PRODUCT SPECIFICATION

PRODUCT: CERAMIC DISC CAPACITOR SAFETY RECOGNIZED

TYPE: AC SERIES

CUSTOMER: _____

DOC. NO.: POE-D11-00-E-06

Ver.: 6

APPROVED BY CUSTOMER

VENDOR：

☐ **WALSIN TECHNOLOGY CORPORATION**

566-1, KAO SHI ROAD,YANG-MEI
TAO-YUAN, TAIWAN

☐ **PAN OVERSEAS (GUANGZHOU) ELECTRONIC CO.,LTD.**

NO.277,HONG MING ROAD,EASTERN SECTION,
GUANG ZHOU ECONOMIC AND TECHNOLOGY
DEVELOPMENT ZONE,CHINA

MAKER：PAN OVERSEAS (GUANGZHOU) ELECTRONIC CO.,LTD.

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Record of change

Date	Version	Description	page
2008.6.3	1	1. D23-00-E-01(before) → POE-D11-00-E-01(1st edition)	
2008.8.22	2	1 Complete lead code 2. Add last SAP code " H" for halogen and Pb free , epoxy resin..	20 3
2008.12.12	3	1.Complete the 13th to 17th codes of SAP P/N. 2. Page layout adjustment.	4
2009.7.16	4	1 Change PSA & POE logo to Walsin & POE logo. 2.Complete Marking statement. 3. Revised standard NO. of SEV, SEMKO, FIMKO, NEMKO, DEMKO and KEMA. Revised recognized NO. of FIMKO, NEMKO, DEMKO ,KEMA and CQC. 4. Downsize： YP0AC101K080** → YP0AC101K060 ** YP0AC102K100** → YP0AC102K080** YV0AC152M080** → YV0AC152M060**	 9 11 6
2009.9.14	5	1. "Protrusion length": "+0.5 to-1.0" revised to "2.0max (Or the end of lead wire may be inside the tape.)"	9
2009.12.24	6	1. Marking 2. Correct recognized No 3. Revised the Figure of impulse voltage test(Item 7.3.14) according to the standard IEC 60384-14 ed.3	10 11 14

Table of Contents

1. Part number for SAP system

(Ex.) YV ❶ 0AC ❷ 472 ❸ M ❹ 100 ❺ L ❻ 25 ❼ C ❽ 7 ❾ B ❿

❶Temperature characteristic (identified code)

CODE	CH(NP0)	SL	YP (Y5P)	YV(Y5V)	YU (Y5U)
Cap. Change	0±60PPM/℃	-1000~+350PPM/℃	±10%	-80% ~ +30%	-55% to +20%

❷TYPE (identified by 3-figure code)：0AC = AC TYPE (X1/Y2)

❸Capacitance (identified by 3-figure code)：EX.221=220pF

❹Capacitance tolerance (identified by code)：C:±0.25pF,D:±0.5pF,J:±5%,K:±10%,M:±20%

❺Nominal body diameter dimension (identified by 3-figure code)

❻ Lead Style：Refer to “2. Mechanical”.

❼Packing mode and lead length (identified by 2-figure code)

Taping Code	Description
AF	Box and Pitch：15.0 mm
AM	Box and Pitch：25.4 mm
AT	Box and Pitch：30.0 mm

Bulk Code	Description
3E	Lead length： 3.5mm
04	Lead length： 4.0mm
4E	Lead length： 4.5mm
25	Lead length：25.0mm

❽Length tolerance

Code	Description
A	±0.5 mm (only for kink lead type)
B	±1.0 mm
C	MIN.
D	Taping special purpose

❾Pitch

Code	Description
7	7.5±1 mm
0	10±1 mm

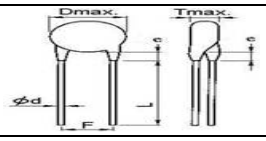
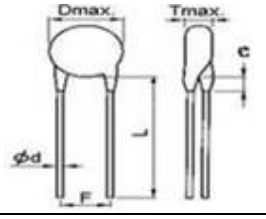
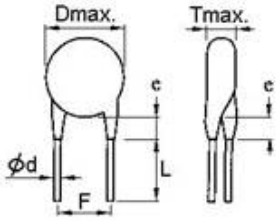
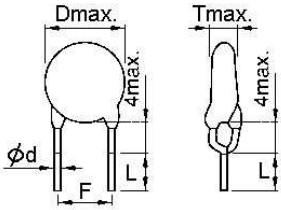
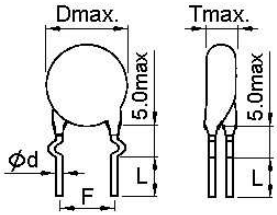
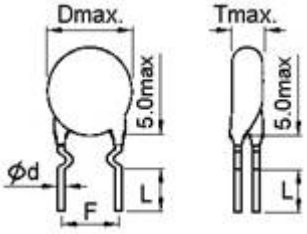
❿Epoxy Resin Code

Code	Description
B	Pb free, Epoxy Resin
H	Halogen and Pb free , epoxy resin.

