

# SPECIFICATION

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DIVISION	DATE ISSUED	SPEC.NO.
TECH. DERT	July, 17,2012	WM-S08-003B04

# HGK TYPE -FOR Fixed class 2 high voltage ceramic dielectric capacitors

## 1. SCOPE

This specification applies to ceramic insulated capacitors disk type used in electronic equipment.

## 2. RELATIVE STANDARDS

- IEC 384-9 : 1988 [ Fixed capacitors of ceramic dielectric, class 2]
- GB/T 5698-1996 [ Fixed capacitors of ceramic dielectric, class 2]
- GB 9322-88 [ Fixed class 2 high voltage ceramic dielectric capacitors]

## 3. QUALITY

Capacitors are manufactured in a highly quality-controlled processes to ensure the reliability of the products

## 4. OPERATING TEMPERATURE RANGE

-25°C to +125°C

## 5. PART NUMBERS

Examples HGK 3A B 102 K A 2 B D W

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②
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④
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⑧
⑨
⑩

- ① Type
- ② Rated Voltage
- ③ Temperature Characteristics
- ④ Nominal Capacitance
- ⑤ Capacitance Tolerance Symbol
- ⑥ Lead Style
- ⑦ Lead Spacing
- ⑧ Packaging
- ⑨ Coating
- ⑩ Internal code

### 5.1 Type

Type Designation

Type	Designation
HGK	class 2 high voltage ceramic dielectric capacitors

### 5.2 Rated Voltage

Code	Rated Voltage
3A	DC.1KV
3D	DC.2kV
3F	DC.3kV
3G	DC.4kV
3H	DC.5kV
3J	DC.6kV

5.3 Temperature Characteristics Code

Code	Temperature Characteristics	Cap.Change Of Temp.coeff.	Temperature Range
B	Y5P	±10%	-25 to 85°C
E	Y5U	+20%~-55%	
F	Y5V	+30%~-80%	

5.4 Nominal Capacitance Code

Nominal capacitance shall consist of three numerals in the unit of picofarad(Pf). The first and second numerals mean the significant figures, and the third numeral shall represent the number of zeros following the significant figures.

Example:

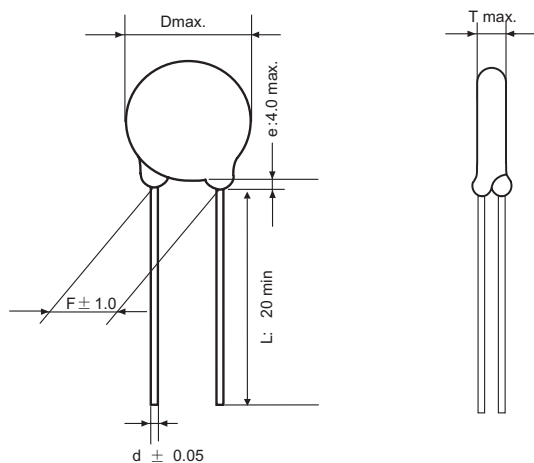
Code	Capacitance(pF)
101	100
102	1000
222	2200
103	10000

5.5 Capacitance Tolerance

Code	Tolerance
K	±10%
M	±20%
Z	-20%~+80%

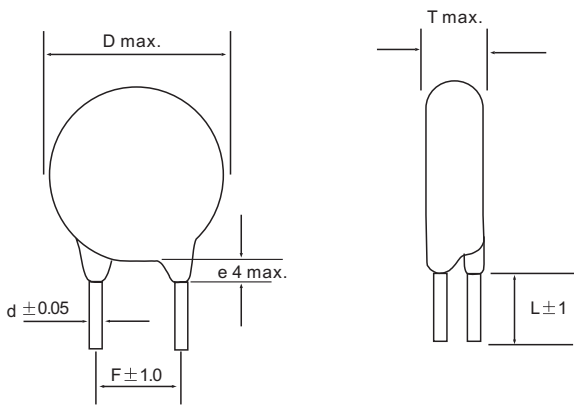
5.6 Lead style

5.6.1: Straight long lead (Lead Style Code :A )



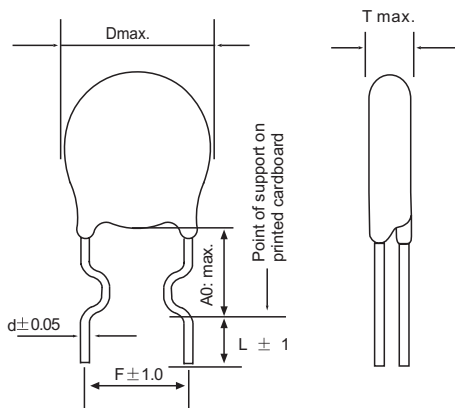
Lead code	A1	A2	A3	A4
F	2.5	5	7.5	10
L	20 mm min			
d	0.5 or 0.55			
e	Max. 4.0mm			

5.6.2 : Straight short lead ( Lead Style Code : B )



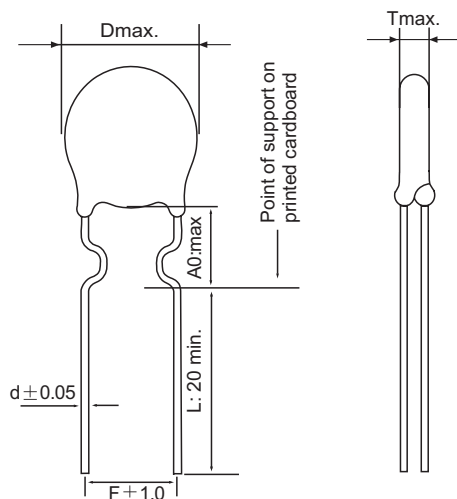
Lead code	B1	B2	B3	B4
F	2.5	5	7.5	10
L	5 or depend on client			
d	0.5 or 0.55			
e	Max. 4.0mm			

5.6.3 : Inside Crimped Short lead ( Lead Style Code : C )



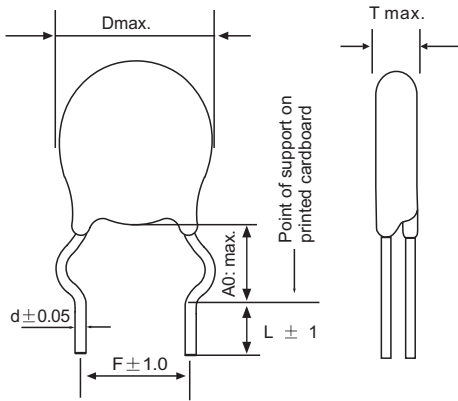
Lead code	C2	C3	C4
F	5	7.5	10
A0	5	5	6.5
L	5 or depend on client		
d	0.5 or 0.55		

5.6.4 : Inside crimped long lead ( Lead Style Code : D )



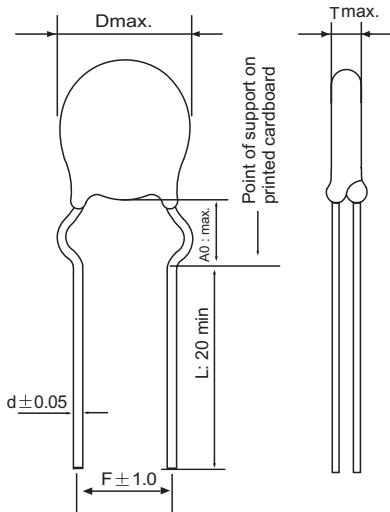
Lead code	D2	D3	D4
F	5	7.5	10
A0	5	5	6.5
L	20 mm min		
d	0.5 or 0.55		

5.6.5 : Outside crimped Short lead ( Lead Style Code: E )



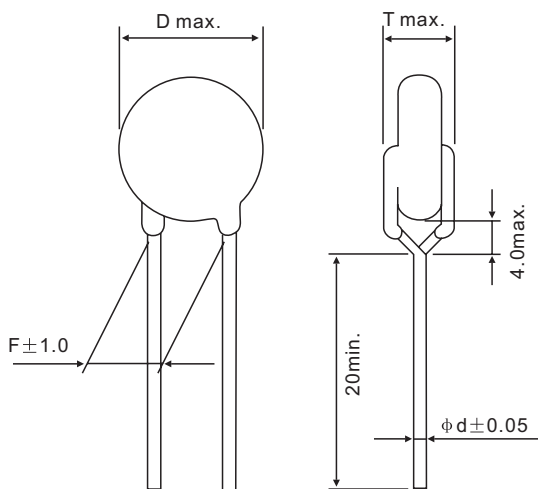
Lead code	E2	E3	E4
F	5	7.5	10
A0	5	5	6.5
L	5 or depend on client		
d	0.5 or 0.55		

5.6.6 : Outside crimped long lead ( Lead Style Code: F )



