Safety

SPECIFICATION

SAMWHA CAPACITOR CO.,LTD

PT SAMCON

JL. RAYA SUBANG CIKUMPAY

CAMPAKA-PURWAKARTA

JAWA BARAT - INDONESIA

To. YOTA

No.SWC-20171114-02

SPECIFICATION

ITEM : DISC CERAMIC CAPACITOR
(Alternating Current : Y-Cap YB,YE,YF Series)

PT.SAMCON		
Written	Checked	Approved
		
Irman Sudirman	Apang Djafar S.	Sohn Chang Kil
YOTA		

2017.11.14

SAMWHA CAPACITOR Co., Ltd
(Manufacturer : PT. SAMCON)

Record of Revision

P/N	SAMWHA SPEC	P/N	SAMWHA SPEC
	SCE2E102M07BS7 SCE2E222M10BS7 SCE2E472M14BS7		

No	Reason	Contents	Date of approval	Checked	Remark
1	RoHS Free	1) P.6/14 8. Solder Heat Resistance 2) P.9/14 15. The regulation of environmental pollution materials	05.11.10		
2	Material Change	Material wire from Cu wire (Sn-Cu) to Cp wire (Sn-Cu-Fe)	08.01.01		
3	Marking Code change	KTL Marking Code	09.10.01		
4	Add Soldering Profile	Flow Soldering & Iron Soldering	10.11.15		
5	Add Certification	CQC Certification Standard and Recognized No.	11.01.30		
6	Marking Code change	ENEC Code & Single Marking	11.10.29		
7	Drawing & Dimension of Taping Style	Hold Down Tape Width (Wo)	12.05.01		
8	Add Certification	UL 3rd Edition Certification standard and Recognized No	12.09.10		

Approval Standard and Recognized No.

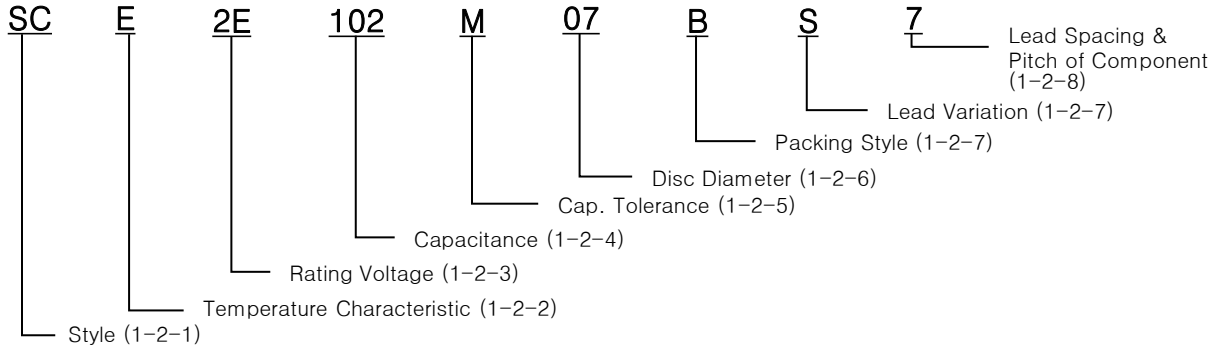
Mark		Standard	Recognized No.	Type	R.V [V ac]	Temp. Char.
UL		EN 60384-14 : 2005, 3rd edition	E97754	SD	X1 250/440 Y1 250/300	B,E,F
				SC	X1/Y2 250	
CSA		C2221 51	2476563 (LR 60366)	SC	250	B,E,F
			2476564 (LR 60366)	SD	400	
ENEC	VDE	IEC 60384-14 : 2005, 3rd edition	40015805	SC	250/300	B,E,F
		EN 60384-14 : 2013, 4th edition	40015804	SD	400	B,E
	FIMKO	EN 60384-14 : 2005, 3rd edition	ENEC FI 2016053	SC	300	B,E,F
				SD	400	B,E
EK/KTL/KC		K60384-14	SU03004-16001 / SU03004-16003	SC	250/300	B,E,F
			SU03004-16002 / SU03004-16004	SD	250/400	B,E
CQC		GB/T6346.14-2015	CQC10001054594	SC	250	B,E,F
			CQC10001054593	SD	250/400	B,E

* ENEC/VDE : mark has replaced all the following European National marks
(VDE, Fimko, Demko, Nemko, Semko..etc)

1. SCOPE

This specification relates high dielectric constant disc type fixed A.C (Alternating current) ceramic capacitor, intended for use in equipment for telecommunication and electronic devices.

1-1. Type Designation



1-2. Specification

1-2-1. Style

High dielectric constant fixed alternating current ceramic capacitor.