2. Mechanical

Encapsulation：Epoxy resin, flammability UL94 V-0

Available lead code(unit: mm)

Lead type	SAP P/N (13-17)digits	Old P/N (Ref. to "3.1 old P/N")	Pitch (F)	Lead Length (L)	Packing	Lead Configuration
Lead style：L Type L Straight long lead	L25C7	L7	7.5 ±1.0	25 MIN.	Bulk	
	L25C0	L0	10 ± 1.0	25 MIN.		
Lead style：B Type B Straight long lead	BAFD7	L7F	Refer to "4. Taping format"		Tap. Ammo	
	BATD7 / BATD0	L7T / L0T				
	BAMD0	L0M				
Lead style：L Type L Straight short lead	L03B7	S7	7.5 ± 1.0	3.0 ± 1.0	Bulk	
	L4EB7	S7	7.5 ± 1.0	4.5 ± 1.0		
	L05B7	P16	7.5 ± 1.0	5.0 ± 1.0		
	L03B0	S0	10 ± 1.0	3.0 ± 1.0		
	L4EB0	S0	10 ± 1.0	4.5 ± 1.0		
	L05B0	A	10 ± 1.0	5.0± 1.0		
Lead style：D Type D Vertical kink lead	D3EA7	D2	7.5 ± 1.0	3.5 ± 0.5	Bulk	
	D04A7	D7	7.5 ± 1.0	4.0 ± 0.5		
	D3EA0	D3	10 ± 1.0	3.5 ± 0.5		
	D04A0	D0	10 ± 1.0	4.0 ± 0.5		
	DAFD7	D7F	Refer to "4. Taping format"		Tap. Ammo	
	DATD7 / DATD0	D7T / D0T				
	DAMD0	D0M				
Lead style：X Type X Outside kink lead	X3EA7	Q2	7.5 ± 1.0	3.5 ± 0.5	Bulk	
	X04A7	X7	7.5 ± 1.0	4.0 ± 0.5		
	X05B7	X2	7.5 ± 1.0	5.0 ± 1.0		
	X3EA0	Q3	10 ± 1.0	3.5 ± 0.5		
	X04A0	X0	10 ± 1.0	4.0 ± 0.5		
	X05B0	X3	10 ± 1.0	5.0 ± 1.0		
	XAFD7	X7F	Refer to "4. Taping format"		Tap. Ammo	
	XATD7 / XATD0	X7M / X0M				
	XAMD0	X0M				
Lead style：H Type H Inside kink lead	H3EA7	H2A	7.5±1.0	3.5±0.5 mm	Bulk	
	H3EA0	H3A	10.0±1.0	3.5±0.5 mm		
	HATD0	H0T	Refer to "4. Taping format"		Tap. Ammo	
	HAMD0	H0M				

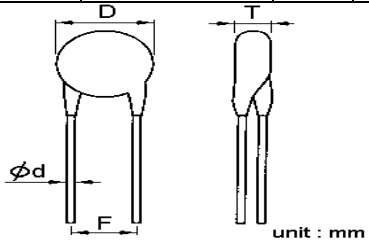
* Lead diameter Φd: 0.60 +0.1/-0.05

* e (Coating **extension** on leads): 3.0mmMax for straight lead lead style; Not exceed the kink for kink lead.