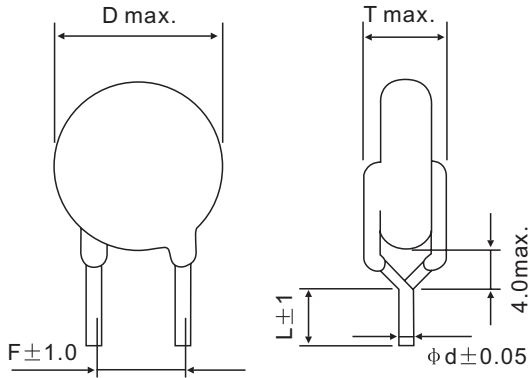
Lead code	F2	F3	F4
F	5	7.5	10
A0	5	5	6.5
L	20 mm min		
d	0.5 or 0.55		

5.6.7 : Vertical crimped long lead ( Lead Style Code: G )



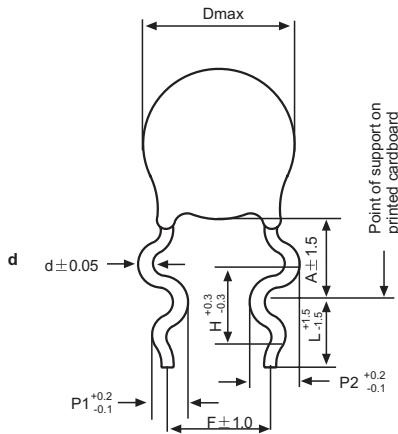
Lead code	G2	G3	G4
F	5	7.5	10
L	20 mm min		
d	0.5 or 0.55		

5.6.8 : Vertical crimped short lead ( Lead Style Code: H )



Lead code	H2	H3	H4
F	5	7.5	10
L	5 or depend on client		
d	0.5 or 0.55		

5.6.9 : Double crimped snap lead, (Lead Style Code: M)



Lead code	M2	M3	M4
F	5	7.5	10
H	2.6	2.6	3.3
P1	1.25	1.25	1.65
P2	1.65	1.65	1.95
A	D < 8: 6.0 ± 1.5, D > 8: 7.0 ± 1.5		
L	3 to 30 mm		
d	0.5 or 0.55		

General Information: PCB max. thickness 1.6mm

5.7 Lead Spacing Code

Code	Lead Spacing(mm)
2	5.0 ± 1.0
3	7.5 ± 1.0
4	10.0 ± 1.0

5.8 Packaging Code

Code	Pitch of components(mm)	Packaging
B	/	Bulk
A	12.7	Taping Ammo Pack
C	25.4	
D	15.0	
E	30.0	Taping Reel Pack
R	12.7	




5.9 Coating Material

Code	illuminate
D	Yellow Phenolic Coating
—	Blue Epoxy Coating

5.10 Internal Code

Code	illuminate
W	Meeting RoHS
L	Halogen-Free & Meeting RoHS

6. MARKING

Characteristics	Marking item	Marking ex.
B(Y5P)	a: Manufacturers Trade Mark b: Temperature Characteristic c: Nominal capacitance d: Capacitance Tolerance e: Rated Voltage f : Internal Code	
E(Y5U)	a: Manufacturers Trade Mark b: Temperature Characteristic c: Nominal capacitance d: Capacitance Tolerance e: Rated Voltage f : Internal Code	
F(Y5V)	a: Manufacturers Trade Mark b: Temperature Characteristic c: Nominal capacitance d: Capacitance Tolerance e: Rated Voltage f : Internal Code	

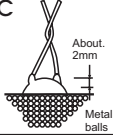
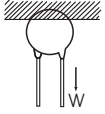
7. SPECIFICATION AND TEST METHOD

7.1 Test condition

Test and measurement shall be made at the standard condition,(Temperature 15 to 35°C,relative humidity 45 to 75% and atmospheric pressure 86-106 kPa),unless otherwise specified herein

If doubt occurred on the value of measurement, and remeasurement was requested by customer capacitors shall be measured at the reference condition(Temperature 20±2°C,relative humidity 60 to 70% and atmospheric pressure 86-106 kPa), unless otherwise specified herein

7.2 Performance

No.	Item		Specification	Testing Method												
1	Operating Temperature Range		-25 to +125°C	—												
2	Appearance and Dimensions		No marked defect on appearance from and dimensions are within specified range.	The capacitor shall be inspected by naked eyes for Visible evidence of defect. Dimensions shall be measured with slide calipers.												
3	Marking		To be easily legible.	The capacitor shall be inspected by naked eyes.												
4	Dielectric Strength	Between Lead Wires	No failure.	The capacitor should not be damaged when DC voltage of 200% of the rated voltage (In case of rated voltage : DC1 to 3kV) or DC voltage of 150% of the rated voltage(In case of rated voltage: DC3kV above) are applied between the lead wires for 1 to 5 sec. (Charge/Discharge current ≤ 50mA)												
		Body Insulation	No failure.	The capacitor is placed in the container with metal balls of diameter 1mm so that each lead wire,short circuited, is kept about 2mm off the balls as shown in the figure, and DC Voltage of 1.3kV is applied for 1 to 5 s between capacitor lead wires and small metals. (Charge/Discharge current ≤ 50mA.) 												
5	Insulation Resistance (I.R.)	Between Lead Wires	C*1 ≤ 0.02 μ F: 10000M Ω min. C*1 > 0.02 μ F: 7500M Ω min.	The insulation resistance shall be measured with DC500±50V within 60±5 s of charging.												
6	Capacitance		Within specified tolerance.	The capacitance shall be measured at 20±2°C with 1±0.2kHz and AC1±0.1V(r.m.s.).												
7	Dissipation Factor(D.F.)		Char. B,E : 2.5% max. Char. F: 5.0% max.	The dissipation factor shall be measured at 20±2°C with 1±0.2kHz and AC1±0.1V(r.m.s.).												
8	Temperature Characteristic		Char.B:Within ±10% Char.E:Within+20/-55% Char.F:Within+30/-80%	The capacitance measurement shall be made at each step specified in Table.												
			Pre-treatment : Capacitor shall be stored at 85±2°C for 1 h, then placed at*2room condition for 24±2 h before measurements.													
<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Step</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> </tr> </thead> <tbody> <tr> <td>Temp.(°C)</td> <td>20±2</td> <td>-25±3</td> <td>20±2</td> <td>85±2</td> <td>20±2</td> </tr> </tbody> </table>					Step	1	2	3	4	5	Temp.(°C)	20±2	-25±3	20±2	85±2	20±2
Step	1	2	3	4	5											
Temp.(°C)	20±2	-25±3	20±2	85±2	20±2											
9	Strength of Lead	Pull	Lead wire shall not cut off. Capacitor shall not be broken.	As a figure,fix the body of capacitor, apply a tensile weight gradually to each lead wire inthe radial direction of capacitor up to 10N(5N for lead diameter φ 0.5mm),and keep it for 10±1 s. 												
		Bending		Each lead wire shall br subjected to 5N(2.5N for lead diameter φ 0.5mm)weight and then a 90° bend,at the point of egress, in one direction, return to original position, and then a 90° bend in the opposite direction at the rate of one bend in 2 to 3 s.												
10	Vibration Resistance	Appearance	No marked defect.	The capacitor shall firmly be soldered to the supporting lead wire and vibration which is 10 to 55Hz in the vibration frequency range, 1.5mm in total amplitude, and about 1min. In the rate of vibration change from 10Hz to 55Hz and back to 10Hz is applied for a total of 6 h; 2 h each in 3 mutually perpendicular directions.												
		Capacitance	Within specified tolerance.													
		D.F.	Char.B,E: 2.5% max. Char.F: 5.0% max.													

\*1 "C " expresses nominal capacitance value.

