SPECIFICATION

No: WM-S08-001

MENTION ITEM

DIVISION	DATE ISSUED	SPEC.NO.
TECH. DERT	July,17,2012	WM-S08-001B04

HGT *TYPE* -FOR Fixed calss 1 high voltage ceramic dielectric capacitors

1. SCOPE

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

2. RELATIVE STANDARDS

IEC 384-8 : 1988 [Fixed capacitors of ceramic dielectric,class 1]
GB/T 5966-1996 [Fixed capacitors of ceramic dielectric,class 1]
GB 9320-88 [Fixed class 1 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℃ to +125℃

5. PART NUMBERS

Examples

HGT	3A	S	680	J	A	2	B	W
①	②	③	④	⑤	⑥	⑦	⑧	⑨

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

5.1 Type

Type Designation

Type	Designation
HGT	class 1 high voltage ceramic dielectric capacitors

5.2 Raated 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 Characiteristics Code

Code	Temperature Characeristics	Cap.Change Of Temp.coeff.	Temperature Range
S	SL	+350～-1000ppm/℃	-25 to 85℃
C	NPO	0±60pmm/℃	
YL	YL	-3300±500pmm/℃	

5.4 Nominal Capacitance Code

Nominal capactiance 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 fllowing the significant figures.

Example:

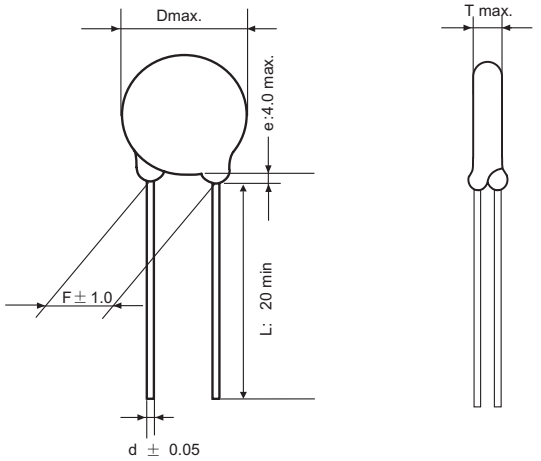
Code	Capacitance(pF)
100	10
330	33
101	100
681	680

5.5 Capacitance Tolerance

Code	Tolerance
J	±5%
K	±10%
M	±20%

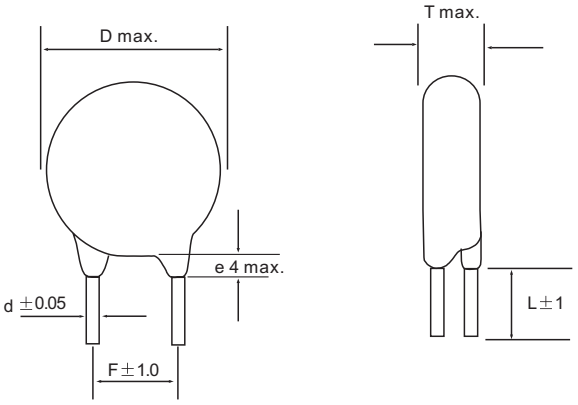
5.6 Lead style

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



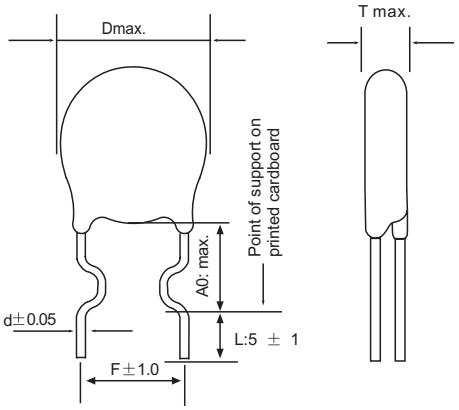
Lead code	A1	A2	A3	A4
F	2.5	5	7.5	10
L	20 mm min			
d	0.5 or 0.55			
e	Max. 4.0mm			

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



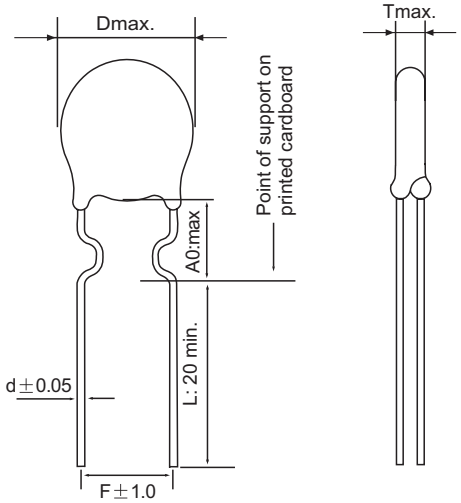
Lead code	B1	B2	B3	B4
F	2.5	5	7.5	10
L	5 or depend on client			
d	0.5 or 0.55			
e	Max. 4.0mm			