3. Part numbering/T.C/Capacitance/ Tolerance/Diameter：

POE Part. No.		T.C.	Capacitance	Tolerance	Dimensions (unit：mm)				
					D (max)	T (max)	F		φd
SAP P/N	Old P/N (Refer to 3.1 Old P/N)						Bulk type	Taping type	
CH0AC***C060*	AC06CH***C*	CH (NP0)	2, 3,4, 5(pF)	±0.25pF	7.0	5.0	7.5±1, 10±1	7.5±1	0.60 +0.10 - 0.05
CH0AC***D060*	AC06CH***D*		6,7,8,9,10(pF)	±0.5pF	7.0				
CH0AC***J060*	AC06CH***J*		12,15(pF)	±5%	7.0				
CH0AC***J070*	AC07CH***J*		18,20,22, 24(pF)	±5%	8.0				
CH0AC***J080*	AC08CH***J*		27,30,33,(pF)	±5%	9.0				
CH0AC390J090*	AC09CH390J*		36,39(pF)	±5%	10.0				
CH0AC470J100*	AC10CH470J*		47(pF)	±5%	11.0				
SL0AC***J060*	AC06SL***J*	SL	10,12,15,18,20,22, 24,27,30,33, 36,39,47,50,51(pF)	±5%	7.0				
SL0AC***J070*	AC07SL***J*		56,62, 68,75(pF)	±5%	8.0				
SL0AC820J080*	AC08SL820J*		82pF	±5%	9.0				
SL0AC101J090*	AC09SL101J*		100pF	±5%	10.0				
YP0AC101K060*	AC06B101K*	Y5P	100 pF	±10%	7.0				
YP0AC151K080*	AC08B151K*		150 pF	±10%	9.0				
YP0AC221K080*	AC08B221K*		220 pF	±10%	9.0				
YP0AC331K080*	AC08B331K*		330 pF	±10%	9.0				
YP0AC471K060*	AC06B471K*		470 pF	±10%	7.0				
YP0AC561K080*	AC08B561K*		560pF	±10%	9.0				
YP0AC681K090*	AC09B681K*		680 pF	±10%	10.0				
YP0AC821K100*	AC10B821K*		820 pF	±10%	11.0				
YP0AC102K080*	AC08B102K*		1000 pF	±10%	9.0				
YU0AC102M060*	AC06E102M*	Y5U	1000 pF	±20%	7.0			7.5±1	
YU0AC152M100*	AC100E152M*		1500 pF	±20%	11.0				
YU0AC222M080*	AC08E222M*		2200 pF	±20%	9.0				
YU0AC332M100*	AC10E332M*		3300 pF	±20%	11.0				
YU0AC392M120*	AC12E392M*		3900 pF	±20%	13.0				
YU0AC472M120*	AC12E472M*		4700 pF	±20%	13.0			10±1	
YV0AC102M060*	AC06F102M*	Y5V	1000 pF	±20%	7.0			7.5±1	
YV0AC152M060*	AC06F152M*		1500 pF	±20%	7.0				
YV0AC222M060*	AC06F222M*		2200 pF	±20%	7.0				
YV0AC332M080*	AC08F332M*		3300 pF	±20%	9.0				
YV0AC392M110*	AC11F392M*		3900 pF	±20%	12.0				
YV0AC472M100*	AC10F472M*		4700 pF	±20%	11.0				
YV0AC682M120*	AC12F682M*		6800 pF	±20%	13.0				
YV0AC103M140*	AC14F103M*		10000 pF	±20%	15.0			10±1	

Graph (ex.)



** The minimum thickness of coating (reinforced insulation) is 0.4mm.

3.1 Old P/N：

(Ex.) AC 10 F 472 M L 7 F

TPYE (1) (2) (3) (4) (5) (6) (7)

(1)Nominal body diameter dimension

(2)Temperature characteristic (identified code):

CH(NP0):0±60PPM/℃, SL: +350~-1000PPM/℃, B(Y5P):±10%,
E(Y5U):-55% ~ +20%, F(Y5V) :-80% ~ +30%

(3)Capacitance (identified by 3-figure code)

(4)Capacitance tolerance (identified by code): C:±0.25pF,D:±0.5pF,J:±5%,K:±10%,M:±20%

(5)Lead style (configuration) (identified by code)—

L: straight long lead

S: straight short lead

D: vertical kink lead

X: outside kink lead

B: inside kink lead

(6)Lead Space:

7=7.5 ± 1.0 mm

0=10 ± 1.0 mm

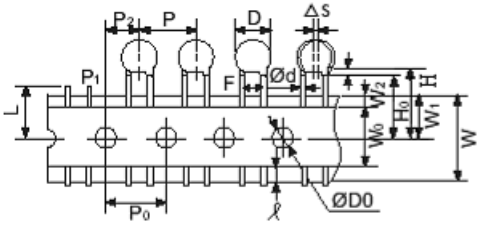
(7)Taping type or other code

Code	Pitch component
F	15.0 mm
M	25.4 mm
T	30.0 mm
No code	BULK

4. Taping Format

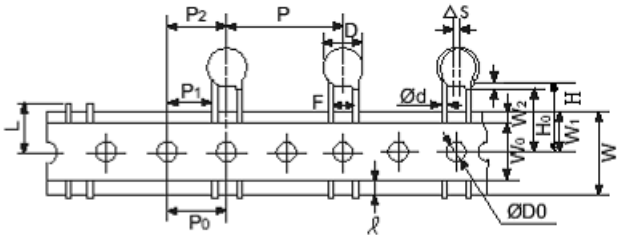
- 15mm pitch/lead spacing 7.5mm taping

Lead Code: ***BAFD7 & *DAFD7 & *XAFD7**



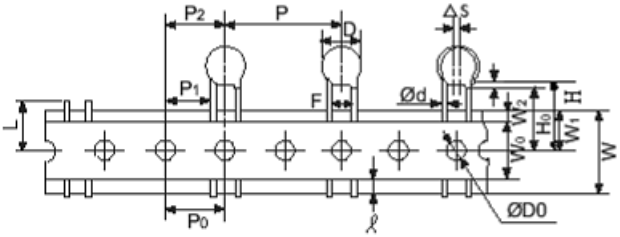
- 25.4mm pitch/lead spacing 10.0mm taping