\*2 "room condition " ..... Temperature; 15 to 35°C, Relative humidity; 45 to 75%, Atmospheric pressure; 86 to 106kPa



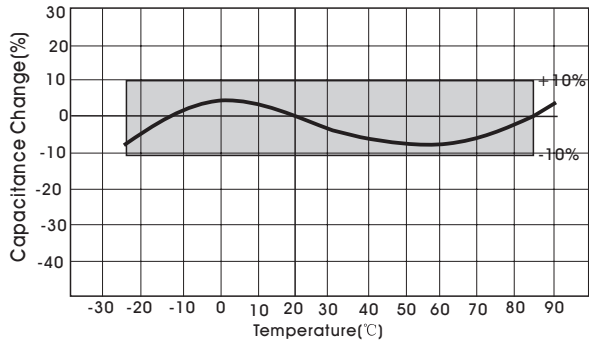
No.	Item	Specification	Testing Method
11	Solderability of Leads	Lead wire shall be soldered uniformly coated on the axial direction over 3/4 of the circumferential direction.	The lead wire of a capacitor shall be dipped into a ethanol solution of 25 wt% rosin and then into molten solder of $235 \pm 5^\circ\text{C}$ for $2 \pm 0.5$ s. In both cases the depth of dipping is up to about 1.5 to 2mm from the root of lead wires.
12	Soldering Effect	Appearance	No marked defect
		Capacitance Change	Char.B: Within $\pm 5\%$ Char.E: Within $\pm 15\%$ Char.F: Within $\pm 20\%$
		Dielectric Strength (Between Lead Wires)	Per item 4.
13	Humidity (Under Steady State)	Appearance	No marked defect.
		Capacitance Change	Char.B : Within $\pm 10\%$ Char.E : Within $\pm 20\%$ Char.F : Within $\pm 30\%$
		D.F.	Char.B,E : 5.0% max. Char.F : 7.5% max.
		I.R.	1000M $\Omega$ min.
14	Humidity Loading	Appearance	No marked defect.
		Capacitance Change	Char.B : Within $\pm 10\%$ Char.E : Within $\pm 20\%$ Char.F : Within $\pm 30\%$
		D.F.	Char.B,E : 5.0% max. Char.F : 7.5% max.
		I.R.	500M $\Omega$ min.
15	Life	Appearance	No marked defect.
		Capacitance Change	Char.B : Within $\pm 10\%$ Char.E : Within $\pm 20\%$ Char.F : Within $\pm 30\%$
		D.F.	Char.B,E : 4.5% max. Char.F : 7.5% max.
		I.R.	2000M $\Omega$ min.
16	Temperature and Immersion Cycle	Appearance	No marked defect.
		Capacitance Change	Char.B : Within $\pm 10\%$ Char.E : Within $\pm 20\%$ Char.F : Within $\pm 30\%$
		D.F.	Char.B,E : 4.0% max. Char.F : 7.5% max.
		I.R.	2000M $\Omega$ min.
		Dielectric Strength (Between Lead Wires)	Per item 4.

\*2 "Room condition" ..... Temperature; 15 to 35°C, Relative humidity; 45 to 75%, Atmospheric pressure: 86 to 106kPa

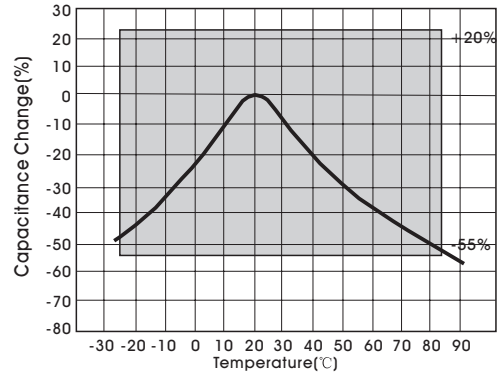
8. CHARACTERISTICS DATA ( TYPICCAL EXAMPLE)

8.1 Capacitance-Temperature Characteristics

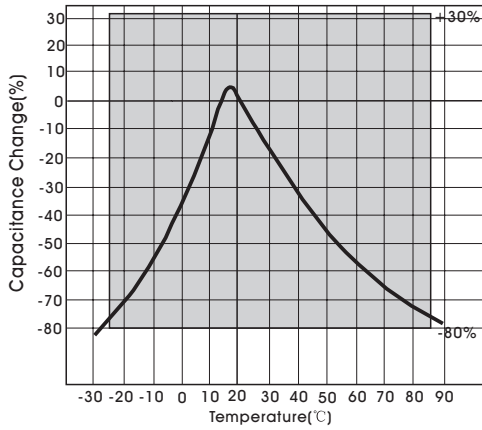
Char: B(Y5P)



Char:E (Y5U)

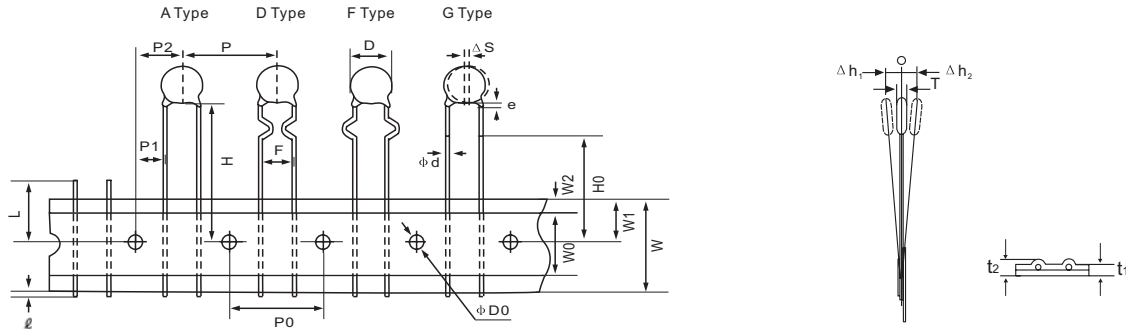


Char:F (Y5V)

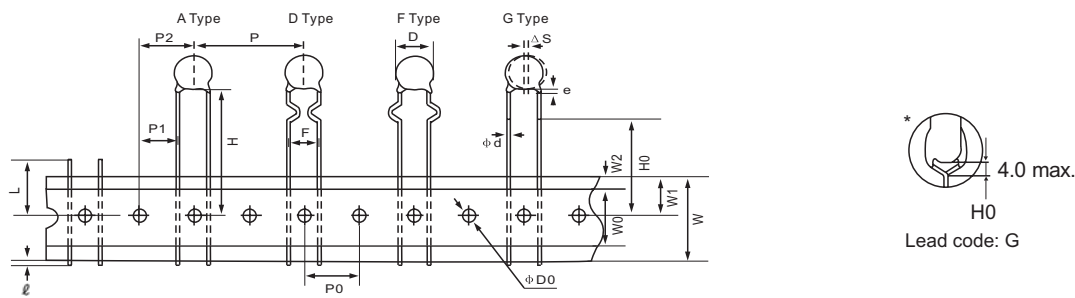


9.1 TAPING SPECIFICATION

- 12.7mm pitch/ lead spacing 5.0/7.5 mm taping (Lead Code:A2,A3,D2,D3,F2,F3,G2,G3)



- 25.4mm pitch/ lead spacing 7.5/10.0mm taping (Lead Code:A3,A4,D3,D4,F3,F4,G3,G4)

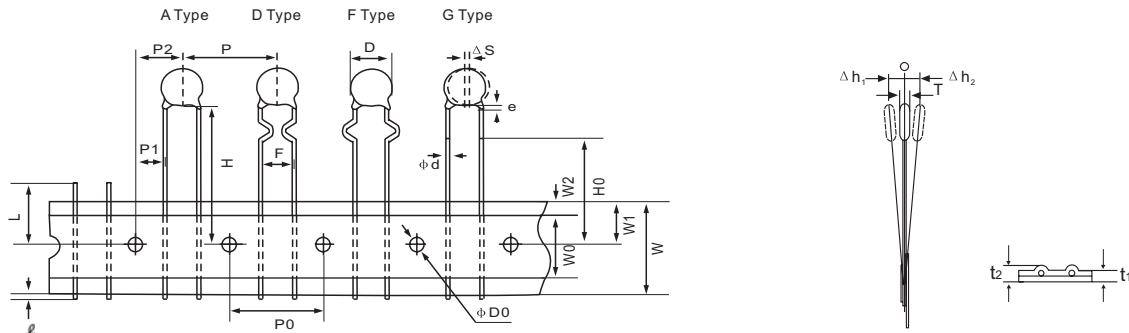


Item	Code	A2/D2/F2/G2	A3/D3/F3/G3	A3/D3/F3/G3	A4/D4/F4/G4
Pitch of component	P	12.7	12.7	25.4	25.4
Pitch of sprocket hole	P <sub>0</sub>	12.7±0.3	12.7±0.3	12.7±0.3	12.7±0.3
Lead spacing	F	5.0±1.0	7.5±1.0	7.5±1.0	10.0±1.0
Length from hole center to component center	P <sub>2</sub>	6.35±1.3	6.35±1.3	12.7±1.3	12.7±1.3
Length from hole center to lead	P <sub>1</sub>	3.85±0.7	2.6±0.7	8.95±1.0	7.7±1.0
Body diameter	D	See the individual product specification			
Deviation along tape, left or right	ΔS	0±2.0			
Carrier tape width	W	18.0±0.5			
Position of sprocket hole	W <sub>1</sub>	9.0±0.5			
Lead distance between reference and bottom planes	H	20.0±1.5 (Lead Code:A2/A3/A4)			
	H <sub>0</sub>	18.0 <sup>+1.5</sup> <sub>-0.5</sub> (Crimp type)			
Diameter of sprocket hole	φD <sub>0</sub>	4.0±0.2			
Lead diameter	φd	0.55±0.05			
Total tape thickness	t <sub>1</sub>	0.55±0.3			
Total thickness, tape and lead wire	t <sub>2</sub>	2.0 max.			
Body thickness	T	See the individual product specification			
Portion to cut in case of defect	L	11.0 max.			
Hold down tape width	W <sub>0</sub>	10.0±2			
Hold down tape position	W <sub>2</sub>	1.5±1.5			
Coating extension on lead	e	3.0 max. (Crimp type:Up to the end of crimp)			
Deviation across tape	$\frac{\Delta h_1}{\Delta h_2}$	2.0 max.			
Protrusion length	ℓ	+0.5 to -1.0			