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



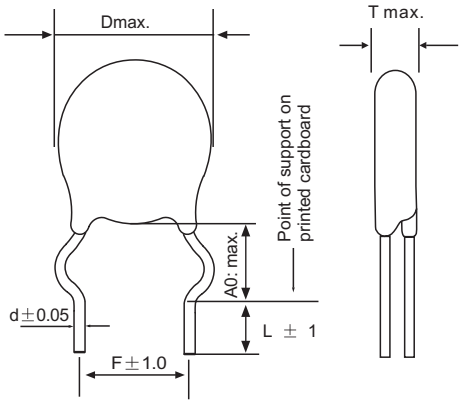
Lead code	C2	C3	C4
F	5	7.5	10
A0	5	5	6.5
L	5 or depend on client		
d	0.5 or 0.55		

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



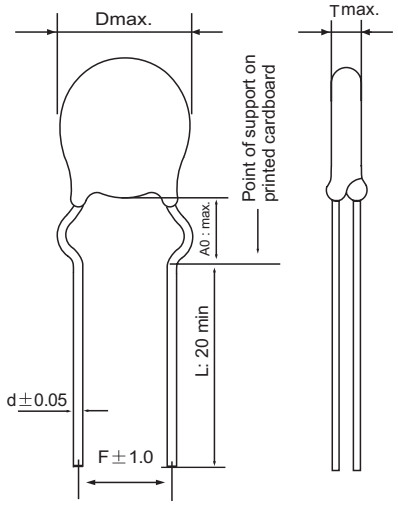
Lead code	D2	D3	D4
F	5	7.5	10
A0	5	5	6.5
L	20 mm min		
d	0.5 or 0.55		

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



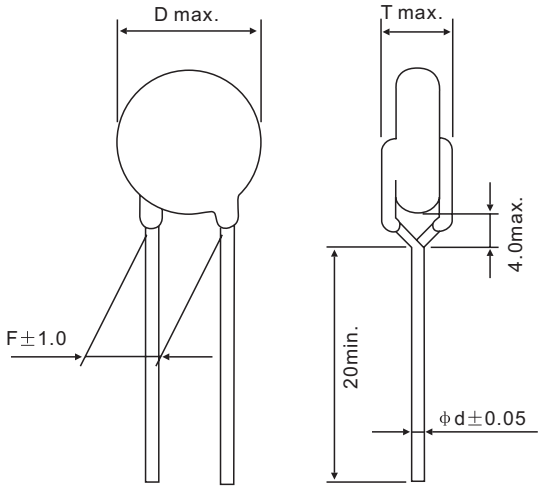
Lead code	E2	E3	E4
F	5	7.5	10
A	5	5	6.5
L	5 or depend on client		
d	0.5 or 0.55		

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



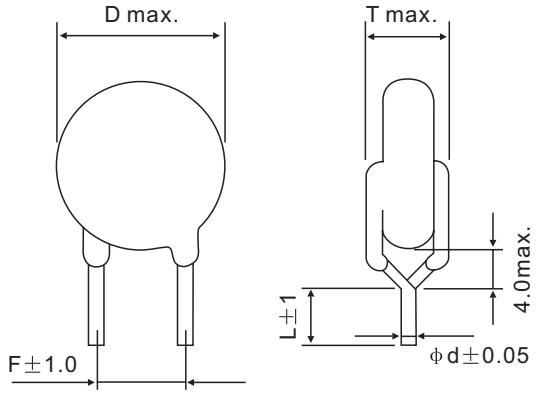
Lead code	F2	F3	F4
F	5	7.5	10
A	5	5	6.5
L	20 mm min		
d	0.5 or 0.55		

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



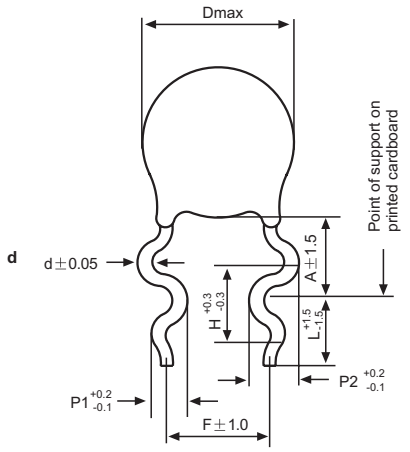
Lead code	G2	G3	G4
F	5	7.5	10
L	20 mm min		
d	0.5 or 0.55		

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 : Duoble 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

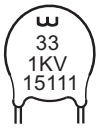
Code	Pitch of components(mm)	Packaging
B	/	Bulk
A	12.7	Taping Ammo Pack
C	25.4	
D	15.0	
E	30.0	
R	12.7	Taping Reel Pack

5.9 Internal Code

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

6. MARKING

6.1 Rated voltage : 50V/100V

Item	Marking item	Marking ex.	
		SL	NPO
＜100pF	a:Manufacturers Identification b:Nominal capacitance c: Rated Voltage d: Internal Code		
≥100pF	a: Manufacturers Identification b:Nominal capacitance c: Capacitance Tolerance d: Rated Voltage e: Temperature Characteristic f: Internal Code		

6.2 Marking item

(1) Temperature Characteristic Marked with code (Omitted for under 100pF)

(2) Nominal Capacitance Under 100pF: Actual value, 100pF and over : Marked with 3 figures

(3) Capacitance Tolerance Marked with code (Omitted for under 100pF)

(4) Rated Voltage Marked with code

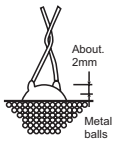
(5) Manufacturers Identification Marked with ω