SC : - Testing Voltage AC 2500V (for Lead Spacing 7.5mm & 10mm)

- Testing Voltage AC 2000V (for Lead Spacing 5.0mm)

SD : Testing Voltage AC 4000V

1-2-2. Temperature Characteristics

SAMWHA Symbol	Temp. Range	Change Rate
B (Y5P)	- 25℃ ~ + 85℃	+ 10 % ~ - 10 %
E (Y5U)	- 25℃ ~ + 85℃	+ 22 % ~ - 56 %
F (Y5V)	- 25℃ ~ + 85℃	+ 22 % ~ - 82 %

* Operating temperature range guaranteed up to 125 degrees.

1-2-3. Rating Voltage

SC Type - 2E (250Vac)

SD Type - 2G (400Vac)

1-2-4. Capacitance

The nominal capacitance value in pF is expressed by three digit number.

The first two digits represent significant figures and the last digit is the number of zero to follow.

(More than 100pF)

EX. 1000pF - 102

1-2-5. Cap. Tolerance.

Symbol	K	M	Z
Cap. Tol	± 10 %	± 20 %	+ 80 ~ - 20 %

1-2-6. Disc Diameter (only code)

Code	07	08	09	10	11	12	13	14	15	16	17	18
Dia max (Φ mm)	7.0	8.0	9.0	10.0	11.0	12.5	13.0	14.0	15.0	16.0	17.0	18.0

1-2-7. Packing Style & Lead Variation

Packing Style		Lead Variation	
F	Taping Type Flat Pack	K	In-Forming Type
		F	Out-Forming Type
B	Bulk	S	Straight Long Type
		N	Straight Short Type
		K	Forming Long Type
		W (L)	Forming Short Type

1-2-8. Lead Spacing & Pitch of Component (see 10/14~13/14)

7 : F=7.5, P=15.0 (Bulk & Taping)

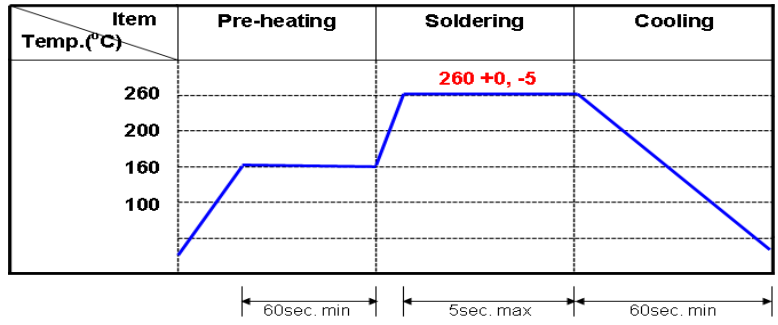
8 : F=7.5, P=30.0 (Taping) 1 : F=10.0, P=25.4 (Bulk & Taping)

9 : F=7.5, P=25.4 (Taping) 2 : F=10.0, P=30.0 (Taping)

1-3. Requirements and Method of Test and Environmental Substance

<table>
<tr><th>NO.</th><th colspan="2">ITEM</th><th>STANDARD</th></tr>
<tr><td>1.</td><td colspan="2">Temperature Range</td><td>B, E, F : - 25℃ to + 85℃
Capacitance shall be within the specified tolerance when measured at 1 V rms, 1 ± 0.1 KHz at 20℃</td></tr>
<tr><td>2.</td><td colspan="2">Dissipation Factor
(tan δ)</td><td>B : 2.5 % Max. at 1 KHz
E : 2.5 % Max. at 1 KHz
F : 5.0 % Max. at 1 KHz</td></tr>
<tr><td>3.</td><td colspan="2">Insulation Resistance</td><td>More than 10000MΩ
Applied voltage : 500V DC, charging time : 1minute</td></tr>
<tr><td rowspan="2">4.</td><td rowspan="2">Safety
Withstand Voltage (Hi-Pot Test)</td><td>Between terminals</td><td>SC : 2500V AC for 1 ~ 5 Sec. (Charge & Discharge current 50mA max.)
SD : 4000V AC for 1 ~ 5 Sec. (Charge & Discharge current 50mA max.)
No abnormality is recognized</td></tr>
<tr><td>Between terminal & envelope</td><td>The smaller voltage of the rated voltage x 250% or 1.3 KV AC was applied for 1 to 5 sec.
No abnormality recognized</td></tr>
<tr><td>5.</td><td colspan="2">Temperature Characteristic</td><td>
<table>
<tr><th>step / Char.</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th></tr>
<tr><td>B</td><td>+ 20</td><td>- 25</td><td>+ 20</td><td>+ 85</td><td>+ 20</td></tr>
<tr><td>E</td><td>+ 20</td><td>- 25</td><td>+ 20</td><td>+ 85</td><td>+ 20</td></tr>
<tr><td>F</td><td>+ 20</td><td>- 25</td><td>+ 20</td><td>+ 85</td><td>+ 20</td></tr>
</table>
Capacitance is measured under the above temperature conditions.
Capacitance change rate from the 1st to the 5th is calculated.
Standardizing capacitance of the 3 rd step.
Spec :
<table>
<tr><th>Char.</th><th>Change Rate</th></tr>
<tr><td>B</td><td>+ 10 % ~ - 10 %</td></tr>
<tr><td>E</td><td>+ 22 % ~ - 56 %</td></tr>
<tr><td>F</td><td>+ 22 % ~ - 82 %</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>NO.</th><th colspan="2">ITEM</th><th>STANDARD</th></tr>
<tr><td>6.</td><td colspan="2">Humidity Resistance Test</td><td>Capacitor shall be subjected to 40 ± 2℃ relative humidity of 90 to 95% for 500 ± 12 hours.
After placing in room condition for 12 to 24 hours after this test shall satisfy table Ⅰ