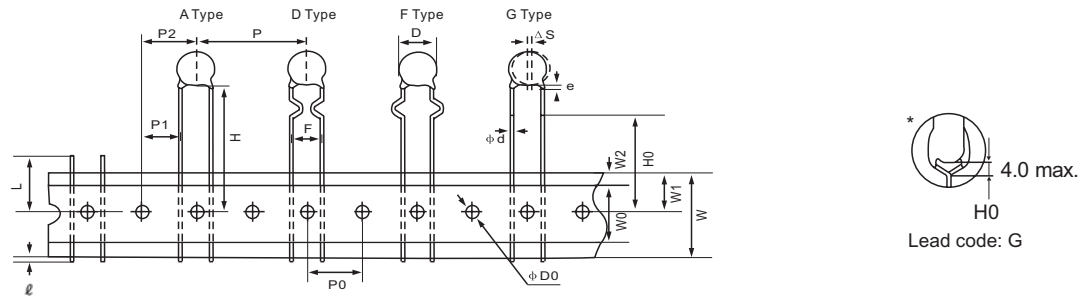
(in mm)

9.2 TAPING SPECIFICATION

- 15.0mm pitch/ lead spacing 5.0/7.5 mm taping (Lead Code:A2,A3,D2,D3,F2,F3,G2,G3 )



- 30.0mm pitch/ lead spacing 7.5/10.0mm taping (Lead Code:A3,A4,D3,D4,F3,F4,G3,G4 )

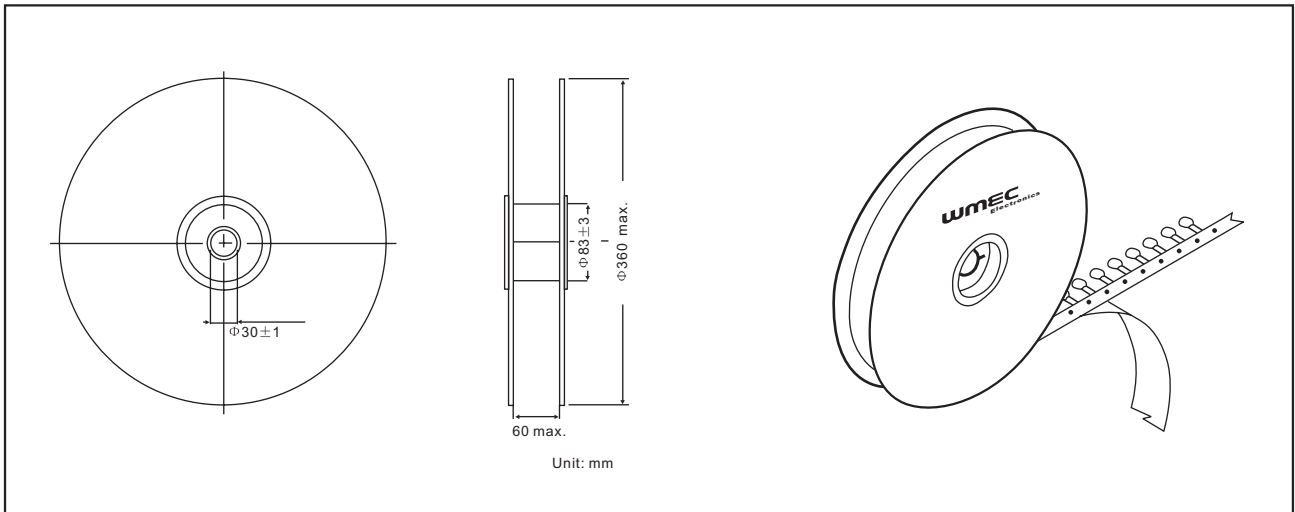


Item	Code	A2/D2/F2/G2	A3/D3/F3/G3	A3/D3/F3/G3	A4/D4/F4/G4
Pitch of component	P	15.0	15.0	30.0	30.0
Pitch of sprocket hole	P <sub>0</sub>	15.0±0.3	15.0±0.3	15.0±0.3	15.0±0.3
Lead spacing	F	5.0±1.0	7.5±1.0	7.5±1.0	10.0±1.0
Length from hole center to component center	P <sub>2</sub>	7.5±1.3	7.5±1.3	15.0±1.3	15.0±1.3
Length from hole center to lead	P <sub>1</sub>	5.0±0.7	3.75±0.7	11.25±1.0	10.0±1.0
Body diameter	D	See the individual product specification			
Deviation along tape, left or right	ΔS	0±2.0			
Carrier tape width	W	18.0±0.5			
Position of sprocket hole	W <sub>1</sub>	9.0±0.5			
Lead distance between reference and bottom planes	H	20.0±1.5 (Lead Code:A2/A3/A4)			
	H <sub>0</sub>	18.0 <sup>+1.5</sup> <sub>-1.5</sub> (Crimp type)			
Diameter of sprocket hole	φD <sub>0</sub>	4.0±0.2			
Lead diameter	φd	0.55±0.05			
Total tape thickness	t <sub>1</sub>	0.6±0.3			
Total thickness, tape and lead wire	t <sub>2</sub>	2.0 max.			
Body thickness	T	See the individual product specification			
Portion to cut in case of defect	L	11.0 max.			
Hold down tape width	W <sub>0</sub>	10.0±2			
Hold down tape position	W <sub>2</sub>	1.5±1.5			
Coating extension on lead	e	3.0 max. (Crimp type:Up to the end of crimp)			
Deviation across tape	Δh <sub>1</sub>	2.0 max.			
	Δh <sub>2</sub>				
Protrusion length	ℓ	+0.5 to -1.0			

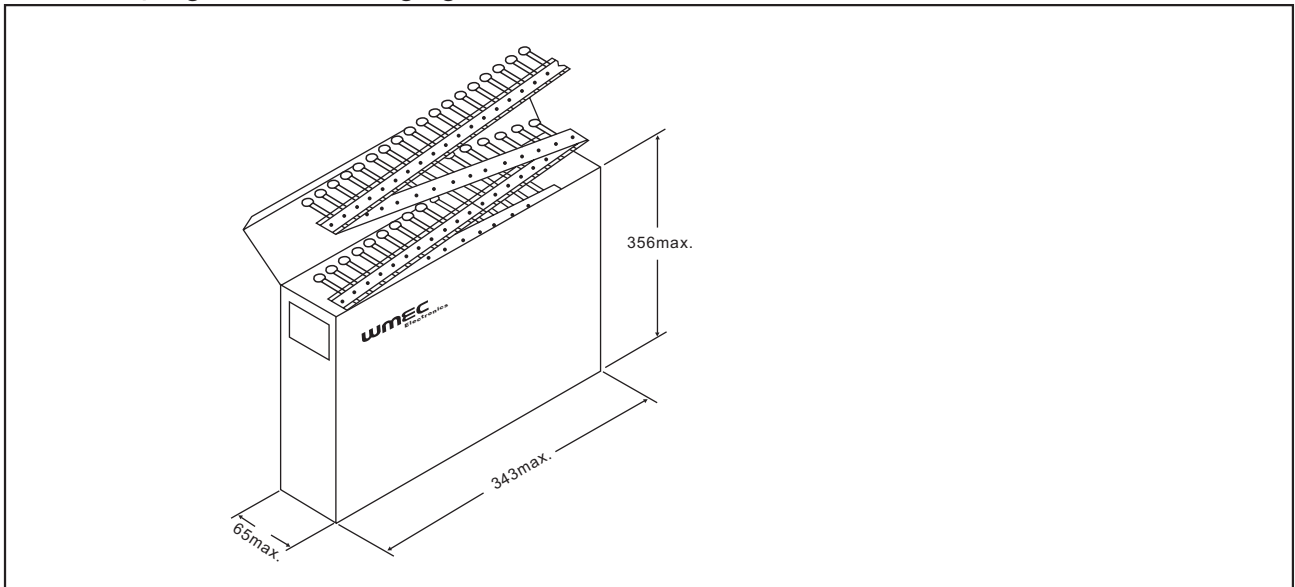
(in mm)

### 10 PACKAGING STYLES

#### 10.1 Taping: Reel Packaging



#### 10.2 Taping: Ammo Packaging



#### 10.3 Bulk

Polyethylene Bag

**11 : PACKAGING QUANTITY**

11.1 ( Bulk) at standards specification

Body Diameter 4.5 to 9.0 mm : 1000 pcs

Body Diameter 10 mm over : 500 pcs

11.2 Taping

Pitch : 12.7 mm

Body Diameter 4.5 to 8.0 mm : 1500 pcs./Box

Body Diameter 9.0 mm over : 1000 pcs./Box

**12 : LABEL AND TRANSPORT**

Capacitors shall be packaged prior to shipment so as to prevent damage during transportation and storage.