7. SPECIFICATION AND TEST METHOD

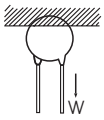
7.1 Test condition

Test and measurement shall be made at the standard condition,(Temperature 15 to 35℃,relative humidity 45 to 75% and atmospheric pressure 860-1060 hpa),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℃,relative humidity 60 to 70% and atmospheric pressure 860-1060 hpa), unless otherwise specified herein

7.2 Performance

No.	Item		Specification	Testing Method
1	Operating Temperature Range		-25 to +125℃	——
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 shall not be damage when DC voltage of 150% the rated voltage are applied between the lead wires for 1 to 5 s. (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 1.5kV 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	10000MΩ 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℃ with 1±0.2MHz and AC1±0.1V(r.m.s.).
7	Q		400±20C（30pf under） 1000min. (30pf min)	The dissipation factor shall be measured at 20±2℃ with 1±0.2MHz and AC1±0.1V(r.m.s.).
8	Temperature Characteristic		Char.SL:+350 to -1000ppm/℃ (Them. Range: -25 to 85℃)	The capacitance measurement shall be made at each step specified in Table.
			Pre-treatment : Capacitor shall be stored at 85±2℃ for 1 h, then placed at*2room condition for 24±2 h before measurements.	

Step	1	2	3	4	5
Temp.(℃)	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 φ0.5mm),and keep it for 10±1 s. 
		Bending		Each lead wire shall br subjected to 5N(2.5N for lead diameter φ0.5mm)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.	
		Q	400±20C（30pf under） 1000min. (30pf min)	

*2 "room condition" ····· Temperature; 15 to 35℃, Relative humidity; 45 to 75%, Atmospheric pressure; 86 to 106kPa

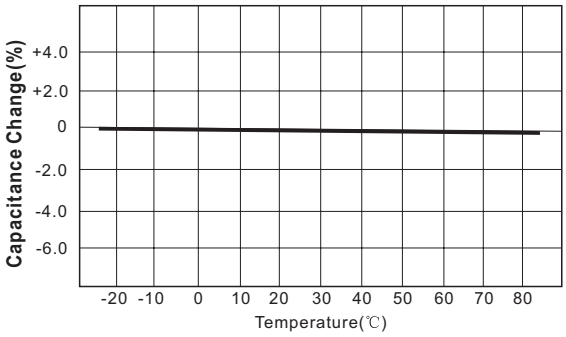
No.	Itme		Specification	Testing Method
11	Solderability of Leads		Lead wire shall be soldered withuniformly coated on the axial direction over 3/4 of the circumferential direction.	The lead wire of a capacitor shall be dipped into a ethanol solution of 25 wt% rosin and then into molten solder of 235±5℃ for 2±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	The lead wire shall be immersed into the melted solder of 350±10℃ or 260±5℃ up to about 1.5 to 2.0mm from the main body for 3.5±0.5 s (10±1 s for 260±5℃) Pre-treatment:Capacitor shall be stored at 85±2℃for 1 h, then placed at *room condition for 24±2 h before initial measurements. Post-treatment:Capacitor shall be stored for 4 to 24 h at *room condition.
		Capacitance Change	Within± 3.0%	
		Dielectric Strength (Between Lead Wires)	Per item 4.	
13	Humidity (Under Steady State)	Appearance	No marked defect.	Set the capacitor for 500+24/-0 h at 40±2℃ in 90 to 95% relative Humidity. Pre-treatment : Capacitor shall be stored at 85±2℃ for 1h, then placed at *room condition for 24±2 h before initial measurements. Post-treatment : Capacitor shall be stored for 1 to 2 h at *room condition.
		Capacitance Change	Within±5%	
		Q	275±5/2C（30pf under）350min. (30pf min)	
		I.R.	1000MΩ min.	
14	Humidity Loading	Appearance	No marked defect.	Apply the rated voltage for 500 +24/-0 h at 40±2℃ in 90 to 95% relative humidity.(Charge/Discharge current ≤50mA.) Pre-treatment : Capacitor shall be stored at 85±2℃ for 1 h, then placed at *room condition for 24±2 h before initial measurements. Post-treatment : Capacitor shall be stored at 85±2℃ for 1 h, then placed at *room condition for 24±2 h.
		Capacitance Change	Within±5%	
		Q	275±5/2C（30pf under）350min. (30pf min)	
		I.R.	500MΩmin.	
15	Life	Appearance	No marked defect.	Apply a DC voltage 150% of the rated voltage for1000 +48/-0 h at 125±2℃, and relative humidity of 50% max..(Charge/Discharge current ≤50mA.) Pre-treatment : Capacitor shall be stored at 85±2℃ for 1 h, then placed at *room condition for 24±2 h before initial measurements. Post-treatment : Capacitor shall be stored at 85±2℃ for 1 h, then placed at *room condition for 24±2 h.
		Capacitance Change	Within±5%	
		Q	275±5/2C（30pf under）350min. (30pf min)	
		I.R.	2000MΩmin.	
16	Temperature and Immersion Cycle	Appearance	No marked defect.	The capacitor shall be subjected to 5 temperature cycles. <Temperature cycle> Step / Temperature(℃) / Time 1 / -25±3 / 30 min 2 / Room Temp. / 3 min 3 / +125±3 / 30 min 4 / Room Temp. / 3 min Cycle time:5 cycle Pre-treatment : Capacitor shall be stored at 85±2℃ for 1 h, then placed at *room condition for 24±2 h before initial measurements. Post-treatment : Capacitor shall be stored for 4 to 24 h at *room condition.
		Capacitance Change	Within±5%	
		Q	275±5/2C（30pf under）350min. (30pf min)	
		I.R.	2000MΩmin.	
		Dielectric Strength (Between Lead Wires)	Per item 4.	

