

Sw electronics Presentation



Head office (in korea)

Address : 742-15, otea dong, gumi city, gyeong buk, korea

T E L : 82 54-463-5517

F A X : 82 54-463-5527

YANTAI FACTORY OFFICE (in china)

Address : 89 huanhai road, yantai, china

T E L : 82 535-682-5767

F A X : 82 535-682-5797

Homepage : <http://www.swxt.co.kr>

E-mail : swxt@swxt.co.kr

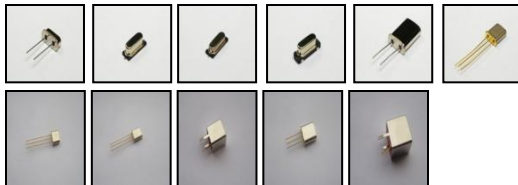
Company Overview

- Company Name :SW ELECTRONICS(烟台大运电子有限公司)
- Business : Quartz crystal, oscillator production and sales
- Date of Establishment : 1988. 10. 08
- President : Hwang j.y
- Address : #89 Huanhai Road, Yantai, Shandong Province, China
- Capitalization : \$3.2million
- Sales
 - 2009 year : \$2,532,253
 - 2008 year : \$1,725,433
- The number of people : 67persons
- The gross area : is 600 pyeong
- Telephone :86-535-682-5767
- FAX:86-535-682-5797
- Homepage: www.swxt.co.kr

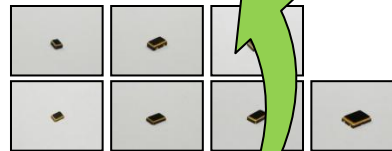
History

- 1988.10.08 : Seoul Signal Establishment
- 1988.10.08~ : Quartz crystal, oscillator production
- 1991.03~ : Crystal Filter production
- 2004.04.01 : Company Name is Changed
Seoul Signal → SW ELECTRONICS.
- 2006.01.09 : China is established in the Main Electronics (Dae woon)
- 2010.06.07 : Sw is established offices in Korea, Chungju

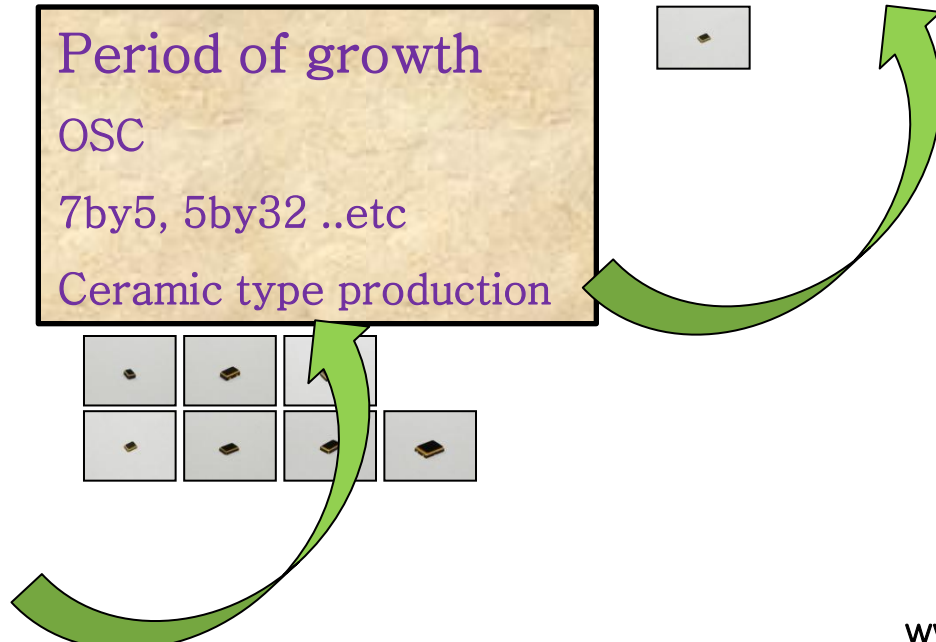
First production
CRYSTAL UNIT
CRYSTAL QUARTZ
FILTER



Period of growth
OSC
7by5, 5by32 ..etc
Ceramic type production



A spring
3.2by2.5
2.5by2.0 size
ISO9001/14001
Offices established
in Chungju



Production Factories Office (china& Korea)

KOREA

SW ELECTRONICS



CHINA

SW ELECTRONICS

(Metal Type)