Table Ⅰ.
<table>
<tr><td>Appearance</td><td>No remarkable damage</td></tr>
<tr><td>Cap. Change</td><td>B : ± 10% Max
E : ± 20% Max
F : ± 30% Max</td></tr>
<tr><td>D. F
(tan δ)</td><td>B : ± 5% Max
E : ± 5% Max
F : ± 7.5% Max</td></tr>
<tr><td>Insulation Resistance</td><td>5000MΩ Min</td></tr>
</table></td></tr>
<tr><td>7.</td><td colspan="2">Humidity Resistance Load Test</td><td>Temperature : 40 ± 2℃
Humidity : 90 ~ 95%
Applied Voltage : Rating Voltage
Testing time : 500 ± 12 hr
Rated value is the same table Ⅰ</td></tr>
<tr><td>8.</td><td colspan="2">Solder Heat Resistance</td><td>Solder temp. : 260 −0, + 5℃
Immersion time : 10 ± 0.5 sec
No remarkable abnormality is recognized.
Rated value is the same table Ⅰ.</td></tr>
<tr><td>9.</td><td>Soldering Profile</td><td>Flow Soldering</td><td> 

When soldering this product to a Pcb / Pwb, do not exceed the solder heat resistance specification of 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.</td></tr>
</table>

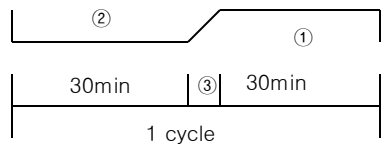
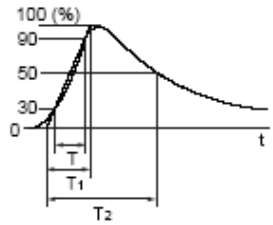
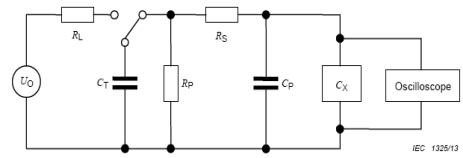
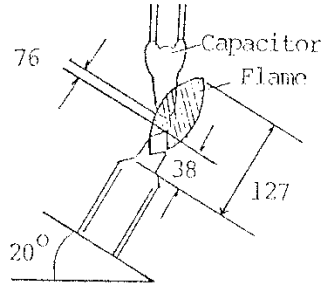
<table>
<tr><th>NO</th><th colspan="2">ITEM</th><th colspan="3">STANDARD</th></tr>
<tr><td></td><td>Soldering Profile</td><td>Iron Soldering</td><td colspan="3">When soldering capacitor with a soldering capacitor iron, it should be performed in following conditions.
Temperature of iron-tip : 400°C max.
Soldering iron wattage : 50W max.
Soldering time : 3.5 sec. max.
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</td></tr>
<tr><td rowspan="8">10.</td><td colspan="2" rowspan="8">High Temperature Load Test</td><td colspan="2">Appearance</td><td>No. visible damage</td><td rowspan="8">Capacitors are to placed in a circulating air oven for 1500 +48,-0 hours the air oven is to be maintained at a temperature of 85 ± 3℃ throughout the test, each capacitor is to be subjected to a 800Vrms (AC) for SD (X1Y1) and 500Vrms (AC) for SC (X1Y2) with frequency of 50 – 60 ㎐.</td></tr>
<tr><td rowspan="3">Cap. Change</td><td>B</td><td>Within ± 10%</td></tr>
<tr><td>E</td><td>Within ± 20%</td></tr>
<tr><td>F</td><td>Within ± 30%</td></tr>
<tr><td rowspan="3">Tan δ</td><td>B</td><td>5% max</td></tr>
<tr><td>E</td><td>5% max</td></tr>
<tr><td>F</td><td>7.5% max</td></tr>
<tr><td colspan="2">I.R</td><td>5000MΩ min</td></tr>
<tr><td rowspan="8">11.</td><td colspan="2" rowspan="8">Temperature Cycling Test</td><td colspan="2">Appearance</td><td>No. visible damage</td><td rowspan="8">Temperature cycle should be measured in the following test.
Cycle time : 5 cycle
Pre-treatment : Capacitor should be stored at max operating temp(①). for 1hr., placing at room condition for 24±2hrs.
Post treatment : Capacitor should be stored for 24±2hrs at room.
※②:min. operating temperature
③:2 to 5minutes
 