*2 "Room condition" …… Temperature; 15 to 35℃, Relative humidity; 45 to 75%, Atmospheric pressure: 86 to 106kPa

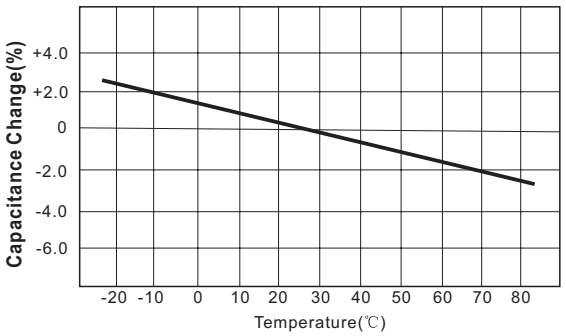
8. CHARACTERISTICS DATA (TYPICCAL EXAMPLE)

8.1 Capacitance-Temperature Characteristics

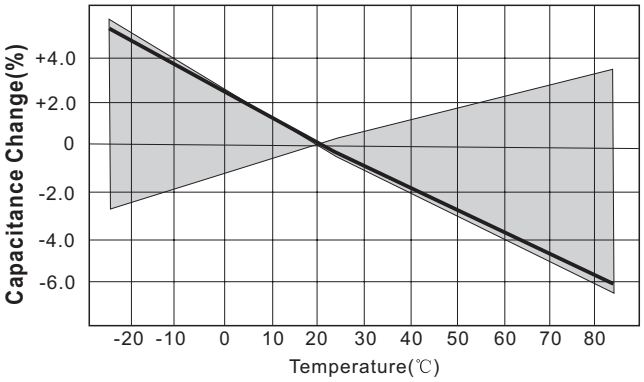
Char : NPO



Char：N750

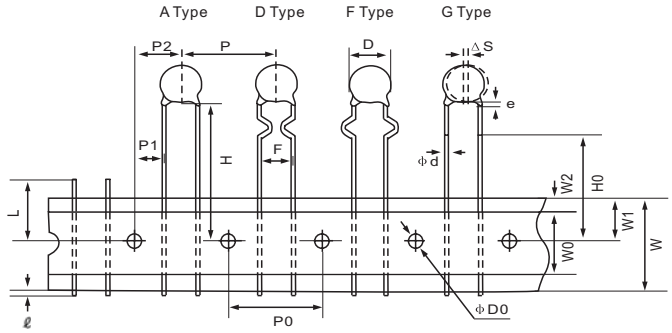


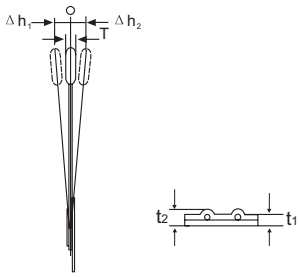
Char：SL



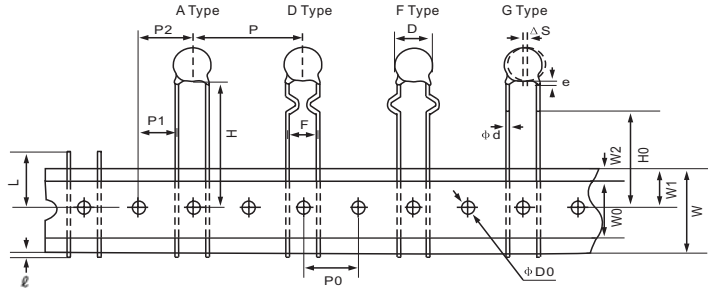
9.1 TAPING SPECIFICATION

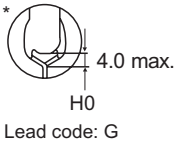
● **12.7mm pitch**/ lead spacing 5.0/7.5 mm taping （Lead Code:A2,A3,D2,D3,F2,F3,G2,G3 ）