Shipping carton contains the following information on the label

Ex.

- a) Our Part No.
- b) Quantity
- c) Lot No.
- D) Manufacturers Name.



**13: NOTIFICATION BEFORE THE MODIFICATION**

We'll previously notify the modified place of manufacture, Manufactured articles and materials.

**14 : MANUFACTURER**

XIAMEN WANMING ELECTRONICS CO., LTD.

The operating conditions for the guarantee of this product are as shown in the specification.

Please note that Wanming Electronics co.,Ltd. Shall not be responsible for a failure and/or abnormality which are caused by use under the conditions other than the aforesaid operating conditions.

Attached Table 1

Series HGK (Rated Voltage: 1 kVDC , Temp.Char. B/Y5P, E/Y5U,/F/Y5V)

Part Number	Temp. Char.	Capacitance (pF)	Body Dia.D (mm)	Body Thickness T (mm)	Lead Spacing F (mm)	Lead Dia. d (mm)*	Lead Package Long Bulk	Lead Package Short Bulk	Lead Package Taping
HGK3AB101K□□□	B/Y5P	100 ± 10%	7.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AB121K□□□	B/Y5P	120 ± 10%	7.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AB151K□□□	B/Y5P	150 ± 10%	7.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AB181K□□□	B/Y5P	180 ± 10%	7.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AB221K□□□	B/Y5P	220 ± 10%	7.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AB271K□□□	B/Y5P	270 ± 10%	7.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AB331K□□□	B/Y5P	330 ± 10%	7.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AB391K□□□	B/Y5P	390 ± 10%	7.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AB471K□□□	B/Y5P	470 ± 10%	7.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AB561K□□□	B/Y5P	560 ± 10%	7.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AB681K□□□	B/Y5P	680 ± 10%	7.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AB821K□□□	B/Y5P	820 ± 10%	7.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AB102K□□□	B/Y5P	1000 ± 10%	7.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AB122K□□□	B/Y5P	1200 ± 10%	7.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AB152K□□□	B/Y5P	1500 ± 10%	8.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AB182K□□□	B/Y5P	1800 ± 10%	9.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AB222K□□□	B/Y5P	2200 ± 10%	9.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AB272K□□□	B/Y5P	2700 ± 10%	10.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AB332K□□□	B/Y5P	3300 ± 10%	11.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AB392K□□□	B/Y5P	3900 ± 10%	12.0	4.0	7.5	0.55	G3B	H3B	G3C
HGK3AB472K□□□	B/Y5P	4700 ± 10%	13.0	4.0	7.5	0.55	G3B	H3B	G3C
HGK3AB562K□□□	B/Y5P	5600 ± 10%	14.0	4.0	7.5	0.55	G3B	H3B	G3C
HGK3AB682K□□□	B/Y5P	6800 ± 10%	15.0	4.0	7.5	0.55	G3B	H3B	G3C
HGK3AB822K□□□	B/Y5P	8200 ± 10%	17.0	4.0	7.5	0.55	G3B	H3B	G3C
HGK3AB103K□□□	B/Y5P	10000 ± 10%	18.0	4.0	7.5	0.55	G3B	H3B	G3C
HGK3AE102M□□□	E/Y5U	1000 ± 20%	7.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AE122M□□□	E/Y5U	1200 ± 20%	7.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AE152M□□□	E/Y5U	1500 ± 20%	7.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AE182M□□□	E/Y5U	1800 ± 20%	7.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AE222M□□□	E/Y5U	2200 ± 20%	7.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AE272M□□□	E/Y5U	2700 ± 20%	8.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AE332M□□□	E/Y5U	3300 ± 20%	8.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AE392M□□□	E/Y5U	3900 ± 20%	9.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AE472M□□□	E/Y5U	4700 ± 20%	10.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AE562M□□□	E/Y5U	5600 ± 20%	10.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AE682M□□□	E/Y5U	6800 ± 20%	11.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AE822M□□□	E/Y5U	8200 ± 20%	12.0	4.0	7.5	0.55	G3B	H3B	G3C
HGK3AE103M□□□	E/Y5U	10000 ± 20%	12.0	4.0	7.5	0.55	G3B	H3B	G3C
HGK3AE153M□□□	E/Y5U	15000 ± 20%	15.0	4.0	7.5	0.55	G3B	H3B	G3C
HGK3AE223M□□□	E/Y5U	22000 ± 20%	18.0	4.0	7.5	0.55	G3B	H3B	G3C
HGK3AF332Z□□□	F/Y5V	3300 +80/-20%	7.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AF392Z□□□	F/Y5V	3900 +80/-20%	8.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AF472Z□□□	F/Y5V	4700 +80/-20%	8.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AF562Z□□□	F/Y5V	5600 +80/-20%	8.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AF682Z□□□	F/Y5V	6800 +80/-20%	9.0	4.0	5.0	0.50	G2B	H2B	G2A
HGK3AF822Z□□□	F/Y5V	8200 +80/-20%	10.0	4.0	5.0	0.55	G2B	H2B	G2A
HGK3AF103Z□□□	F/Y5V	10000 +80/-20%	10.0	4.0	5.0	0.55	G2B	H2B	G2A
HGK3AF223Z□□□	F/Y5V	22000 +80/-20%	14.0	4.0	7.5	0.55	G3B	H3B	G3C
HGK3AF333Z□□□	F/Y5V	33000 +80/-20%	17.0	4.0	7.5	0.55	G3B	H3B	G3C

Three blank columns are filled with the lead and packaging codes. Please refer to the three columns on the right for appropriate code.

\* The lead diameter of all the taping products is 0.55mm+0.1/-0.05.

Attached Table 2

Series HGK (Rated Voltage: 2 kVDC , Temp.Char. B/Y5P, E/Y5U,/F/Y5V)

Part Number	Temp. Char.	Capacitance (pF)	Body Dia.D (mm)	Body Thickness T (mm)	Lead Spacing F (mm)	Lead Dia. d (mm)*	Lead Package Long Bulk	Lead Package Short Bulk	Lead Package Taping
HGK3DB101K□□□	B/Y5P	100 ± 10%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DB121K□□□	B/Y5P	120 ± 10%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DB151K□□□	B/Y5P	150 ± 10%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DB181K□□□	B/Y5P	180 ± 10%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DB221K□□□	B/Y5P	220 ± 10%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DB271K□□□	B/Y5P	270 ± 10%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DB331K□□□	B/Y5P	330 ± 10%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DB391K□□□	B/Y5P	390 ± 10%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DB471K□□□	B/Y5P	470 ± 10%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DB561K□□□	B/Y5P	560 ± 10%	8.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DB681K□□□	B/Y5P	680 ± 10%	8.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DB821K□□□	B/Y5P	820 ± 10%	8.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DB102K□□□	B/Y5P	1000 ± 10%	9.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DB122K□□□	B/Y5P	1200 ± 10%	9.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DB152K□□□	B/Y5P	1500 ± 10%	10.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DB182K□□□	B/Y5P	1800 ± 10%	11.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DB222K□□□	B/Y5P	2200 ± 10%	11.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DB272K□□□	B/Y5P	2700 ± 10%	13.0	5.0	7.5	0.55	G3B	H3B	G3C
HGK3DB332K□□□	B/Y5P	3300 ± 10%	14.5	5.0	7.5	0.55	G3B	H3B	G3C
HGK3DB392K□□□	B/Y5P	3900 ± 10%	15.0	5.0	7.5	0.55	G3B	H3B	G3C
HGK3DB472K□□□	B/Y5P	4700 ± 10%	17.0	5.0	7.5	0.55	G3B	H3B	G3C
HGK3DE102M□□□	E/Y5U	1000 ± 20%	7.0	5.0	7.5	0.55	G2B	H2B	G2A
HGK3DE122M□□□	E/Y5U	1200 ± 20%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DE152M□□□	E/Y5U	1500 ± 20%	8.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DE182M□□□	E/Y5U	1800 ± 20%	8.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DE222M□□□	E/Y5U	2200 ± 20%	8.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DE272M□□□	E/Y5U	2700 ± 20%	10.0	5.0	7.5	0.55	G3B	H3B	G3A
HGK3DE332M□□□	E/Y5U	3300 ± 20%	10.0	5.0	7.5	0.55	G3B	H3B	G3A
HGK3DE392M□□□	E/Y5U	3900 ± 20%	11.0	5.0	7.5	0.55	G3B	H3B	G3A
HGK3DE472M□□□	E/Y5U	4700 ± 20%	11.0	5.0	7.5	0.55	G3B	H3B	G3A
HGK3DE562M□□□	E/Y5U	5600 ± 20%	13.0	5.0	7.5	0.55	G3B	H3B	G3C
HGK3DE682M□□□	E/Y5U	6800 ± 20%	13.0	5.0	7.5	0.55	G3B	H3B	G3C
HGK3DE822M□□□	E/Y5U	8200 ± 20%	13.0	5.0	7.5	0.55	G3B	H3B	G3C
HGK3DE103M□□□	E/Y5U	10000 ± 20%	16.0	5.0	7.5	0.55	G3B	H3B	G3C
HGK3DF102Z□□□	F/Y5V	1000 +80/-20%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DF122Z□□□	F/Y5V	1200 +80/-20%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DF152Z□□□	F/Y5V	1500 +80/-20%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DF182Z□□□	F/Y5V	1800 +80/-20%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DF222Z□□□	F/Y5V	2200 +80/-20%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DF272Z□□□	F/Y5V	2700 +80/-20%	8.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DF332Z□□□	F/Y5V	3300 +80/-20%	8.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DF392Z□□□	F/Y5V	3900 +80/-20%	9.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DF472Z□□□	F/Y5V	4700 +80/-20%	10.0	5.0	5.0	0.55	G2B	H2B	G2A
HGK3DF562Z□□□	F/Y5V	5600 +80/-20%	10.0	5.0	7.5	0.55	G3B	H3B	G3A
HGK3DF682Z□□□	F/Y5V	6800 +80/-20%	11.0	5.0	7.5	0.55	G3B	H3B	G3A
HGK3DF822Z□□□	F/Y5V	8200 +80/-20%	13.0	5.0	7.5	0.55	G3B	H3B	G3C
HGK3DF103Z□□□	F/Y5V	10000 +80/-20%	13.0	5.0	7.5	0.55	G3B	H3B	G3C
HGK3DF153Z□□□	F/Y5V	15000 +80/-20%	15.0	5.0	7.5	0.55	G3B	H3B	G3C
HGK3DF223Z□□□	F/Y5V	22000 +80/-20%	18.0	5.0	10.0	0.55	G4B	H4B	G4C