Table II : Temperature Cycle
<table><tr><th>Step</th><th>Temperature (°C)</th><th>Time (min)</th></tr><tr><td>1</td><td>Min operating temp.</td><td>30</td></tr><tr><td>2</td><td>Room temp.</td><td>3</td></tr><tr><td>3</td><td>Max operating temp</td><td>30</td></tr><tr><td>4</td><td>Room temp.</td><td>3</td></tr></table></td></tr>
<tr><td rowspan="3">Cap. Change</td><td>B</td><td>Within ± 10%</td></tr>
<tr><td>E</td><td>Within ± 20%</td></tr>
<tr><td>F</td><td>Within ± 20%</td></tr>
<tr><td rowspan="3">Tan δ</td><td>B</td><td>5% max</td></tr>
<tr><td>E</td><td>5% max</td></tr>
<tr><td>F</td><td>7.5% max</td></tr>
<tr><td colspan="2">I.R</td><td>1000MΩ min</td></tr>
</table>

<table>
<tr><th>NO</th><th>ITEM</th><th>STANDARD</th></tr>
<tr><td>12</td><td>Discharge Test
(Impulse Test)</td><td>
Capacitor shall withstand three times of discharges from a dump capacitor with an interval of 10 seconds between successive discharges.
Test condition based on below table :
<table>
<tr><td>Type</td><td>voltage</td></tr>
<tr><td>SD</td><td>8 kVdc</td></tr>
<tr><td>SC</td><td>5 kVdc</td></tr>
</table>
<table>
<tr><th>Item</th><th>Type</th><th>Initial</th><th>After</th><th>Measurement condition</th></tr>
<tr><td>Appearance</td><td colspan="2">No remarkable damage</td><td>Visual</td></tr>
<tr><td rowspan="3">Cap</td><td>B</td><td>± 10% (K)</td><td>± 10%</td><td rowspan="6">1 Vrms,
1 ± 0.1 kHz at 20°C</td></tr>
<tr><td>E</td><td>± 20% (M)</td><td>± 20%</td></tr>
<tr><td>F</td><td>± 20%; (M)
−20% ~+80% (Z)</td><td>± 30%</td></tr>
<tr><td rowspan="3">Tan δ</td><td>B</td><td>2.5 max</td><td>5.0 max</td></tr>
<tr><td>E</td><td>2.5 max</td><td>5.0 max</td></tr>
<tr><td>F</td><td>5.0 max</td><td>7.5 max</td></tr>
<tr><td colspan="2">I.R</td><td>Min 10000MΩ</td><td>Min 1000MΩ</td><td>Voltage : 500 Vdc
Charging time : 60 sec</td></tr>
</table>




CT = charging (or tank) capacitor RS = series resistor, or charging resistor
CP = parallel capacitor RP = parallel resistor, or discharging resistor
CX = capacitor under test UO = direct voltage source
RL = loading resistor
Front time (T1)=1.2μs=1.67T
Time to half-value (T2)=50μs
<table>
<tr><th>Nominal value of C_X
μF</th><th>C_T
±10%
μF</th><th>R_P
±10%
Ω</th><th>R_S
±10%
Ω</th><th>C_P
±10%
pF</th></tr>
<tr><td>$C_X \leq 0{,}003\ 9$
$0{,}003\ 9 < C_X \leq 0{,}012$</td><td>0,25
0,25</td><td>234
234</td><td>62
45</td><td>7 800
7 800</td></tr>
</table>
</td></tr>
<tr><td>13</td><td>Flaming Test</td><td>
The flame shall be applied for 15 Seconds, and than removed for 15 seconds until 5 such applications have been made.
The material to fourth cycle and more than 1 minute in last cycle.


