saltwater spray, or oil spray or fumes. High humidity or humidity condensation situations.
 - ② In an atmosphere filled with toxic gasses (such as hydrogen sulfide, sulfurous acid, nitrous acid, chlorine, ammonia, etc.)
 - ③ Being exposed to direct sunlight, ozone, ultraviolet ray, or radiation.
 - ④ Being exposed to acidic or alkaline solutions.



Application Guidelines For Aluminum Electrolytic Capacitors

鋁電解電容器使用需知



- ⑤ 振動或衝擊條件超過交貨仕様書規定範圍的惡劣環境。

- ⑤ Under severe conditions where vibration and/or mechanical shock exceed the applicable ranges of the specification.

7.廢棄處理

- (1) 在電容器上開孔或壓碎後焚燒。
- (2) 電容器不焚燒時，請交給專業的工業廢棄物處理廠處理。

7. Disposal

- (1) Make a hole the in the capacitor body or crush capacitors and incinerate them.
- (2) If incineration is not applicable, hand them over to a waste disposal agent and have them buried in a landfill.



TAPING SPECIFICATION FOR AUTOMATIC INSERTION

● APPLICATIONS

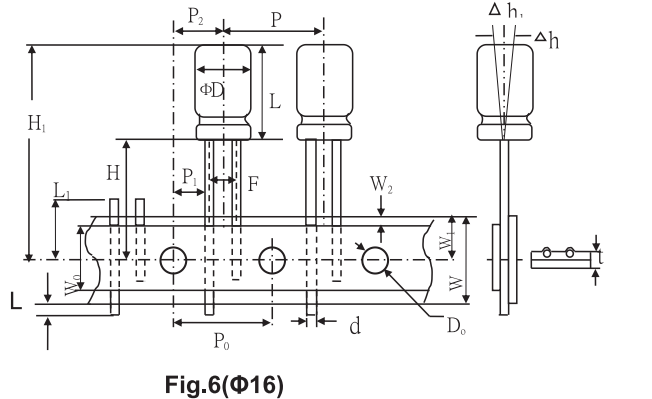
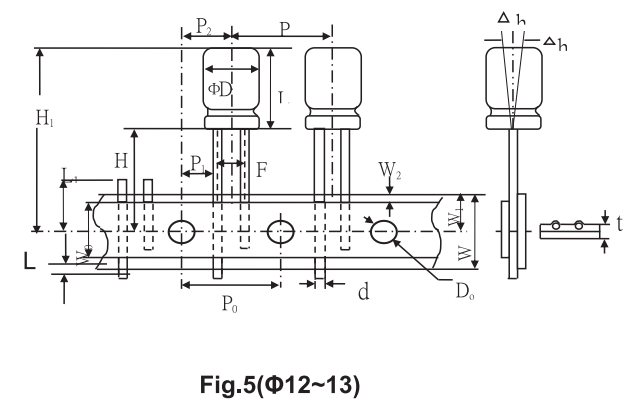
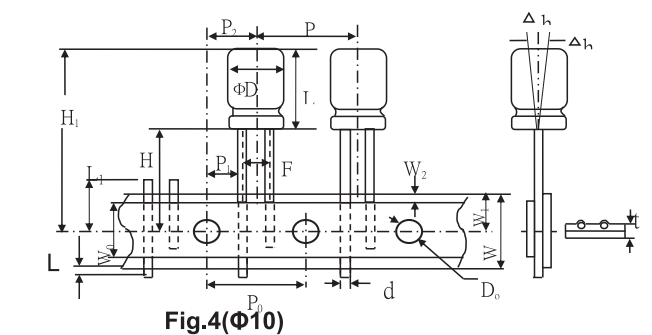
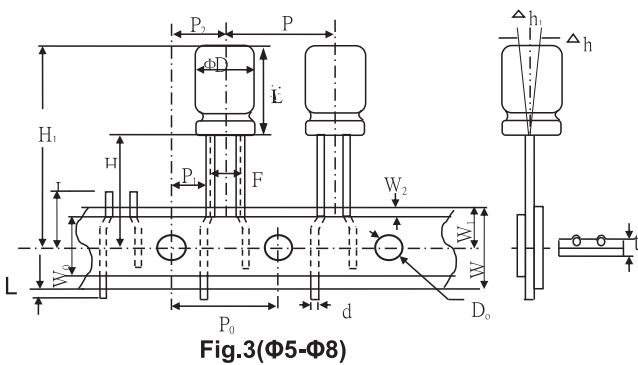
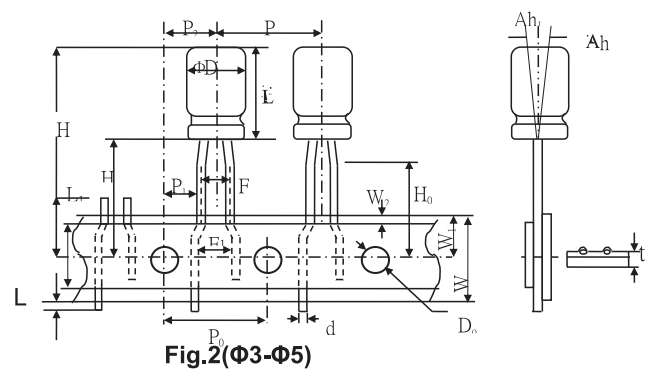
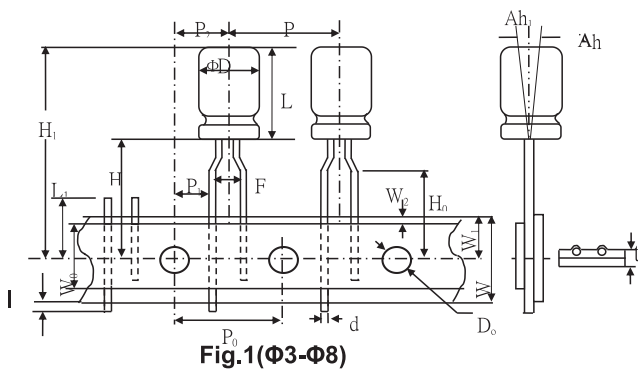
- These specifications include taped single-ended electrolytic capacitors with the body diameters from 4.0 to 16mm.
- Suitable to be used in automatic lead preparation and insertion machines.