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





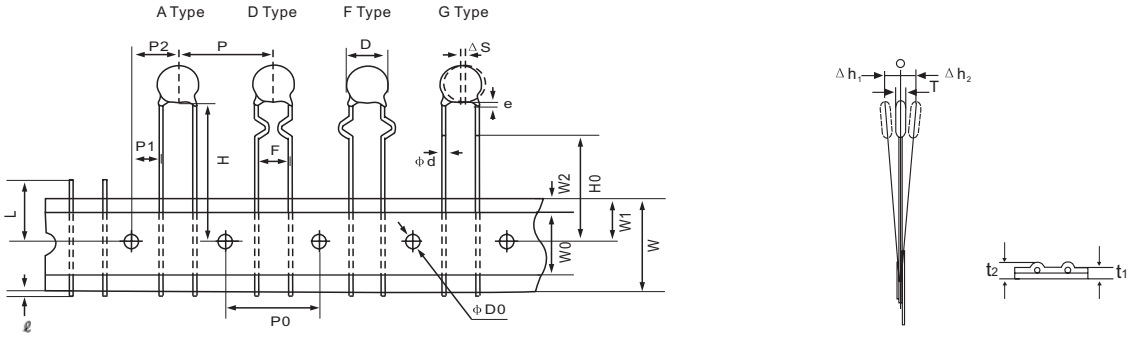
Lead code: G

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_0	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_2	6.35±1.3	6.35±1.3	12.7±1.3	12.7±1.3
Length from hole center to lead	P_1	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	△S	0±2.0			
Carrier tape width	W	18.0±0.5			
Position of sprocket hole	W_1	9.0±0.5			
Lead distance between reference and bottom planes	H	20.0±1.5 (Lead Code:A2/A3/A4)			
	H_0	$18.0^{+1.5}_{-0.5}$ (Crimp type)			
Diameter of sprocket hole	ΦD_0	4.0±0.2			
Lead diameter	Φd	0.5±0.05/0.55±0.05			
Total tape thickness	t_1	0.6±0.3			
Total thickness, tape and lead wire	t_2	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_0	10.0±2			
Hold down tape position	W_2	1.5±1.5			
Coating extension on lead	e	3.0 max. (Crimp type:Up to the end of crimp)			
Deviation across tape	$\frac{△h_1}{△h_2}$	2.0 max.			
Protrusion length	ℓ	+0.5 to -1.0			

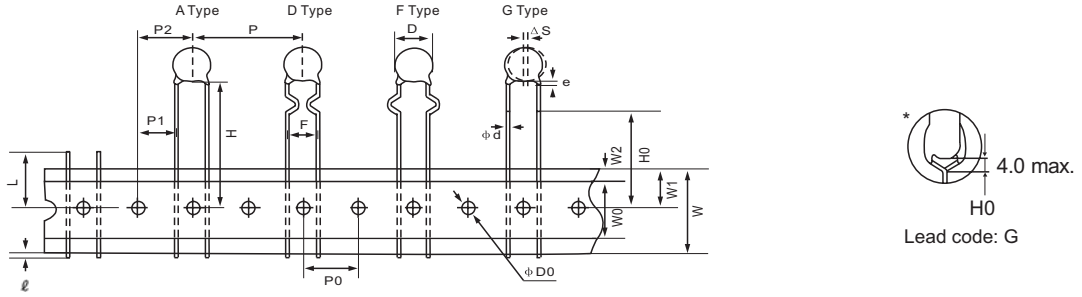
(in mm)

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 ）

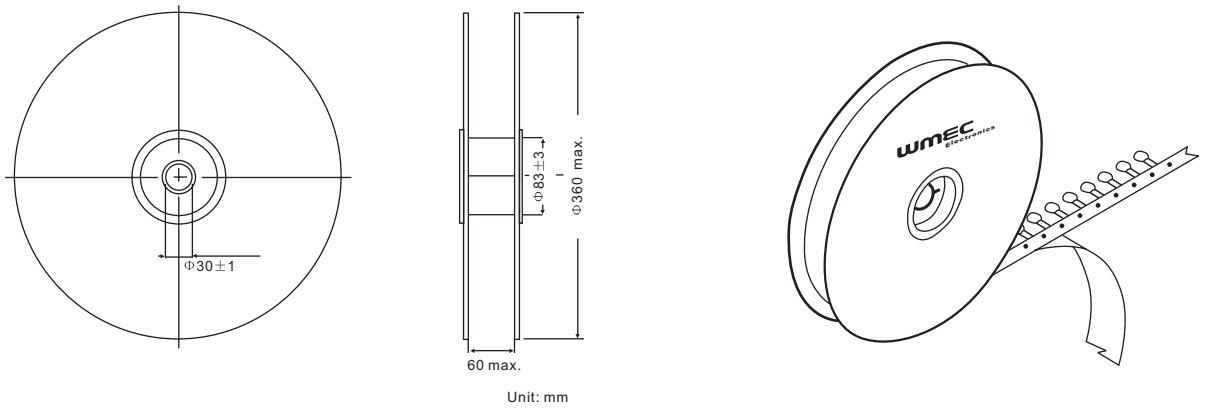


Item	Code	A2/D2/F2/G2	A3/D3/F3/G3	A3/D3/F3/G3	A4/D4/F4/G4
Pitch of component	P	15.0	15.0	30.0	30.0
Pitch of sprocket hole	P_0	15.0±0.3	15.0±0.3	15.0±0.3	15.0±0.3
Lead spacing	F	5.0±1.0	7.5±1.0	7.5±1.0	10.0±1.0
Length from hole center to component center	P_2	7.5±1.3	7.5±1.3	15.0±1.3	15.0±1.3
Length from hole center to lead	P_1	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	△S	0±2.0			
Carrier tape width	W	18.0±0.5			
Position of sprocket hole	W_1	9.0±0.5			
Lead distance between reference and bottom planes	H	20.0±1.5 (Lead Code:A2/A3/A4)			
	H_0	$18.0^{+1.5}_{-0.5}$ (Crimp type)			
Diameter of sprocket hole	ϕ D_0	4.0±0.2			
Lead diameter	ϕ d	0.5±0.05/0.55±0.05			
Total tape thickness	t_1	0.6±0.3			
Total thickness, tape and lead wire	t_2	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_0	10.0±2			
Hold down tape position	W_2	1.5±1.5			
Coating extension on lead	e	3.0 max. (Crimp type:Up to the end of crimp)			
Deviation across tape	$\frac{△h_1}{△h_2}$	2.0 max.			
Protrusion length	ℓ	+0.5 to -1.0			