Three blank columns are filled with the lead and packaging codes. Please refer to the three columns on the right for appropriate code.

\* The lead diameter of all the taping products is 0.55mm+0.1/-0.05.



Attached Table 3

Series HGK (Rated Voltage: 3 kVDC , Temp.Char. B/Y5P, E/Y5U,/F/Y5V)

Part Number	Temp. Char.	Capacitance (pF)	Body Dia.D (mm)	Body Thickness T (mm)	Lead Spacing F (mm)	Lead Dia. d (mm)*	Lead Package Long Bulk	Lead Package Short Bulk	Lead Package Taping
HGK3FB101K□□□□	B/Y5P	100 ± 10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FB121K□□□□	B/Y5P	120 ± 10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FB151K□□□□	B/Y5P	150 ± 10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FB181K□□□□	B/Y5P	180 ± 10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FB221K□□□□	B/Y5P	220 ± 10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FB271K□□□□	B/Y5P	270 ± 10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FB331K□□□□	B/Y5P	330 ± 10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FB391K□□□□	B/Y5P	390 ± 10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FB471K□□□□	B/Y5P	470 ± 10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FB561K□□□□	B/Y5P	560 ± 10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FB681K□□□□	B/Y5P	680 ± 10%	9.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FB821K□□□□	B/Y5P	820 ± 10%	10.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FB102K□□□□	B/Y5P	1000 ± 10%	11.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FB122K□□□□	B/Y5P	1200 ± 10%	11.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FB152K□□□□	B/Y5P	1500 ± 10%	12.0	6.0	7.5	0.55	G3B	H3B	G3C
HGK3FB182K□□□□	B/Y5P	1800 ± 10%	13.0	6.0	7.5	0.55	G3B	H3B	G3C
HGK3FB222K□□□□	B/Y5P	2200 ± 10%	14.0	6.0	7.5	0.55	G3B	H3B	G3C
HGK3FB272K□□□□	B/Y5P	2700 ± 10%	15.0	6.0	7.5	0.55	G3B	H3B	G3C
HGK3FB332K□□□□	B/Y5P	3300 ± 10%	17.0	6.0	10.0	0.55	G4B	H4B	G4C
HGK3FB392K□□□□	B/Y5P	3900 ± 10%	18.0	6.0	10.0	0.55	G4B	H4B	G4C
HGK3FB472K□□□□	B/Y5P	4700 ± 10%	19.0	6.0	10.0	0.55	G4B	H4B	G4C
HGK3FE102M□□□□	E/Y5U	1000 ± 20%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FE122M□□□□	E/Y5U	1200 ± 20%	9.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FE152M□□□□	E/Y5U	1500 ± 20%	9.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FE182M□□□□	E/Y5U	1800 ± 20%	9.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FE222M□□□□	E/Y5U	2200 ± 20%	10.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FE272M□□□□	E/Y5U	2700 ± 20%	10.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FE332M□□□□	E/Y5U	3300 ± 20%	11.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FE392M□□□□	E/Y5U	3900 ± 20%	12.0	6.0	7.5	0.55	G3B	H3B	G3C
HGK3FE472M□□□□	E/Y5U	4700 ± 20%	13.0	6.0	7.5	0.55	G3B	H3B	G3C
HGK3FE562M□□□□	E/Y5U	5600 ± 20%	15.0	6.0	7.5	0.55	G3B	H3B	G3C
HGK3FE682M□□□□	E/Y5U	6800 ± 20%	16.0	6.0	10.0	0.55	G4B	H4B	G4C
HGK3FE822M□□□□	E/Y5U	8200 ± 20%	18.0	6.0	10.0	0.55	G4B	H4B	G4C
HGK3FE103M□□□□	E/Y5U	10000 ± 20%	19.0	6.0	10.0	0.55	G4B	H4B	G4C
HGK3FF102Z□□□□	F/Y5V	1000 +80/-20%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FF122Z□□□□	F/Y5V	1200 +80/-20%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FF152Z□□□□	F/Y5V	1500 +80/-20%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FF182Z□□□□	F/Y5V	1800 +80/-20%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FF222Z□□□□	F/Y5V	2200 +80/-20%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FF272Z□□□□	F/Y5V	2700 +80/-20%	9.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FF332Z□□□□	F/Y5V	3300 +80/-20%	9.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FF392Z□□□□	F/Y5V	3900 +80/-20%	11.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FF472Z□□□□	F/Y5V	4700 +80/-20%	11.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FF562Z□□□□	F/Y5V	5600 +80/-20%	12.0	6.0	7.5	0.55	G3B	H3B	G3C
HGK3FF682Z□□□□	F/Y5V	6800 +80/-20%	12.0	6.0	10.0	0.55	G4B	H4B	G4C
HGK3FF822Z□□□□	F/Y5V	8200 +80/-20%	14.0	6.0	10.0	0.55	G4B	H4B	G4C
HGK3FF103Z□□□□	F/Y5V	10000 +80/-20%	15.0	6.0	10.0	0.55	G4B	H4B	G4C
HGK3FF153Z□□□□	F/Y5V	15000 +80/-20%	18.0	6.0	10.0	0.55	G4B	H4B	G4C
HGK3FF223Z□□□□	F/Y5V	22000 +80/-20%	21.0	6.0	10.0	0.55	G4B	H4B	G4C

Three blank columns are filled with the lead and packaging codes. Please refer to the three columns on the right for appropriate code.

\* The lead diameter of all the taping products is 0.55mm+0.1/-0.05.

Attached Table 4

Series HGK (Rated Voltage: 4 kVDC , Temp.Char. B/Y5P, E/Y5U,/F/Y5V)