Lead Code: ***DAMD0 & *XAMD0 & *HAMD0 & *BAMD0**



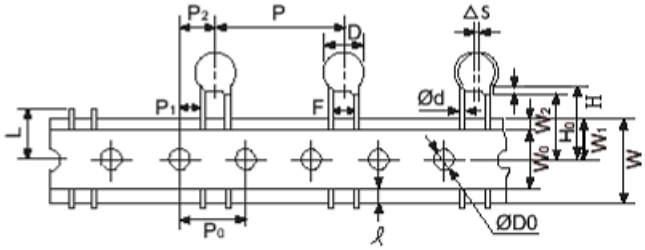
- 30mm pitch/lead spacing 10.0mm taping

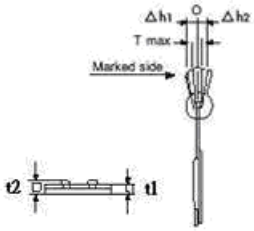
Lead Code: ***DATD0 & *XATD0 & *HATD0 & *BATD0**

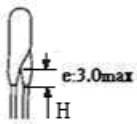


- 30mm pitch/lead spacing 7.5mm taping

Lead Code: ***DATD7 & *XATD7 & *BATD7**







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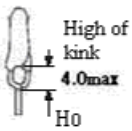
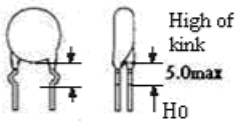


D



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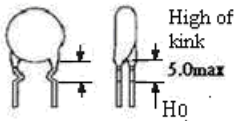


H

POE Part Number		***BATD0 *DATD0 *XATD0**	***BAFD7**	***DAFD7 *XAFD7**	***BATD7 *DATD7 *HATD7 *XATD7**	***BAMD0 *DAMD0 *HAMD0 *XAMD0**
Item	Symbol	Dimensions (mm)	Dimensions (mm)	Dimensions (mm)	Dimensions (mm)	Dimensions (mm)
Pitch of component	P	30.0	15.0	15.0	30.0	25.4
Pitch of sprocket	P0	15.0±0.3	15.0±0.3	15.0±0.3	15.0±0.3	12.7±0.3
Lead spacing	F	10.0±1.0	7.5±1.0	7.5±1.0	7.5±1.0	10.0±1.0
Length from hole center to component center	P2	15.0±1.5	7.5±1.5	7.5±1.5	7.5±1.5	12.7 ± 1.5
Length from hole center to lead	P1	10.0±1.0	3.75±1.0	3.75±1.0	3.75±1.0	7.7±1.5
Body diameter	D	See the “3. Part numbering/T.C/Capacitance/ Tolerance/Diameter”				
Deviation along tape, life or right	△S	0±2.0				
Carrier tape width	W	18.0 +1/-0.5				
Position of sprocket hole	W1	9.0±0.5				
Lead distance between the kink and center of sprocket hole	H0	18.0+2.0/-0 For: *DATD0 *XATD0	---	18.0+2.0/-0	18.0+2.0/-0 For: *DATD7 *XATD7	18.0+2.0/-0 For: *DAMD0 *HAMD0 *XAMD0
Lead distance between the bottom of body and the center of sprocket hole	H	20.0+1.5/-1.0 For: *BATD0	20.0+1.5/-1.0	---	20.0+1.5/-1.0 For: *BATD7	20.0+1.5/-1.0 For: *BAMD0
Protrusion length	ℓ	2.0max (Or the end of lead wire may be inside the tape.)				
Diameter of sprocket hole	D0	4.0±0.2				
Lead diameter	φd	0.60 +0.1/-0.05				
Total tape thickness	t1	0.6±0.3				
Total thickness, tape and lead wire	t2	1.5 max.				
Deviation across tape	△h1	2.0 max.				
	△h2	2.0 max.				
Portion to cut in case of defect	L	11.0 max.				
Hole-down tape width	W0	11.5min				
Hole-down tape distortion	W2	1.5±1.5				
Coating extension on leads	e	3.0 max for straight lead style; Not exceed the kink leads for kink lead.				
Body thickness	T	See the “3. Part numbering/T.C/Capacitance/ Tolerance/Diameter”				