Flame nozzle : ø9.5 mm, Dimensions in mm
</td></tr>
</table>

NO	ITEM	STANDARD	
14.	Vibration Test.	The capacitor should be firmly soldered to the supporting lead wire and vibrated at a frequency range of 10 to 55Hz, 1.5mm in total amplitude, with about a 1-minute rate of vibration change from 10Hz to 55Hz and back to 10Hz. Apply for a total of 6hrs., 2hrs. Each in mutually perpendicular directions. After test, capacitor shall satisfy table Ⅰ.	
15.	Preservation (keeping)	When solderablility is considered, capacitors are recommended to be used in 12 months	1.Temperature : 30°C ± 10°C 2.Relative Humidity : 55% ± 25
16.	The Regulation of Environmental Pollution Materials.	* Never use materials mentioned below based on International RoHS Standard. * Pb, Cd, Hg, Cr^{+6}, PBB, PBDE, Phthalate (DEHP, DBP, BBP & DIBP)	

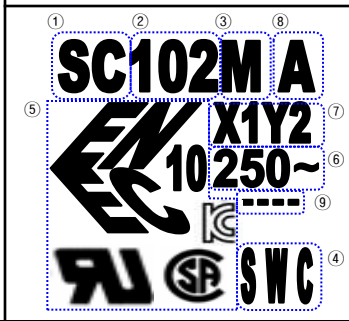
Marking Table

① Type designation : SC or SD
② Nominal capacitance: 3 digit system
③ Capacitance tolerance : letter code
④ Manufacture's name : SWC
⑤ Recognized mark
⑥ Rating voltage
⑦ X,Y Class
⑧ Month of manufacture

A,M:Jan.	B,N:Feb.	C,O:Mar.
D,P:Apr.	E,Q:May	F,R:Jun.
G,S:Jul.	H,T:Aug.	I,U:Sep.
J,V:Oct,	K,W:Nov.	L,X:Dec.

From A to L are Even year,
from M to X are odd year

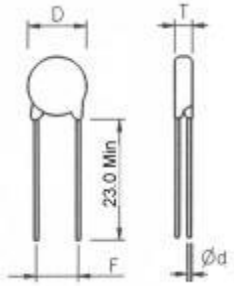
⑨ Dot Marking are week of month
example : ▪ Week 1
▪▪ Week 2
▪▪▪ Week 3
▪▪▪▪ Week 4

	SC TYPE	SD TYPE
	FRONT	FRONT
		

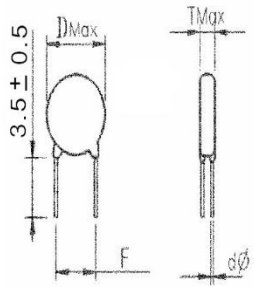
2. STYLE AND DIMENSIONS

2-1. Bulk

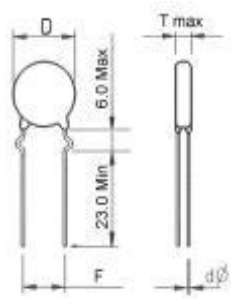
BS Type (Straight Long Type)



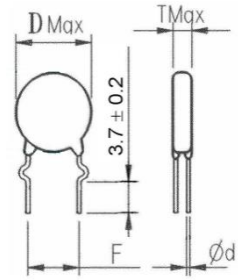
BN Type (Straight Short Type)



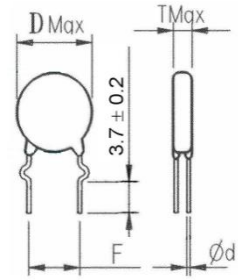
BK Type (Forming Long Type)



BW Type (Forming Short-kink)



BL Type (Forming Short-kink)

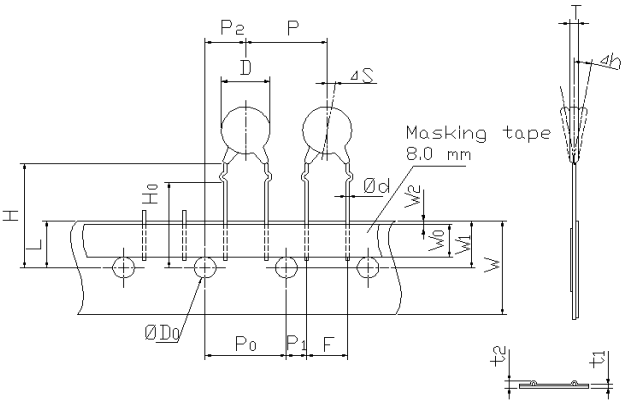


[Unit : mm]