Part Number	Temp. Char.	Capacitance (pF)	Body Dia.D (mm)	Body Thickness T (mm)	Lead Spacing F (mm)	Lead Dia. d (mm)	Lead Package Long Bulk	Lead Package Short Bulk
HGK3GB101K□□□	B/Y5P	100 ± 10%	8.0	6.0	10.0	0.55	G4B	H4B
HGK3GB151K□□□	B/Y5P	150 ± 10%	8.0	6.0	10.0	0.55	G4B	H4B
HGK3GB221K□□□	B/Y5P	220 ± 10%	8.0	6.0	10.0	0.55	G4B	H4B
HGK3GB331K□□□	B/Y5P	330 ± 10%	8.0	6.0	10.0	0.55	G4B	H4B
HGK3GB471K□□□	B/Y5P	470 ± 10%	9.0	6.0	10.0	0.55	G4B	H4B
HGK3GB681K□□□	B/Y5P	680 ± 10%	10.0	6.0	10.0	0.55	G4B	H4B
HGK3GB102K□□□	B/Y5P	1000 ± 10%	12.0	6.0	10.0	0.55	G4B	H4B
HGK3GE102M□□□	E/Y5U	1000 ± 20%	9.0	6.0	10.0	0.55	G4B	H4B
HGK3GE152M□□□	E/Y5U	1500 ± 20%	11.0	6.0	10.0	0.55	G4B	H4B
HGK3GE222M□□□	E/Y5U	2200 ± 20%	12.0	6.0	10.0	0.55	G4B	H4B
HGK3GE332M□□□	E/Y5U	3300 ± 20%	14.0	6.0	10.0	0.55	G4B	H4B
HGK3GE472M□□□	E/Y5U	4700 ± 20%	17.0	6.0	10.0	0.55	G4B	H4B
HGK3GF102Z□□□	F/Y5V	1000 +80/-20%	8.0	6.0	10.0	0.55	G4B	H4B
HGK3GF152Z□□□	F/Y5V	1500 +80/-20%	8.5	6.0	10.0	0.55	G4B	H4B
HGK3GF222Z□□□	F/Y5V	2200 +80/-20%	9.0	6.0	10.0	0.55	G4B	H4B
HGK3GF332Z□□□	F/Y5V	3300 +80/-20%	11.0	6.0	10.0	0.55	G4B	H4B
HGK3GF472Z□□□	F/Y5V	4700 +80/-20%	12.0	6.0	10.0	0.55	G4B	H4B
HGK3JF103Z□□□	F/Y5V	10000 +80/-20%	17.0	6.0	10.0	0.55	G4B	H4B

Three blank columns are filled with the lead and packaging codes. Please refer to the three columns on the right for appropriate code.

Series HGK (Rated Voltage: 5 kVDC , Temp.Char. B/Y5P, E/Y5U,/F/Y5V)

Part Number	Temp. Char.	Capacitance (pF)	Body Dia.D (mm)	Body Thickness T (mm)	Lead Spacing F (mm)	Lead Dia. d (mm)	Lead Package Long Bulk	Lead Package Short Bulk
HGK3HB101K□□□	B/Y5P	100 ± 10%	8.0	7.0	10.0	0.55	G4B	H4B
HGK3HB151K□□□	B/Y5P	150 ± 10%	8.0	7.0	10.0	0.55	G4B	H4B
HGK3HB221K□□□	B/Y5P	220 ± 10%	8.0	7.0	10.0	0.55	G4B	H4B
HGK3HB331K□□□	B/Y5P	330 ± 10%	8.0	7.0	10.0	0.55	G4B	H4B
HGK3HB471K□□□	B/Y5P	470 ± 10%	9.0	7.0	10.0	0.55	G4B	H4B
HGK3HB681K□□□	B/Y5P	680 ± 10%	10.0	7.0	10.0	0.55	G4B	H4B
HGK3HB102K□□□	B/Y5P	1000 ± 10%	13.0	7.0	10.0	0.55	G4B	H4B
HGK3HE102M□□□	E/Y5U	1000 ± 20%	9.0	7.0	10.0	0.55	G4B	H4B
HGK3HE152M□□□	E/Y5U	1500 ± 20%	10.0	7.0	10.0	0.55	G4B	H4B
HGK3HE222M□□□	E/Y5U	2200 ± 20%	11.0	7.0	10.0	0.55	G4B	H4B
HGK3HE332M□□□	E/Y5U	3300 ± 20%	13.0	7.0	10.0	0.55	G4B	H4B
HGK3HE472M□□□	E/Y5U	4700 ± 20%	16.0	7.0	10.0	0.55	G4B	H4B
HGK3HF102Z□□□	F/Y5V	1000 +80/-20%	8.0	7.0	10.0	0.55	G4B	H4B
HGK3HF152Z□□□	F/Y5V	1500 +80/-20%	8.0	7.0	10.0	0.55	G4B	H4B
HGK3HF222Z□□□	F/Y5V	2200 +80/-20%	9.0	7.0	10.0	0.55	G4B	H4B
HGK3HF332Z□□□	F/Y5V	3300 +80/-20%	11.0	7.0	10.0	0.55	G4B	H4B
HGK3HF472Z□□□	F/Y5V	4700 +80/-20%	13.0	7.0	10.0	0.55	G4B	H4B
HGK3HF103Z□□□	F/Y5V	10000 +80/-20%	18.0	7.0	10.0	0.55	G4B	H4B

Three blank columns are filled with the lead and packaging codes. Please refer to the three columns on the right for appropriate code.

Attached Table 5

Series HGK (Rated Voltage: 6 kVDC , Temp.Char. B/Y5P, E/Y5U,/F/Y5V)

Part Number	Temp. Char.	Capacitance (pF)	Body Dia.D (mm)	Body Thickness T (mm)	Lead Spacing F (mm)	Lead Dia. d (mm)	Lead Package Long Bulk	Lead Package Short Bulk
HGK3JB101K□□□□	B/Y5P	100 ± 10%	8.0	7.0	10.0	0.55	G4B	H4B
HGK3JB151K□□□□	B/Y5P	150 ± 10%	8.0	7.0	10.0	0.55	G4B	H4B
HGK3JB221K□□□□	B/Y5P	220 ± 10%	9.0	7.0	10.0	0.55	G4B	H4B
HGK3JB331K□□□□	B/Y5P	330 ± 10%	9.0	7.0	10.0	0.55	G4B	H4B
HGK3JB471K□□□□	B/Y5P	470 ± 10%	9.0	7.0	10.0	0.55	G4B	H4B
HGK3JB681K□□□□	B/Y5P	680 ± 10%	11.0	7.0	10.0	0.55	G4B	H4B
HGK3JB102K□□□□	B/Y5P	1000 ± 10%	13.0	7.0	10.0	0.55	G4B	H4B
HGK3JE102M□□□□	E/Y5U	1000 ± 20%	9.0	7.0	10.0	0.55	G4B	H4B
HGK3JE152M□□□□	E/Y5U	1500 ± 20%	10.0	7.0	10.0	0.55	G4B	H4B
HGK3JE222M□□□□	E/Y5U	2200 ± 20%	12.0	7.0	10.0	0.55	G4B	H4B
HGK3JE332M□□□□	E/Y5U	3300 ± 20%	13.0	7.0	10.0	0.55	G4B	H4B
HGK3JE472M□□□□	E/Y5U	4700 ± 20%	17.0	7.0	10.0	0.55	G4B	H4B
HGK3JF102Z□□□□	F/Y5V	1000 +80/-20%	8.0	7.0	10.0	0.55	G4B	H4B
HGK3JF152Z□□□□	F/Y5V	1500 +80/-20%	9.0	7.0	10.0	0.55	G4B	H4B
HGK3JF222Z□□□□	F/Y5V	2200 +80/-20%	10.0	7.0	10.0	0.55	G4B	H4B
HGK3JF332Z□□□□	F/Y5V	3300 +80/-20%	11.0	7.0	10.0	0.55	G4B	H4B
HGK3JF472Z□□□□	F/Y5V	4700 +80/-20%	13.0	7.0	10.0	0.55	G4B	H4B
HGK3JF103Z□□□□	F/Y5V	10000 +80/-20%	20.0	7.0	10.0	0.55	G4B	H4B

Three blank columns are filled with the lead and packaging codes. Please refer to the three columns on the right for appropriate code.

Series HGK (Rated Voltage: 8 kVDC , Temp.Char. B/Y5P, E/Y5U,/F/Y5V)

Part Number	Temp. Char.	Capacitance (pF)	Body Dia.D (mm)	Body Thickness T (mm)	Lead Spacing F (mm)	Lead Dia. d (mm)	Lead Package Long Bulk	Lead Package Short Bulk
HGK3NB101K□□□□	B/Y5P	100 ± 10%	9.0	8.0	10.0	0.55	G4B	H4B
HGK3NB151K□□□□	B/Y5P	150 ± 10%	9.0	8.0	10.0	0.55	G4B	H4B
HGK3NB221K□□□□	B/Y5P	220 ± 10%	9.0	8.0	10.0	0.55	G4B	H4B
HGK3NB331K□□□□	B/Y5P	330 ± 10%	10.0	8.0	10.0	0.55	G4B	H4B
HGK3NB471K□□□□	B/Y5P	470 ± 10%	11.0	8.0	10.0	0.55	G4B	H4B
HGK3NB681K□□□□	B/Y5P	680 ± 10%	13.0	8.0	10.0	0.55	G4B	H4B
HGK3NB102K□□□□	B/Y5P	1000 ± 10%	15.0	8.0	10.0	0.55	G4B	H4B
HGK3NE102Z□□□□	E/Y5U	1000 +80/-20%	11.0	8.0	10.0	0.55	G4B	H4B
HGK3NE152Z□□□□	E/Y5U	1500 +80/-20%	13.0	8.0	10.0	0.55	G4B	H4B
HGK3NE222Z□□□□	E/Y5U	2200 +80/-20%	15.0	8.0	10.0	0.55	G4B	H4B
HGK3NE332Z□□□□	E/Y5U	3300 +80/-20%	18.0	8.0	10.0	0.55	G4B	H4B
HGK3NE472Z□□□□	E/Y5U	4700 +80/-20%	22.0	8.0	10.0	0.55	G4B	H4B
HGK3NF102Z□□□□	F/Y5V	1000 +80/-20%	9.0	8.0	10.0	0.55	G4B	H4B
HGK3NF152Z□□□□	F/Y5V	1500 +80/-20%	10.0	8.0	10.0	0.55	G4B	H4B
HGK3NF222Z□□□□	F/Y5V	2200 +80/-20%	12.0	8.0	10.0	0.55	G4B	H4B
HGK3NF332Z□□□□	F/Y5V	3300 +80/-20%	14.0	8.0	10.0	0.55	G4B	H4B
HGK3NF472Z□□□□	F/Y5V	4700 +80/-20%	16.0	8.0	10.0	0.55	G4B	H4B
HGK3NF103Z□□□□	F/Y5V	10000 +80/-20%	23.0	8.0	10.0	0.55	G4B	H4B

Three blank columns are filled with the lead and packaging codes. Please refer to the three columns on the right for appropriate code.