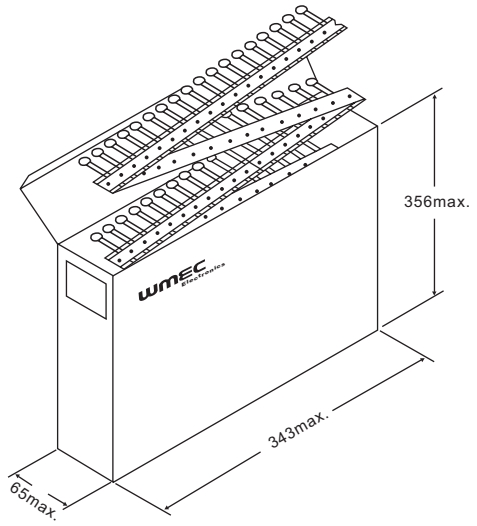
(in mm)

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) Manufacturer's Nane.

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 HGT (Temp.Char. SL ,Rated Voltage: 1 to 3,6 kVDC)

Part Number	DC Rated Voltage (Vdc)	Cap. (pF)	Capacitance Tol.	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
HGT3AS100○□□□	1000	10	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AS120○□□□	1000	12	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AS150○□□□	1000	15	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AS180○□□□	1000	18	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AS220○□□□	1000	22	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AS270○□□□	1000	27	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AS330○□□□	1000	33	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AS390○□□□	1000	39	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AS470○□□□	1000	47	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AS560○□□□	1000	56	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AS680○□□□	1000	68	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AS820○□□□	1000	82	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AS101○□□□	1000	100	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AS121○□□□	1000	120	±5% or±10%	8.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AS151○□□□	1000	150	±5% or±10%	8.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AS181○□□□	1000	180	±5% or±10%	9.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AS221○□□□	1000	220	±5% or±10%	10.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AS271○□□□	1000	270	±5% or±10%	11.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AS331○□□□	1000	330	±5% or±10%	11.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AS391○□□□	1000	390	±5% or±10%	12.0	4.0	5.0	0.55	G2B	H2B	G2C
HGT3AS471○□□□	1000	470	±5% or±10%	13.0	4.0	7.5	0.55	G3B	H3B	G3C
HGT3AS561○□□□	1000	560	±5% or±10%	14.0	4.0	7.5	0.55	G3B	H3B	G3C
HGT3AS681○□□□	1000	680	±5% or±10%	15.0	4.0	7.5	0.55	G3B	H3B	G3C
HGT3AS821○□□□	1000	820	±5% or±10%	15.0	4.0	7.5	0.55	G3B	H3B	G3C
HGT3AS102○□□□	1000	1000	±5% or±10%	17.0	4.0	7.5	0.55	G3B	H3B	G3C
HGT3DS100○□□□	2000	10	±5% or±10%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGT3DS150○□□□	2000	15	±5% or±10%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGT3DS180○□□□	2000	18	±5% or±10%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGT3DS220○□□□	2000	22	±5% or±10%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGT3DS270○□□□	2000	27	±5% or±10%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGT3DS330○□□□	2000	33	±5% or±10%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGT3DS390○□□□	2000	39	±5% or±10%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGT3DS470○□□□	2000	47	±5% or±10%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGT3DS560○□□□	2000	56	±5% or±10%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGT3DS680○□□□	2000	68	±5% or±10%	7.0	5.0	5.0	0.55	G2B	H2B	G2A
HGT3DS820○□□□	2000	82	±5% or±10%	8.0	5.0	5.0	0.55	G2B	H2B	G2A
HGT3DS101○□□□	2000	100	±5% or±10%	8.0	5.0	5.0	0.55	G2B	H2B	G2A
HGT3DS121○□□□	2000	120	±5% or±10%	9.0	5.0	5.0	0.55	G2B	H2B	G2A
HGT3DS151○□□□	2000	150	±5% or±10%	9.0	5.0	5.0	0.55	G2B	H2B	G2A
HGT3DS181○□□□	2000	180	±5% or±10%	10.0	5.0	5.0	0.55	G2B	H2B	G2A
HGT3DS221○□□□	2000	220	±5% or±10%	10.0	5.0	5.0	0.55	G2B	H2B	G2A
HGT3DS271○□□□	2000	270	±5% or±10%	11.0	5.0	5.0	0.55	G2B	H2B	G2A
HGT3DS331○□□□	2000	330	±5% or±10%	12.0	5.0	7.5	0.55	G3B	H3B	G3A
HGT3DS391○□□□	2000	390	±5% or±10%	12.0	5.0	7.5	0.55	G3B	H3B	G3A
HGT3DS471○□□□	2000	470	±5% or±10%	14.0	5.0	7.5	0.55	G3B	H3B	G3C
HGT3DS561○□□□	2000	560	±5% or±10%	15.0	5.0	7.5	0.55	G3B	H3B	G3C

①Circle is filled with one to tolerance code of Capacitance J=±5%.K=±10%.