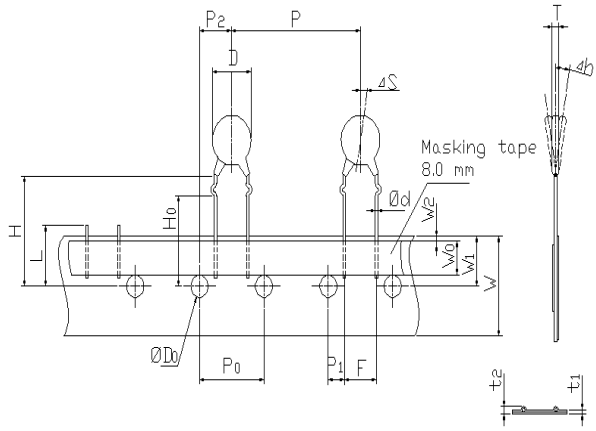
TYPE	TEMP CHAR.	CAPACITANCE (pF)	DIMENSIONS			
			D max	T max	F ± 1.0	d(ϕ) ± 0.05
SC	B	100, 150, 220, 270, 330, 390, 470, 560	8.0	6.0	7.5, 10.0	0.60
		680	9.0	6.0	7.5, 10.0	0.60
		820, 1000	10.0	6.0	7.5, 10.0	0.60
	E	1000	7.0	6.0	7.5, 10.0	0.60
		1500	9.0	6.0	7.5, 10.0	0.60
		1800, 2200	10.0	6.0	7.5, 10.0	0.60
		3300	12.5	6.0	7.5, 10.0	0.60
		3900	13.0	6.0	7.5, 10.0	0.60
		4700	14.0	6.0	7.5, 10.0	0.60
	F	3300	9.0	6.0	7.5, 10.0	0.60
		4700	10.0	6.0	7.5, 10.0	0.60
		6800	11.0	6.0	7.5, 10.0	0.60
		10000	14.0	6.0	7.5, 10.0	0.60
SD	B	100, 150, 220, 330, 470, 390, 680	10.0	7.0	7.5, 10.0	0.60
	E	1000	8.0	7.0	7.5, 10.0	0.60
		1500	9.0	7.0	10.0	0.60
		2200	12.5	7.0	10.0	0.60
		3300	14.0	7.0	10.0	0.60
		3900, 4700	15.0	7.0	10.0	0.60

2-2. FF7, FF8

FF7



FF8

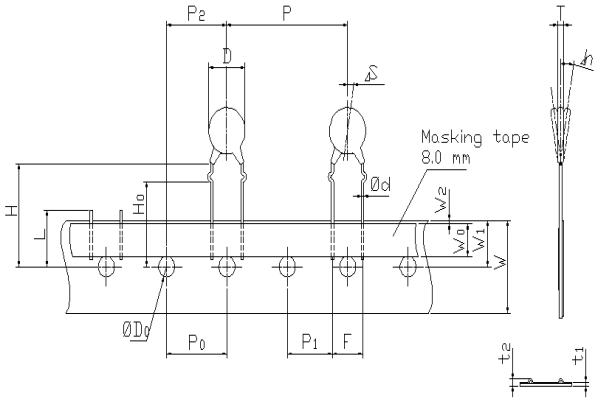


[Unit : mm]

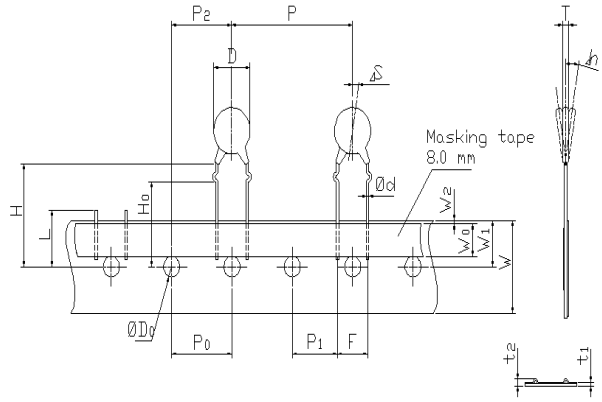
ITEM	SYMBOL	TAPING SPECIFICATION		NOTE
		FF7	FF8	
Body Diameter	D	6.3 ~ 14.0	15.0 ~ 20.0	
Body Thickness	T	6.0 Max		
Lead Diameter	Φ d	0.60 ± 0.05		
Pitch of Sprocket Hole	Po	15.0 ± 0.3		
Pitch of Component	P	15.0 ± 1.0	30.0 ± 1.0	
Lead Length from Hole Center to Lead	P1	3.75 ± 1.0		
Lead Length from Hole Center to Component Center	P2	7.5 ± 1.5		
Lead Spacing	F	7.5 ± 1.0		
Deviation Along Tape.Left or Right	△S	0 ± 1.0		
Deviation Across Tape	△h	0 ± 2.0		
Carrier Tape Width	W	$18.0^{+1.0}_{-0.5}$		
Hold Down Tape Width/Masking Tape Width	Wo	8.0 Min		
Position of Sprocket Hole	W1	9.0 ± 0.5		
Hold Down Tape Position	W2	3.0 Max		
Lead-Wire Clinch Height	Ho	16.0 ± 0.5		
Height of Component Hole	H	$20.0^{+1.5}_{-1.0}$		
Diameter of Sprocket Hole	Φ Do	4.0 ± 0.2		
Length of Snipped Lead	L	11.0 Max		
Total Tape Thickness	t_1	0.7 ± 0.2		
Total Thickness, Tape and Lead Wire	t_2	1.7 Max		
Lead Wire Protrusion	Lx	1.0 Max		