5.Marking：

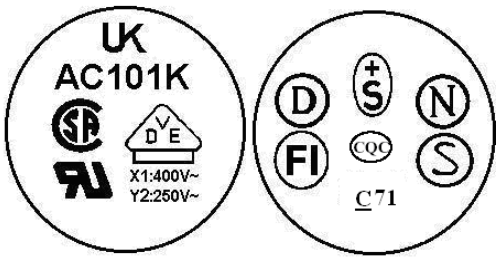
1.Type Designation	: AC
2.Nominal Capacitance	: 3-digit-system
3.Capacitance Tolerance	: C:±0.25pF, D:±0.5pF, J:±5%, K:±10%, M:±20%
4.Company Name Code	: UK
5.Manufactured Date	: Abbreviation ex. Supplier of Epoxy ← C 0 1 :→ Week of manufacture by month No.of test equipment ← 7 → Month Last digit of year 2010 7: 2007 8: 2008 9: 2009 0: 2010 1: 2011 1: January 9: Setemper O: October N: November D: December Manufactory C: Guangzhou Halogen and Pb free

6.Approved Monogram

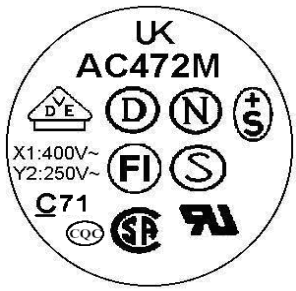
(1) VDE approval mark	IEC 60384-14 3rd (2005). Class Code：X1：400V~ ，Y2：250V~		
(2) UL approval mark		(7) FIMKO approval mark	
(3) CSA approval mark		(8) SEV approval mark	
(4) SEMKO approval mark		(9) CQC approval mark	
(5) NEMKO approval mark			
(6) DEMKO approval mark			

Ex.:

Two sides:



One side:



＊ Marking by the stamp or laser.

＊ The marking can be printed on either one side or two side of coating body.

＊ C71, Marked with code " _ " stand for Halogen and Pb free；No marked with " _" stand for Pb free.

6. **Scope**

THIS SPECIFICATION APPLIES TO CERAMIC INSULATED CAPACITORS DISK TYPE USED IN ELECTRONIC EQUIPMENT.

1. VDE/SEV/SEMKO/FIMKO/NEMKO/DEMKO/KEMA/UL/CSA recognized capacitor for Antenna coupling and AC line-by-pass.X1, Y2 Capacitor based on IEC 60384-14 3rd Edition (2005) "UL (AC250V), CSA recognized for across-the-line, line-by-pass" and antenna-isolation

2.Approval Standard and Recognized No.

Safety Standard	**Standard No.**	**Subclass**	**w.v.**	**Recognized No.**
UL	UL 1414	X,Y	250VAC	E146544
CSA	C22.2 NO.1-04	X,Y	250VAC	1363528(LR 92203-1)
VDE (ENEC)	IEC60384-14 (ed. 3) 2005	X1	400VAC	40001829
		Y2	250VAC	
SEV	IEC60384-14 (ed. 3) 2005	X1	400VAC	09.1153
		Y2	250VAC	
SEMKO	IEC60384-14 (ed. 3) 2005	X1	400VAC	600117
		Y2	250VAC	
FIMKO	IEC60384-14 (ed. 3) 2005	X1	400VAC	NCS/FI 24754
		Y2	250VAC	
NEMKO	IEC60384-14 (ed. 3) 2005	X1	400VAC	P09210633
		Y2	250VAC	
DEMKO	IEC60384-14 (ed. 3) 2005	X1	400VAC	314839-01
		Y2	250VAC	
KEMA	IEC60384-14 (ed. 3) 2005	X1	400VAC	2123149.01
		Y2	250VAC	
CQC	GB/T 14472-1998	X1	400VAC	CQC080010026519
		Y2	250VAC	
KTL	K60384-14	X1	400VAC	SU03017-4001A
		Y2	250VAC	SU03017-4002A

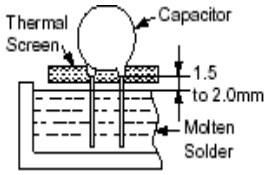
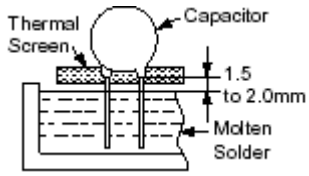
7. Specification and test method

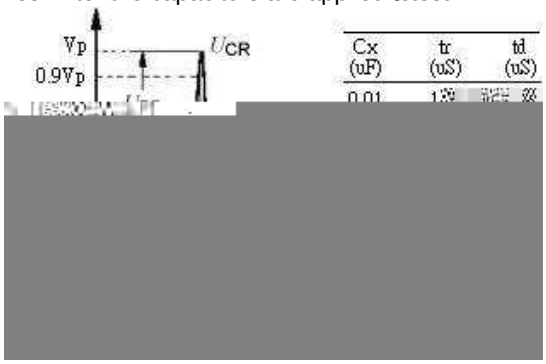
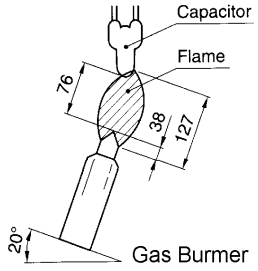
(1) Operating Temperature Range : -25 to +125°C (-25 to +85°C in case of the standard of UL / CSA)