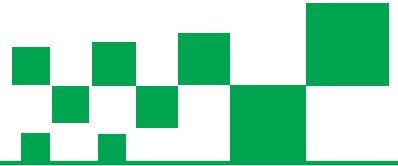
● DESCRIPTION

- Body tape requirements are shown from Fig.1 to Fig.6
- Polarity of capacitors shall be oriented in one direction.
- Leader tapes shall not be provided before the first and after the last capacitor on tape.
- Up to 3 capacitor consecutively missing on tape is permitted but a designed quantity of capacitors shall be packed in each case.
- Removal faulty capacitors from the tape shall be by pulling out or by cutting off leads. Cut off leads remaining on tape shall not protrude more than 2.0 mm from tape edge.

● DIAGRAM OF TAPING DIMENSIONS

(Unit=mm)



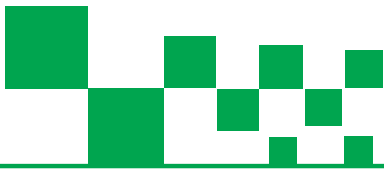


● TAPING DIMENSIONS (mm)

Items	Symbol	Case Size										Tolerance	Remark (Page 129)
		4×5	5×5	4×7	5×7	5×11	6.3×11	8×12	10×13	10×16	10×20		
Lead Wire Diameter	d	0.45	0.45	0.45	0.5	0.5			0.6			±0.05	
Body Height	L	6		8		12		13	14	17	22	MAX	
Intervals of Bodies	P	12.7										±1.0	
Intervals of Punched Holes	P ₀	12.7										±0.2	
Distance between Holes and Lead Wire	P ₁	3.85										±0.7	Fig 1.Fig 4.
		5.35	5.10	5.10	5.10	5.10	5.10	5.10					Fig 2
			5.35			5.35							Fig 3
Distance between Holes and Body Center	P ₂	6.35										±1.0	
Distance between Lead and Lead	F	5.00										+0.8	Fig 1.Fig 4.
		2.5	2.5		2.5	2.5	2.5	3.5					Fig2
		2.0	2.0	2.5	3.5	2.0							Fig3.
Base Tape Width	W	18.0										±0.5	
Adhesive Tape Width	W ₀	12.5										min	
Deviation between Holes and Base Tape	W ₁	9.0										±0.5	
Deviation between Adhesive and Base Tape	W ₂	1.5										max	
Deviation between Body Bottom and Tape Center	H	17.5			18.5	20		18.5			±0.75	Fig 1.Fig 4.	
		17.5			18.5	18.5						Fig 2.Fig 3.	
Lead Wire Clinched Height	H ₀	16.0										±0.5	
Distance between Body Top and Tape Center	H ₁	27.5			32.5			33.0	36.0	41.0	max		
Punched Hole Diameter	D ₀	4.0										±0.3	
Lead Wire Protrusion	ℓ	1.0										max	
Length of not Good Lead Slit	L ₁	11.0										max	
Base and Adhesive Tape Thickness	t	0.7										±0.2	
Deviation of Body Alignment	△h	0										±2.0	
Deviation of Body Alignment	△h ₁	0										±1.0	