Attached Table 6

Series HGK (Rated Voltage: 1 to 2kVDC , Temp.Char. X / (X7R))

Part Number	DC Rated Voltage (Vdc)	Capacitance (pF)	Body Dia.D (mm)	Body Thickness T (mm)	Lead Spacing F (mm)	Lead Dia. d (mm)*	Lead Package Long Bulk	Lead Package Short Bulk	Lead Package Taping
HGK3AX101K□□□□	1000	100 ± 10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGK3AX121K□□□□	1000	120 ± 10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGK3AX151K□□□□	1000	150 ± 10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGK3AX181K□□□□	1000	180 ± 10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGK3AX221K□□□□	1000	220 ± 10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGK3AX271K□□□□	1000	270 ± 10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGK3AX331K□□□□	1000	330 ± 10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGK3AX391K□□□□	1000	390 ± 10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGK3AX471K□□□□	1000	470 ± 10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGK3AX561K□□□□	1000	560 ± 10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGK3AX681K□□□□	1000	680 ± 10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGK3AX821K□□□□	1000	820 ± 10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGK3AX102K□□□□	1000	1000 ± 10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGK3AX122K□□□□	1000	1200 ± 10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGK3AX152K□□□□	1000	1500 ± 10%	8.0	4.0	5.0	0.5	G2B	H2B	G2A
HGK3AX182K□□□□	1000	1800 ± 10%	9.0	4.0	5.0	0.5	G2B	H2B	G2A
HGK3AX222K□□□□	1000	2200 ± 10%	9.0	4.0	5.0	0.5	G2B	H2B	G2A
HGK3AX272K□□□□	1000	2700 ± 10%	10.0	4.0	5.0	0.5	G2B	H2B	G2A
HGK3AX332K□□□□	1000	3300 ± 10%	11.0	4.0	5.0	0.5	G2B	H2B	G2A
HGK3AX392K□□□□	1000	3900 ± 10%	12.0	4.0	7.5	0.55	G3B	H3B	G3C
HGK3AX472K□□□□	1000	4700 ± 10%	13.0	4.0	7.5	0.55	G3B	H3B	G3C
HGK3AX562K□□□□	1000	5600 ± 10%	14.0	4.0	7.5	0.55	G3B	H3B	G3C
HGK3AX682K□□□□	1000	6800 ± 10%	15.0	4.0	7.5	0.55	G3B	H3B	G3C
HGK3AX822K□□□□	1000	8200 ± 10%	17.0	4.0	7.5	0.55	G3B	H2B	G3C
HGK3AX103K□□□□	1000	10000 ± 10%	18.0	4.0	7.5	0.55	G3B	H3B	G3C
HGK3DX101K□□□□	2000	100 ± 10%	7.0	4.0	5.0	0.55	G2B	H2B	G2A
HGK3DX121K□□□□	2000	120 ± 10%	7.0	4.0	5.0	0.55	G2B	H2B	G2A
HGK3DX151K□□□□	2000	150 ± 10%	7.0	4.0	5.0	0.55	G2B	H2B	G2A
HGK3DX181K□□□□	2000	180 ± 10%	7.0	4.0	5.0	0.55	G2B	H2B	G2A
HGK3DX221K□□□□	2000	220 ± 10%	7.0	4.0	5.0	0.55	G2B	H2B	G2A
HGK3DX271K□□□□	2000	270 ± 10%	7.0	4.0	5.0	0.55	G2B	H2B	G2A
HGK3DX331K□□□□	2000	330 ± 10%	7.0	4.0	5.0	0.55	G2B	H2B	G2A
HGK3DX391K□□□□	2000	390 ± 10%	7.0	4.0	5.0	0.55	G2B	H2B	G2A
HGK3DX471K□□□□	2000	470 ± 10%	7.0	4.0	5.0	0.55	G2B	H2B	G2A
HGK3DX561K□□□□	2000	560 ± 10%	8.0	4.0	5.0	0.55	G2B	H2B	G2A
HGK3DX681K□□□□	2000	680 ± 10%	8.0	4.0	5.0	0.55	G2B	H2B	G2A
HGK3DX821K□□□□	2000	820 ± 10%	8.0	4.0	5.0	0.55	G2B	H2B	G2A
HGK3DX102K□□□□	2000	1000 ± 10%	9.0	4.0	5.0	0.55	G2B	H2B	G2A
HGK3DX122K□□□□	2000	1200 ± 10%	9.0	4.0	5.0	0.55	G2B	H2B	G2A
HGK3DX152K□□□□	2000	1500 ± 10%	10.0	4.0	5.0	0.55	G2B	H2B	G2A
HGK3DX182K□□□□	2000	1800 ± 10%	11.0	4.0	5.0	0.55	G2B	H2B	G2A
HGK3DX222K□□□□	2000	2200 ± 10%	11.0	4.0	5.0	0.55	G2B	H2B	G2A
HGK3DX272K□□□□	2000	2700 ± 10%	13.0	4.0	7.5	0.55	G3B	H3B	G3C
HGK3DX332K□□□□	2000	3300 ± 10%	13.0	4.0	7.5	0.55	G3B	H3B	G3C
HGK3DX392K□□□□	2000	3900 ± 10%	15.0	4.0	7.5	0.55	G3B	H3B	G3C
HGK3DX472K□□□□	2000	4700 ± 10%	17.0	4.0	7.5	0.55	G3B	H3B	G3C

Three blank columns are filled with the lead and packaging codes. Please refer to the three columns on the right for appropriate code.

\* The lead diameter of all the taping products is 0.55mm+0.1/-0.05.

Attached Table 7

Series HGK (Rated Voltage: 3 kVDC , Temp.Char. X/X7R)

Part Number	DC Rated Voltage (Vdc)	Capacitance (pF)	Body Dia.D (mm)	Body Thickness T (mm)	Lead Spacing F (mm)	Lead Dia. d (mm)*	Lead Package Long Bulk	Lead Package Short Bulk	Lead Package Taping
HGK3FX101K□□□	3000	100 ± 10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FX121K□□□	3000	120 ± 10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FX151K□□□	3000	150 ± 10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FX181K□□□	3000	180 ± 10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FX221K□□□	3000	220 ± 10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FX271K□□□	3000	270 ± 10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FX331K□□□	3000	330 ± 10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FX391K□□□	3000	390 ± 10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FX471K□□□	3000	470 ± 10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FX561K□□□	3000	560 ± 10%	9.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FX681K□□□	3000	680 ± 10%	9.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FX821K□□□	3000	820 ± 10%	10.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FX102K□□□	3000	1000 ± 10%	11.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FX122K□□□	3000	1200 ± 10%	11.0	6.0	7.5	0.55	G3B	H3B	G3A
HGK3FX152K□□□	3000	1500 ± 10%	12.0	6.0	7.5	0.55	G3B	H3B	G3C
HGK3FX182K□□□	3000	1800 ± 10%	13.0	6.0	7.5	0.55	G3B	H3B	G3C
HGK3FX222K□□□	3000	2200 ± 10%	14.0	6.0	7.5	0.55	G3B	H3B	G3C
HGK3FX272K□□□	3000	2700 ± 10%	15.0	6.0	7.5	0.55	G3B	H3B	G3C
HGK3FX332K□□□	3000	3300 ± 10%	17.0	6.0	10.0	0.55	G4B	H4B	G4C
HGK3FX392K□□□	3000	3900 ± 10%	18.0	6.0	10.0	0.55	G4B	H4B	G4C
HGK3FX472K□□□	3000	4700 ± 10%	19.0	6.0	10.0	0.55	G4B	H4B	G4C

Three blank columns are filled with the lead and packaging codes. Please refer to the three columns on the right for appropriate code.

\* The lead diameter of all the taping products is 0.55mm + 0.1/-0.05.