(2) Performance Tests

<table>
<tr><th colspan="3">Item</th><th>Specification</th><th>Testing Method</th></tr>
<tr><td rowspan="2">1</td><td rowspan="2">Dielectric Strength</td><td>Between lead wires</td><td>No failure.</td><td>The capacitors shall not be damage when AC2600V are applied between the lead wires for 60 sec.</td></tr>
<tr><td>Body Insulation</td><td>No failure.</td><td>First the terminal of capacitor shall be connected together. Then a metal foil shall be closely wrapped around the body of the capacitor distance of about 3 to 4 mm from each terminal. Then the capacitor shall be inserted into a container filled with metal balls of about 1 mm diameter. Finally. AC2600V is applied for 60 sec. between the capacitor lead wires and metal balls.</td></tr>
<tr><td>2</td><td colspan="2">Insulation Resistance(I.R.)</td><td>10000MΩ min.</td><td>The insulation resistance shall be measured with 500±50VDC with 60±5sec. of charging.</td></tr>
<tr><td>3</td><td colspan="2">Capacitance</td><td>Within specified tolerance</td><td rowspan="2">B&E&F: The capacitance shall be measured at 20±2℃ with 1kHz±20% and 5V(rms.) or less.
CH&SL: The capacitance shall be measured at 25℃ with 1MHz±20% and1.0±0.2Vrms</td></tr>
<tr><td>4</td><td colspan="2">Dissipation Factor(D.F.) or Q</td><td><table><tr><td>Char.</td><td>Specification</td></tr><tr><td>B,E</td><td>D.F≦2.5%</td></tr><tr><td>F</td><td>D.F≦5.0%</td></tr><tr><td>CH,SL</td><td>Q:
30pF&above:≧1000
Below 30PF:≧400+20×C</td></tr></table></td></tr>
<tr><td>5</td><td colspan="2">Temperature Characteristic</td><td><table><tr><td>Char.</td><td>Capacitance Change</td></tr><tr><td>B</td><td>Within ± 10%</td></tr><tr><td>E</td><td>Within $\pm^{20}_{55}$%</td></tr><tr><td>F</td><td>Within –80 ~ +30%</td></tr><tr><td>CH</td><td>0±60ppm/℃</td></tr><tr><td>SL</td><td>-1000~+350 ppm/℃</td></tr></table></td><td>The capacitance measurement shall be made at each step specified in table 1.
(Table 1)<table><tr><td>Step</td><td>Temperature</td></tr><tr><td>1</td><td>+20±2℃</td></tr><tr><td>2</td><td>-25±2℃</td></tr><tr><td>3</td><td>+20±2℃</td></tr><tr><td>4</td><td>+85±2℃</td></tr><tr><td>5</td><td>+20±2℃</td></tr></table>Pr-treatment：
Capacitor shall be stored at 85±2℃ for 1 hour. Then placed at room condition for 1(※)24±2 hours before measurement</td></tr>
<tr><td rowspan="2">6</td><td rowspan="2">Robustness of Termination</td><td>Tensile</td><td>Lead wire shall not cut off capacitor shall not be broken.</td><td>With the termination in its normal position the specimen is held by its body in such a manner that the axis of the termination is vertical：the tensile force of 10N shall be applied to the termination in the direction of its axis and acting in a direction away from the body of the specimen.</td></tr>
<tr><td>Bending</td><td>Lead wire shall not cut off capacitor shall not be broken.</td><td>With the termination in its normal position the specimen is held by its body in such a manner that the axis of the termination is vertical：a mass applying a force of 5N is then suspended from the end of the termination. The body of the specimen is then inclined within a period of 2 to 3 sec., through an angle of approximately 90° in the vertical plane and then resumed to its initial position over the same period of time; this operation constitutes one bend. One bend immediately followed by a second bend in the opposite direction.</td></tr>
</table>

※ “room condition” temperature：15~35℃, humidity：45~75%,atmospheric pressure：86~106kPa