● TAPING DIMENSIONS

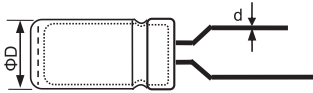
Item	Symbol	Case Size						Tolerance	Remark (Page 129)
		12.5×21	13×21	13×25	13×30	16×26	16×32		
Lead Wire Diameter	d	0.6			0.8			±0.05	
Body Height	L	23.0	23.0	27.0	32.0	28.0	34.0	38.0	max
Intervals of Bodies	P	15.0			30.0			±1.0	Fig5.Fig6.
Intervals of Punched Holes	P ₀	15.0						±0.2	
Distance between Holes and Lead Wire	P ₁	5.0			3.75			±0.7	
Distance between Holes and Bodies	P ₂	7.5						±1.0	
Distance between lead and lead	F	5.0			7.5			+0.8 -0.2	
Base Tape Width	W	18.0						±0.5	
Adhesive Tape Width	W ₀	12.5						min	
Deviation between Holes and Base Tape	W ₁	9.0						±0.5	
Deviation between Adhesive and Base Tape	W ₂	1.5						min	
Deviation between Body Bottom and Tape Center	H	18.5						±0.75	Fig5.Fig6.
Distance Between Body Top and Tape Center	H ₁	40.5	40.5	45.5	50.5	46.5	53.5	56.5	max
Punched Hole Diameter	D ₀	4.0						±0.3	
Lead Wire Protrusion	ℓ	1.0						max	
Length of not Good Idea Slit	L ₁	11.0						max	
Base and Adhesive Tape Thickness	t	0.7						±0.2	
Deviation of Body Alignment	△h	0						±2.0	
Deviation of Body Alignment	△h ₁	0						±1.0	



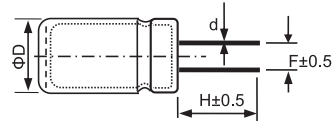
● LEAD CUTTING AND FORMING

With Terminals or Forms as below, Easier Inserting the Units into P.C.Board and Contributing to Higher Mounting Efficiency.

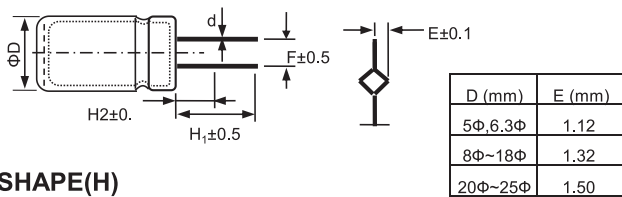
SHAPE(B)



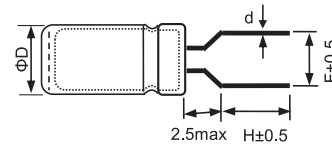
SHAPE(C)



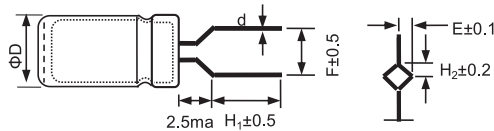
SHAPE(D)



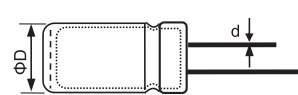
SHAPE(F)



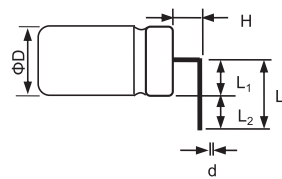
SHAPE(H)



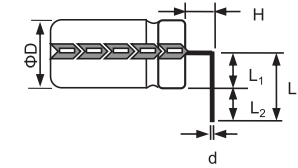
SHAPE(S)



SHAPE(L)

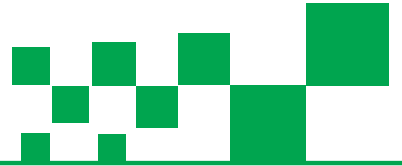


SHAPE(Z)



● SPECIFICATION INFORMATION

Shape NO.	Cutting & Forming Methods	DΦ	4Φ	5Φ	6.3Φ	8Φ	10Φ	12.5Φ	13Φ	16Φ	18Φ	22Φ
B	Forming Only	d	0.45	0.5	0.5	0.5	0.6	0.6	0.6	0.8	0.8	0.8
C	Lead Cut Only	F	1.5	2.0	2.5	3.5	5.0	5.0	5.0	7.5	7.5	10.0
		H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
D	Lead Cut and Crimp	d	0.45	0.5	0.5	0.5	0.6	0.6	0.6	0.8	0.8	0.8
		F	-	-	-	-	5.0	5.0	5.0	7.5	7.5	10
		H ₁	-	-	-	-	5.0	5.0	5.0	5.0	5.0	5.0
		H ₂	-	-	-	-	1.8	1.8	1.8	1.8	1.8	1.8
F	Lead Cut and Form	d	-	-	-	-	0.6	0.6	0.6	0.8	0.8	0.8
		F	5.0	5.0	5.0	5.0	-	-	-	-	-	-
		H	4.0	5.0	5.0	5.0	-	-	-	-	-	-
H	Lead Cut, Crimp and Form	d	0.45	0.5	0.5	0.5	-	-	-	-	-	-
		F	5.0	5.0	5.0	5.0	-	-	-	-	-	-
		H ₁	4.0	5.0	5.0	5.0	-	-	-	-	-	-
		H ₂	1.8	1.8	1.8	1.8	-	-	-	-	-	-
S	Long Lead	d	0.45	0.5	0.5	0.5	0.6	0.6	0.6	0.8	0.8	0.8
L / Z	Lead Cutting and Bending	F	1.5	2.0	2.5	3.5	5	5	5	7.5	7.5	10
		L ₁	2.2	2.7	3.6	4.5	5.3	6.8	6.8	8.4	9.4	11.4
		L ₂	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
		d	0.45	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.8	0.8