2-3. FF9, FF1, FF2

FF9, FF1



FF2

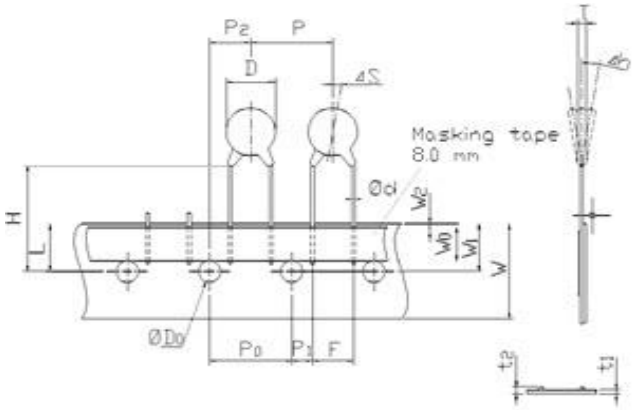


[Unit : mm]

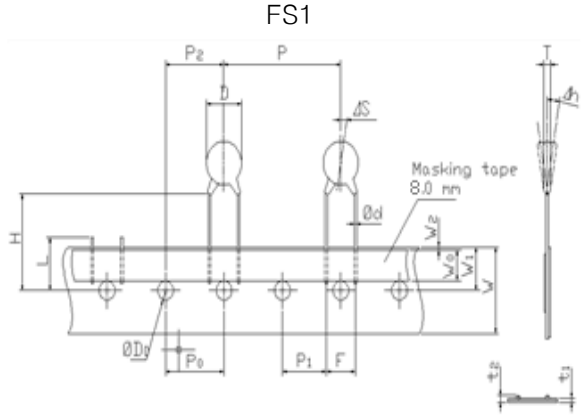
ITEM	SYMBOL	TAPING SPECIFICATION			NOTE
		FF9	FF1	FF2	
Body Diameter	D	6.3 ≤ D ≤ 20.0			
Body Thickness	T	7.0 Max			
Lead Diameter	dΦ	0.60 ± 0.05			
Pitch of Sprocket Hole	Po	12.7 ± 0.3		15.0 ± 0.3	
Pitch of Component	P	25.4 ± 1.0		30.0 ± 1.0	
Lead Length from Hole Center to Lead	P1	8.95 ± 1.0	7.7 ± 1.0	10.0 ± 1.0	
Lead Length from Hole Center to Component Center	P2	12.7 ± 1.5	12.7 ±1.5	15.0 ± 1.5	
Lead Spacing	F	7.5 ± 1.0	10.0 ± 1.0		
Deviation Along Tape, Left or Right	△S	0 ± 1.0			
Deviation Across Tape	△h	0 ± 2.0			
Carrier Tape Width	W	$18.0^{+1.0}_{-0.5}$			
Hold Down Tape Width/Masking Tape Width	Wo	8.0 Min			
Position of Sprocket Hole	W1	9.0 ± 0.5			
Hold Down Tape Position	W2	3.0 Max			
Lead-Wire Clinch Height	Ho	16.0 ± 0.5			
Height of Component from Hole Center	H	$20.0^{+1.5}_{-1.0}$			
Diameter of Sprocket Hole	ΦDo	4.0 ± 0.2			
Length of Snipped Lead	L	11.0 Max			
Total Tape Thickness	t_1	0.7 ± 0.2			
Total Thickness, Tape and Lead Wire	t_2	1.7 Max			

2-4. FS7, FS1

FS7



FS1



[Unit : mm]