②Three 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.

Continued on the following page.

Attached Table 2

Continued from the preceding page.

Part Number	DC Rated Voltage (Vdc)	Cap. (pF)	Capacitance Tol.	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
HGT3FS100○□□□	3000	10	±5% or±10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGT3FS120○□□□	3000	12	±5% or±10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGT3FS150○□□□	3000	15	±5% or±10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGT3FS180○□□□	3000	18	±5% or±10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGT3FS220○□□□	3000	22	±5% or±10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGT3FS270○□□□	3000	27	±5% or±10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGT3FS330○□□□	3000	33	±5% or±10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGT3FS390○□□□	3000	39	±5% or±10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGT3FS470○□□□	3000	47	±5% or±10%	8.0	6.0	7.5	0.55	G3B	H3B	G3A
HGT3FS560○□□□	3000	56	±5% or±10%	9.0	6.0	7.5	0.55	G3B	H3B	G3A
HGT3FS820○□□□	3000	82	±5% or±10%	9.0	6.0	7.5	0.55	G3B	H3B	G3A
HGT3FS101○□□□	3000	100	±5% or±10%	9.0	6.0	7.5	0.55	G3B	H3B	G3A
HGT3FS121○□□□	3000	120	±5% or±10%	10.0	6.0	7.5	0.55	G3B	H3B	G3A
HGT3FS151○□□□	3000	150	±5% or±10%	11.0	6.0	7.5	0.55	G3B	H3B	G3A
HGT3FS181○□□□	3000	180	±5% or±10%	12.0	6.0	7.5	0.55	G3B	H3B	G3C
HGT3FS221○□□□	3000	220	±5% or±10%	12.0	6.0	7.5	0.55	G3B	H3B	G3C
HGT3FS271○□□□	3000	270	±5% or±10%	13.0	6.0	7.5	0.55	G3B	H3B	G3C
HGT3FS331○□□□	3000	330	±5% or±10%	14.0	6.0	7.5	0.55	G3B	H3B	G3C
HGT3JS100○□□□	6000	10	±5% or±10%	9.0	7.0	10.0	0.55	G4B	H4B	G4C
HGT3JS120○□□□	6000	15	±5% or±10%	9.0	7.0	10.0	0.55	G4B	H4B	G4C
HGT3JS180○□□□	6000	18	±5% or±10%	9.0	7.0	10.0	0.55	G4B	H4B	G4C
HGT3JS220○□□□	6000	22	±5% or±10%	9.0	7.0	10.0	0.55	G4B	H4B	G4C
HGT3JS270○□□□	6000	27	±5% or±10%	9.0	7.0	10.0	0.55	G4B	H4B	G4C
HGT3JS330○□□□	6000	33	±5% or±10%	9.0	7.0	10.0	0.55	G4B	H4B	G4C
HGT3JS390○□□□	6000	39	±5% or±10%	9.0	7.0	10.0	0.55	G4B	H4B	G4C
HGT3JS470○□□□	6000	47	±5% or±10%	9.0	7.0	10.0	0.55	G4B	H4B	G4C
HGT3JS560○□□□	6000	56	±5% or±10%	10.0	7.0	10.0	0.55	G4B	H4B	G4C
HGT3JS680○□□□	6000	68	±5% or±10%	11.0	7.0	10.0	0.55	G4B	H4B	G4C
HGT3JS820○□□□	6000	82	±5% or±10%	12.0	7.0	10.0	0.55	G4B	H4B	G4C
HGT3JS101○□□□	6000	100	±5% or±10%	13.0	7.0	10.0	0.55	G4B	H4B	G4C
HGT3JS121○□□□	6000	120	±5% or±10%	14.0	7.0	10.0	0.55	G4B	H4B	G4C
HGT3JS151○□□□	6000	150	±5% or±10%	15.0	7.0	10.0	0.55	G4B	H4B	G4C
HGT3JS181○□□□	6000	180	±5% or±10%	16.0	7.0	10.0	0.55	G4B	H4B	G4C
HGT3JS221○□□□	6000	220	±5% or±10%	17.0	7.0	10.0	0.55	G4B	H4B	G4C
HGT3JS271○□□□	6000	270	±5% or±10%	19.0	7.0	10.0	0.55	G4B	H4B	G4C
HGT3JS331○□□□	6000	330	±5% or±10%	21.0	7.0	10.0	0.55	G4B	H4B	G4C

①Circle is filled with one to tolerance code of Capactance.J=±5%.K=±10%.