Item			Specification	Testing Method
7	Solderability of leads		Lead wire should be soldered with uniform coating on the axial direction over 3/4 of the circumferential direction.	The lead wire of capacitor should be dipped into molten solder for 2 ± 0.5 sec. The depth of immersion is up to about 1.5 to 2.0 mm from the root of lead wires. Temp. of solder ：Lead free solder (Sn-3Ag –0.5Cu) 245 ± 5 ℃
8	Soldering Effect (Non-Preheat)	Appearance	No marked defect	As shown in figure, the lead wires should be immersed in solder of 350 ± 10 ℃ or 260 ± 5 ℃ up to 1.5 to 2.0mm from the root of Terminal for 3.5 ± 0.5 sec (10 ± 1 sec for 260± 5 ℃)  Pre-treatment: Capacitor shall be stored at 85±2℃ for 1hour.then placed at ※1room condition for 24±2hours before initial measurements. Post-treatment: Capacitor shall be stored for 1 to 2hours at ※1room condition.
		I.R.	1000MΩ min.	
		Dielectric Strength	Per Item 1.	
		Capacitance	B,E,F：Within ±10% SL,CH: Within±2.5% or ±0.25pF,Whichever is large.	
	Soldering Effect (On-Preheat)	Appearance	No marked defect.	First the capacitor should be stored at 120 + 0 / -5 ℃ for 60 + 0 / -5sec. Then, as in figure , the lead wires should be immersed solder of 260 + / -5 ℃ up to 1.5 to 2.0 mm from the root of terminal for 7.5 +0 / -1 sec.  Pre-treatment: Capacitor shall be stored at 85±2℃ for 1hour.then placed at ※1room condition for 24±2hours before initial measurements. Post-treatment: Capacitor shall be stored for 1 to 2hours at ※1room condition.
		I.R.	1000MΩ min.	
		Dielectric Strength	Per Item 1.	
		Capacitance	B,E,F：Within ±10% SL,CH: Within±2.5% or ±0.25pF,Whichever is large.	

Item			Specification	Testing Method
9	Humidity (Under Steady State)	Appearance	No marked defect.	Set the capacitor for 500±12 hours at 40±2 , in 90 to 95% humidity. Then capacitor shall be stored for 1 to 2 hours at room condition.
		Capacitance	B š Within ±10% E š Within ±20% F š Within ±30% SL&CH: Within±2.5 =or ±0.25pF,Whichever is large.	
		D.F.	B,E š 5.0% max. F š 7.5% max.	
10	Humidity Loading	Q	SL&CH: Less than 30pF=> Q 100+10×C/3 More than 30pF=> Q 200	Apply the rated voltage for 500±12 hours at 40±2 , 90 to 95% humidity and set it for 1 to 2 hours at room condition.
		I.R.	B,E,F š 3000Mè min. SL&CH: 1000Mè min.	
11	Life	Appearance	No marked defect.	Impulse Voltage: Each individual capacitor shall be subjected to a 5kv impulses for three times. After the capacitors are applied for the test.  Fig. The specimen capacitors are placed in a circulating oven for a period of 1000 hrs. The air in the oven is maintained at a temperature of 125±2 . Throughout the test. The capacitors are subjected to a 425Vrms alternating voltage of mains frequency. Except that once each hour the voltage id increased to 1000Vrms for 0.1sec.
		Capacitance	B,E,F š Within ±20% SL&CH: Within±3 =or ±0.3pF,W hicheveris large.	
		I.R.	3000Mè min. SL&CH: 1000Mè min.	
		Dielectric Strength	Per Item 1.	
12	Flame Test	The capacitor flame discharge as follows. Cycle: Time 1~4: 30 sec, max. 5: 60 sec, max.		The capacitor shall subject to applied for 15 sec and then removed for 15 sec, until 5 cycles. Fig.  (Unit: mm)

á ³room condition" temperature š 15~35: , humidity š 45~75%, atmospheric pressure š 86~106kPa

Item		Specification	Testing Method
13	Active Flammability	The cheesecloth shall not be on fire.	The specimens shall be individually wrapped in at least one but more then two complete layers of cheesecloth. The specimens shall be subjected to 20 discharges. The interval between successive discharges shall be 5sec. The Uac shall be maintained for 2 min. after the last discharge. Fig. C1,2š 1 f±10% C3š 0.03 f±5% 10KV L1-4 š 1.5Mh±20% 16A Rod core choke R š 100 ±2% Ctš 3 f±5% 10KV Uacš Ur±5% Urš Rated working voltage Cx š Capacitor F š Fuse, Rated 10A Ut š Voltage applied to Ct
14	Passive Flammability	The burning time shall not be exceeded the time 30 sec. The tissue paper shall not ignite.	The capacitor under test shall be held in the flame in the position which best promotes burning. Each specimen shall only be exposed once to the flame. Time of exposure to flameš 30 sec Length of flameš 12±1 mm Gas burnerš Length 35 mm min. Inside Dia.š 0.5±0.1 mm Outside Diaš 0.9 mm max. Gas š Butane gas Purity 95% min. Fig.

á ³room condition” temperatureš 15~35: , humidityš 45~75%,atmospheric pressureš 86~106kPa

8. Packing specificationš

Bulk š
When dimension 13” Bulk Packaging is 500pcs/bag.
When dimension 13 ” Bulk Packaging is 200pcs/bag.