Item	Symbol	Taping specification		Note
		FS7	FS1	
Body Diameter	D	6.3 ~ 14.0	6.3 ~ 20.0	
Body Thickness	T	6.0 Max	7.0 Max	
Lead Diameter	d	0.60 ± 0.05		
Pitch of Sprocket Hole	Po	15.0 ± 0.3	12.7 ± 0.3	
Pitch of Component	P	15.0 ± 0.1	25.4 ± 1.0	
Lead Length from Hole Center to Lead	P1	3.75±1.0	7.7±1.0	
Lead Length from Hole Center to Component Center	P2	7.5±1.5	12.7±1.5	
Lead Spacing	F	7.5±1.0	10.0 ± 1.0	
Deviation Along Tape.Left or Right	S	0 ± 1.0		
Deviation Across Tape	h	0 ± 2.0		
Carrier Tape Width	W	18.0 + 1.0 − 0.5		
Hold Down Tape Width/Masking Tape Width	Wo	8.0 Min		
Position of Sprocket Hole	W1	9.0 ± 0.5		
Hold Down Tape Position	W2	3.0 Max		
Height of Component from Hole Center	H	20.0 + 1.5 − 1.0		
Diameter of Sprocket Hole	do	4.0 ± 0.2		
Length of Snipped Lead	L	11.0 Max		
Total Tape Thickness	T_1	0.7 ± 0.2		
Total Thickness, Tape and Lead Wire	T_2	1.7 Max		
Lead Wire Protrusion	Lx	1.0 Max		

▣ PACKING SPECIFICATION

1) BULK

TYPE		PACKING QUANTITY [pcs]				
DIVISION	L/W DIVISION [mm]	DIAMETER [Φ]	INNER BOX		OUT BOX	
			VINIL PAPER BAG	IBB 140	OBB 150	OBB 300
3 ~ 8 KV (Y-CAP)	Long	~ 7	500 +2, -0	5,000	-	20,000
		8 ~ 11		4,000	-	16,000
		12 ~ 14		3,000	6,000	-
		15 ~ 16		2,500	5,000	-
		17 ~ 20	200 +1, -0	2,000	4,000	-
	Short	~ 9	500 +2, -0	10,000	20,000	-
		10 ~ 11	500 +2, -0	7,500	15,000	-
		12 ~ 14	500 +2, -0	5,000	10,000	-
		15 ~ 16	500 +2, -0	4,000	8,000	-
		17 ~ 20	200 +1, -0	2,000	4,000	-

• ETC
SCE222M10, 332M12, F472M10(12) BK7 = 400 +1, -0
• ETC
SCE 2E 222M 10 FF7, SCE 2E 472M 14 FF8 = 1,000 +1, -0 (IN), 5,000(OUT)

2) TAPING

DIVISION	F [mm]	TYPE	PITCH	DIAMETER [Φ]	VOLTAGE [V]	BOX H [mm]	PACKING QUANTITY [pcs]	
							IBR	OBR
3 KV~	7.5	FF7	15.0	14.0↓	SC, SD	52	1,000 +5, -0	5,000
		FF8	30.0	15.0↑			600 +5, -0	3,000
		FF9	25.4	ALL			600 +5, -0	3,000
	10.0	FF1	25.4	ALL			600 +5, -0	3,000
		FS1	25.4				600 +5, -0	3,000
		FF2	30.0				500 +5, -0	2,000

3) PACKING BOX DIMENSIONS

PACKING STYLE		CATEGORY	W × T × H [mm]
BULK	IBB (Inner Box Bulk)	IBB 140	255 × 230 × 116
	OBB (Out Box Bulk)	OBB 150 (IBB 140 × 2)	485 × 270 × 136
TAPING	INNER BOX	IBR 52	314 × 52 × 258
	OUT BOX	OBR 52 (IBR 52 × 5)	326 × 300 × 271

4) STACKING BOX (Maximum)

PACKING STYLE	INBOX	OUTBOX
BULK	6	5
TAPING	10	4

▣ MATERIAL LIST

NO	Material Name	Substance	Hazardous Substance Existences						Remarks
			Pb	Hg	Cr	Cr^{+6}	PBB	PBDE	
1	Dielectric Powder	$BaTiO_3$, $CaZrO_3$	X	X	X	X	X	X	
2	Ag Paste	Ag	X	X	X	X	X	X	
3	Solder	Sn, Ag, Cu	X	X	X	X	X	X	
4	Epoxy Resin	Epoxy	X	X	X	X	X	X	
5	Lead Wire	Cu, Sn, Fe	X	X	X	X	X	X	Plating thickness : Min 3 μm. (material : tin)

▣ Label Type

▣ Bulk Style

BULK TYPE		
PLASTIC	INBOX	OUTBOX
		

▣ Taping Style

TAPING TYPE		
PLASTIC	INBOX	OUTBOX