②Three 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 HGT (Temp.Char. NPO ,Rated Voltage: 1 to 3,6 kVDC)

Part Number	DC Rated Voltage (Vdc)	Cap. (pF)	Capacitance Tol.	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
HGT3AC030○□□□	1000	3	±0.5pF or±0.25pF	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AC050○□□□	1000	5	±0.5pF or±0.25pF	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AC100○□□□	1000	10	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AC120○□□□	1000	12	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AC150○□□□	1000	15	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AC180○□□□	1000	18	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AC220○□□□	1000	22	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AC270○□□□	1000	27	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AC330○□□□	1000	33	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AC390○□□□	1000	39	±5% or±10%	7.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AC470○□□□	1000	47	±5% or±10%	7.5	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AC560○□□□	1000	56	±5% or±10%	8.0	4.0	5.0	0.5	G2B	H2B	G2A
HGT3AC680○□□□	1000	68	±5% or±10%	8.5	4.0	5.0	0.5	G2B	H2B	G2A
HGT3DC030○□□□	2000	3	±0.5pF or±0.25pF	7.0	4.0	5.0	0.55	G2B	H2B	G2A
HGT3DC050○□□□	2000	5	±0.5pF or±0.25pF	7.0	4.0	5.0	0.55	G2B	H2B	G2A
HGT3DC100○□□□	2000	10	±5% or±10%	7.0	4.0	5.0	0.55	G2B	H2B	G2A
HGT3DC120○□□□	2000	12	±5% or±10%	7.0	4.0	5.0	0.55	G2B	H2B	G2A
HGT3DC150○□□□	2000	15	±5% or±10%	7.0	4.0	5.0	0.55	G2B	H2B	G2A
HGT3DC180○□□□	2000	18	±5% or±10%	7.0	4.0	5.0	0.55	G2B	H2B	G2A
HGT3DC220○□□□	2000	22	±5% or±10%	7.5	4.0	5.0	0.55	G2B	H2B	G2A
HGT3DC270○□□□	2000	27	±5% or±10%	7.5	4.0	5.0	0.55	G2B	H2B	G2A
HGT3DC330○□□□	2000	33	±5% or±10%	8.0	4.0	5.0	0.55	G2B	H2B	G2A
HGT3DC390○□□□	2000	39	±5% or±10%	8.5	4.0	5.0	0.55	G2B	H2B	G2A
HGT3DC470○□□□	2000	47	±5% or±10%	9.0	4.0	7.5	0.55	G3B	H3B	G3A
HGT3DC560○□□□	2000	56	±5% or±10%	9.5	4.0	7.5	0.55	G3B	H3B	G3A
HGT3DC680○□□□	2000	68	±5% or±10%	10.0	4.0	7.5	0.55	G3B	H3B	G3A
HGT3FC030○□□□	3000	3	±0.5pF or±0.25pF	7.0	5.0	7.5	0.55	G3B	H3B	G3A
HGT3FC050○□□□	3000	5	±0.5pF or±0.25pF	7.0	5.0	7.5	0.55	G3B	H3B	G3A
HGT3FC100○□□□	3000	10	±5% or±10%	7.0	5.0	7.5	0.55	G3B	H3B	G3A
HGT3FC120○□□□	3000	12	±5% or±10%	7.0	5.0	7.5	0.55	G3B	H3B	G3A
HGT3FC150○□□□	3000	15	±5% or±10%	7.0	5.0	7.5	0.55	G3B	H3B	G3A
HGT3FC180○□□□	3000	18	±5% or±10%	7.0	5.0	7.5	0.55	G3B	H3B	G3A
HGT3FC220○□□□	3000	22	±5% or±10%	8.0	5.0	7.5	0.55	G3B	H3B	G3A
HGT3FC250○□□□	3000	25	±5% or±10%	8.0	5.0	7.5	0.55	G3B	H3B	G3A
HGT3FC270○□□□	3000	27	±5% or±10%	9.0	5.0	7.5	0.55	G3B	H3B	G3A
HGT3FC330○□□□	3000	33	±5% or±10%	9.0	5.0	7.5	0.55	G3B	H3B	G3A
HGT3FC390○□□□	3000	39	±5% or±10%	10.0	5.0	7.5	0.55	G3B	H3B	G3A
HGT3FC470○□□□	3000	47	±5% or±10%	10.0	5.0	7.5	0.55	G3B	H3B	G3A
HGT3FC560○□□□	3000	56	±5% or±10%	11.0	5.0	7.5	0.55	G3B	H3B	G3A
HGT3JC030○□□□	6000	3	±0.5pF or±0.25pF	8.0	6.0	10.0	0.55	G4B	H4B	G4A
HGT3JC050○□□□	6000	5	±0.5pF or±0.25pF	8.0	6.0	10.0	0.55	G4B	H4B	G4A
HGT3JC100○□□□	6000	10	±5% or±10%	9.0	6.0	10.0	0.55	G4B	H4B	G4A
HGT3JC120○□□□	6000	12	±5% or±10%	9.0	6.0	10.0	0.55	G4B	H4B	G4A
HGT3JC150○□□□	6000	15	±5% or±10%	9.0	6.0	10.0	0.55	G4B	H4B	G4A
HGT3JC180○□□□	6000	18	±5% or±10%	10.0	6.0	10.0	0.55	G4B	H4B	G4A
HGT3JC220○□□□	6000	22	±5% or±10%	11.0	6.0	10.0	0.55	G4B	H4B	G4A
HGT3JC270○□□□	6000	27	±5% or±10%	12.0	6.0	10.0	0.55	G4B	H4B	G4A
HGT3JC330○□□□	6000	33	±5% or±10%	12.0	6.0	10.0	0.55	G4B	H4B	G4A

①Circle is filled with one to tolerance code of Capactance.C=±0.25pF.D=±0.5pF.J=±5%.K=±10%.

②Three 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.