Tapingš 1000pcs/box

9. Notices:

9.1 Caution(Rating):

(1). Operating Voltage

Be sure to maintain the Vp-p value of the applied voltage or the Vo-p which contains DC bias within the rated voltage range.

When the voltage is started to apply to the circuit or it is stopped applying, the irregular voltage may be generated for a transit period because of resonance or switching. Be sure to use a capacitor within rated voltage containing this irregular voltage.

(2). Operating Temperature and Self-generated Heat

Keep the surface temperature of a capacitor below the upper limit of its rated operating temperature range. Be sure to take into account the heat generated by the capacitor itself. When the capacitor is used in a high-frequency current, pulse current or the like, it may have the self-generated heat due to dielectric-loss.

Applied voltage should be the load such as self-generated heat is within 20℃ on the condition of atmosphere temperature 25℃. When measuring, use a thermocouple of small thermal capacity-K of φ0.1mm and be in the condition where capacitor is not affected by radiant heat of other components and wind of surroundings. Excessive heat my lead to deterioration of the capacitor's characteristics and reliability.

(3). Test condition for withstanding Voltage

I. Test Equipment

Test equipment for AC withstanding voltage shall be used with the performance of the wave similar to 50/60 Hz sine waves.

If the distorted sine wave or over load exceeding the specified voltage value is applied, the defective may be caused.

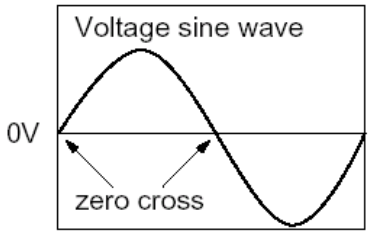
II. Voltage Applied Method

When the withstanding voltage is applied, capacitor's lead or terminal shall be firmly connected to the output of the withstanding voltage test equipment, and then the voltage shall be raised from near zero to the test voltage.

If the test voltage without the raise from near zero voltage would be applied directly to capacitor, test voltage should be applied with the *zero cross. At the end of the test time, the test voltage shall be reduced to near zero, and then capacitor's lead or terminal shall be taken off the output of the withstanding voltage test equipment.

If the test voltage without the raise from near zero voltage would be applied directly to capacitor, the surge voltage may arise, and therefore, the defective may be caused.

ZERO CROSS is the point where voltage sine wave pass 0V.- See the right figure.



(4). Fail-Safe

When capacitor would be broken, failure may result in a short circuit. Be sure to provide an appropriate fail-safe function like a fuse on your product if failure would follow an electric shock, fire or fume.

Failure to follow the above cautions may result, worst case, in a short circuit and cause fuming or partial dispersion when the product is used.

9.2 Caution (Storage and operating condition):

Operating and storage environment

The insulating coating of capacitors does not form a perfect seal; therefore, do not use or store capacitors in a corrosive atmosphere, especially where chloride gas, sulfide gas, acid, alkali, salt or the like are present. And avoid exposure to moisture. Before cleaning, bonding, or molding this product, verify that these processes do not affect product quality by testing the performance of a cleaned, bonded or molded product in the intended equipment. Store the capacitors where the temperature and relative humidity do not exceed –10 to 40 degrees centigrade and 15 to 85 %. Use capacitors within 6 months.

"Failure to follow the above cautions may result, worst case, in a short circuit and cause fuming or partial dispersion when the product is used."

9.3 Caution (Soldering and Mounting):

9.3.1 Vibration and impact:

Do not expose a capacitor or its leads to excessive shock or vibration during use.

9.3.2 Soldering:

When soldering this product to a PCB/PWB, do not exceed the solder heat resistance specification of the capacitor. Subjecting this product to excessive heating could melt the internal junction solder and may result in thermal shocks that can crack the ceramic element.

When soldering capacitor with a soldering iron, it should be performed in following conditions.

Temperature of iron-tip: 400 degrees C. max.

Soldering iron wattage: 50W max.

Soldering time: 3.5 sec. max.

9.3.3 Cleaning (ultrasonic cleaning):

To perform ultrasonic cleaning, observe the following conditions.

Rinse bath capacity: Output of 20 watts per liter or less.

Rinsing time: 5 min maximum.

Do not vibrate the PCB/PWB directly.

Excessive ultrasonic cleaning may lead to fatigue destruction of the lead wires.

"Failure to follow the above cautions may result, worst case, in a short circuit and cause fuming or partial dispersion when the product is used."

9.4 Caution (Handling):

Vibration and impact

Do not expose a capacitor or its leads to excessive shock or vibration during use.

"Failure to follow the above cautions may result, worst case, in a short circuit and cause fuming or partial dispersion when the product is used."