Part Number System

Explanation of parts numbers

產品編碼解釋

KM Series	10 μ F	$\pm 20\%$	50V	Bulk Package	105°C Rubber Bung	5 ϕ ×11L	PVC Sleeve	Black 黑色
KM	100	M	1H	BK	J	0511	V	BK
□□□	□□□	□	□□	□□	□	□□□□	□	□
① Series Numbers 系列號	② Capacitance 容值	③ Capacitance Tolerance 精度	④ Rated Voltage 額定電壓	⑤ Lead Configuration 包裝	⑥ Rubber Type 膠塞	⑦ Case Size 外殼尺寸	⑧ Lead Wire and Sleeve Type 導線及套管類型	⑨ Color 套管顏色

1 Series Numbers 系列號

We use 2or3 letters to represent the series numbers.

系列號由 2 到 3 個字母表示。

2 Capacitance 容值

容值的單位是 μ F, 用 3 個數字表示。前 2 個數字為有效數字, 第三個數字表示其後面 0 的個數。R 代表小數點。

容值 (μ F)	0.1	0.47	1	4.7	10	47	100	470	1000	4700	10000
代碼(Code)	0R1	R47	010	4R7	100	470	101	471	102	472	103

The unit of capacity value is μ F, which is represented by 3 numbers. The first 2 digits are valid digits, and the third number represents the number of 0 of the following. R represents the decimal point.

3 Capacitance Tolerance 精度

J=-5% ~ +5%	K=-10% ~ +10%	M=-20% ~ +20%	V=-10% ~ +20%
-------------	---------------	---------------	---------------

4 Rated Voltage 額定電壓 (額定電壓用兩個符號表示)

电压 (WV)	2.5	4	6.3	10	16	20	25	35	40	50	63	80	100
代碼(Code)	0E	0G	0J	1A	1C	1D	1E	1V	1G	1H	1J	1K	2A
电压 (WV)	160	200	220	250	330	350	400	420	450	500	525		
代碼(Code)	2C	2D	2U	2E	2M	2V	2G	2P	2W	2H	2Y		

⑤ Lead configuration and package 包裝

BK = Bulk Package 散裝	TA = Formed Lead Taping 成型編帶
FC = Formed & Cut Lead 成型切腳	SA = Straight Lead Taping 直編
CL = Cut Lead 直腳切腳	BC = Bent & Cut Lead 彎腳切腳

⑥ Rubber Type 膠塞類型

F = 85°C Rubber Bung 橡膠塞 85° C

J = 105°C Rubber Bung 橡膠塞 105° C



⑦ Size 尺寸

ΦD×L	3×5	4×5	4×7	5×5	5×7	5×11	6.3×7	6.3×8	6.3×12	8×7	8×9
Code	0305	0405	0407	0505	0507	0511	0607	0608	0612	0807	0809
ΦD×L	8×12	8×14	8×16	10×13	10×17	10×20	13×21	13×25	16×23	16×25	16×30
Code	0812	0814	0816	1013	1017	1020	1321	1325	1623	1625	1630
ΦD×L	18×25	18×30	18×35	22×40							
Code	1825	1830	1835	2240							

⑧ Lead Wire and Sleeve Type 導線及套管類型

V = PVC sleeve	E = PET sleeve
----------------	----------------

⑨ Color 套管顏色

黑色 Black = BK	綠金 Green&Gold = GN
咖啡 Coffee = CE	橙色 Orange = OE
藍色 Blue&Gold = BD	純綠 Green = PG
黑金 Black&Gold = BG	紫金 Purple&Gold = GE
咖啡金 Coffee&Gold = CG	白金 White&Gold = WG
咖啡銀 Coffee&Silver = CS	黑銀 Black&Silver = BS

Supplement Code(Optional) 補充編碼

For special control purposes 為其他特殊目的

2.0MM=20	2.5MM=25
3.0MM=30	3.5MM=35
4.0MM=40	5.0MM=50
12MM =12	18 MM=18
20MM =2A	