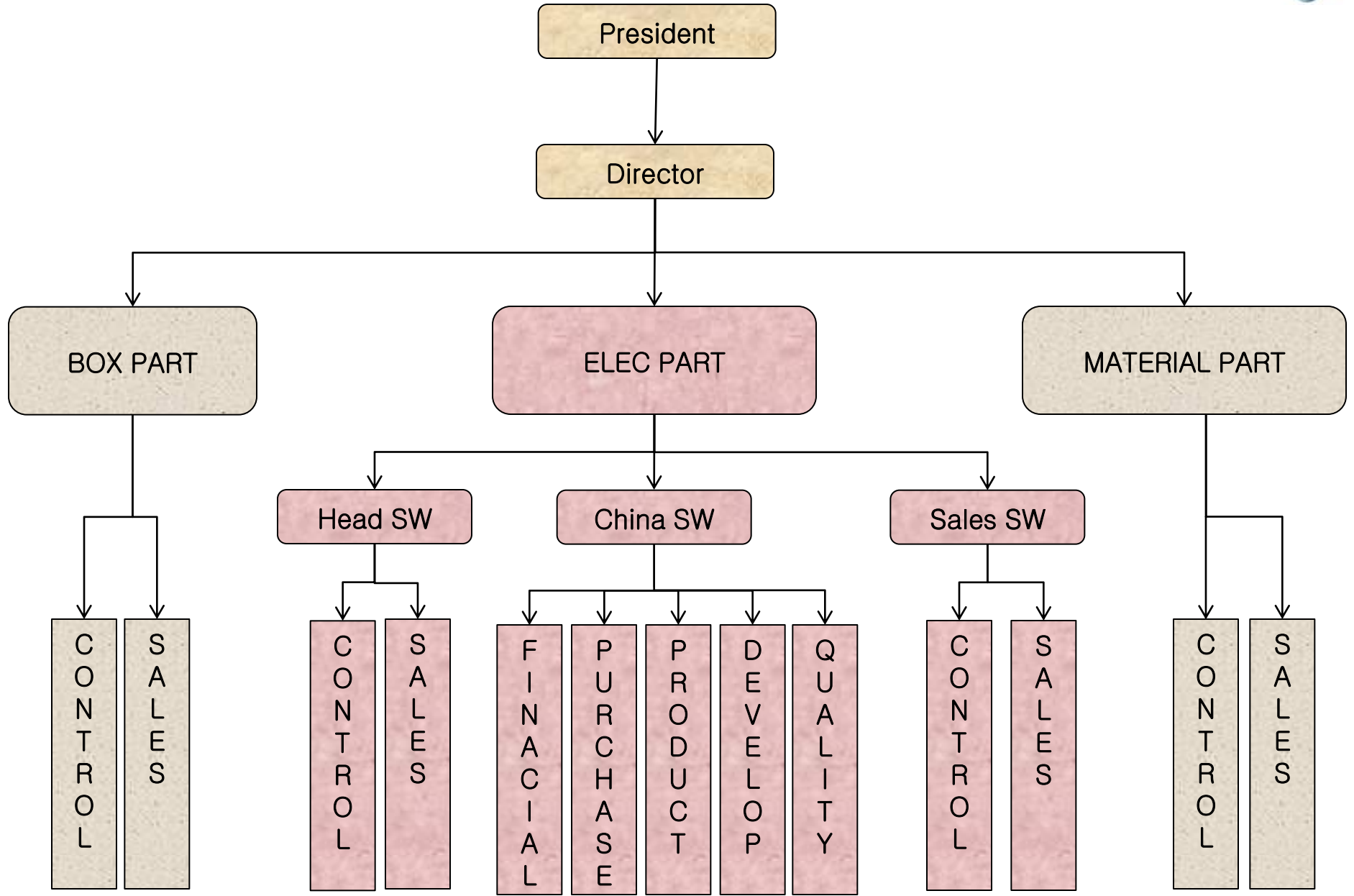


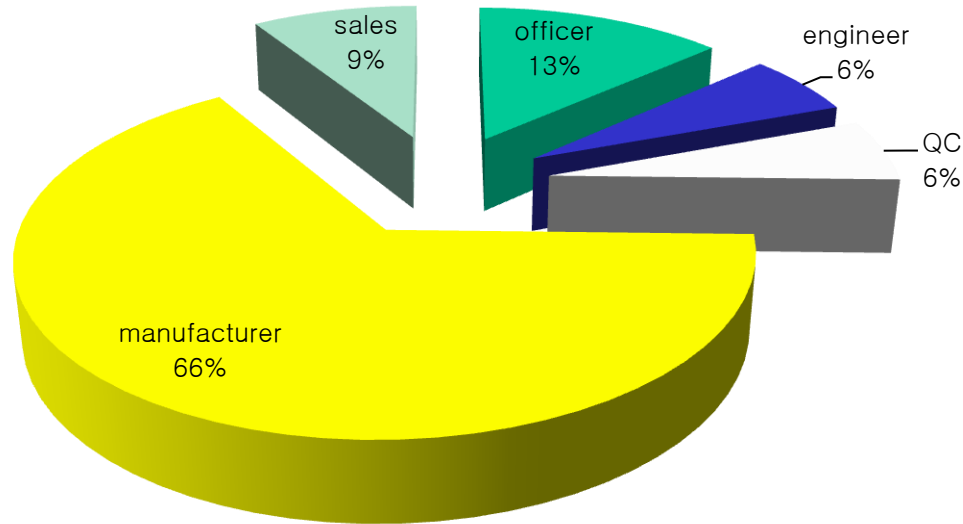
CHINA

Yufeng INDUSTRIAL



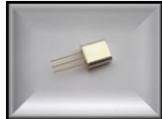
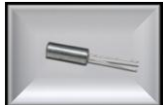

(Ceramic Type)

Organization

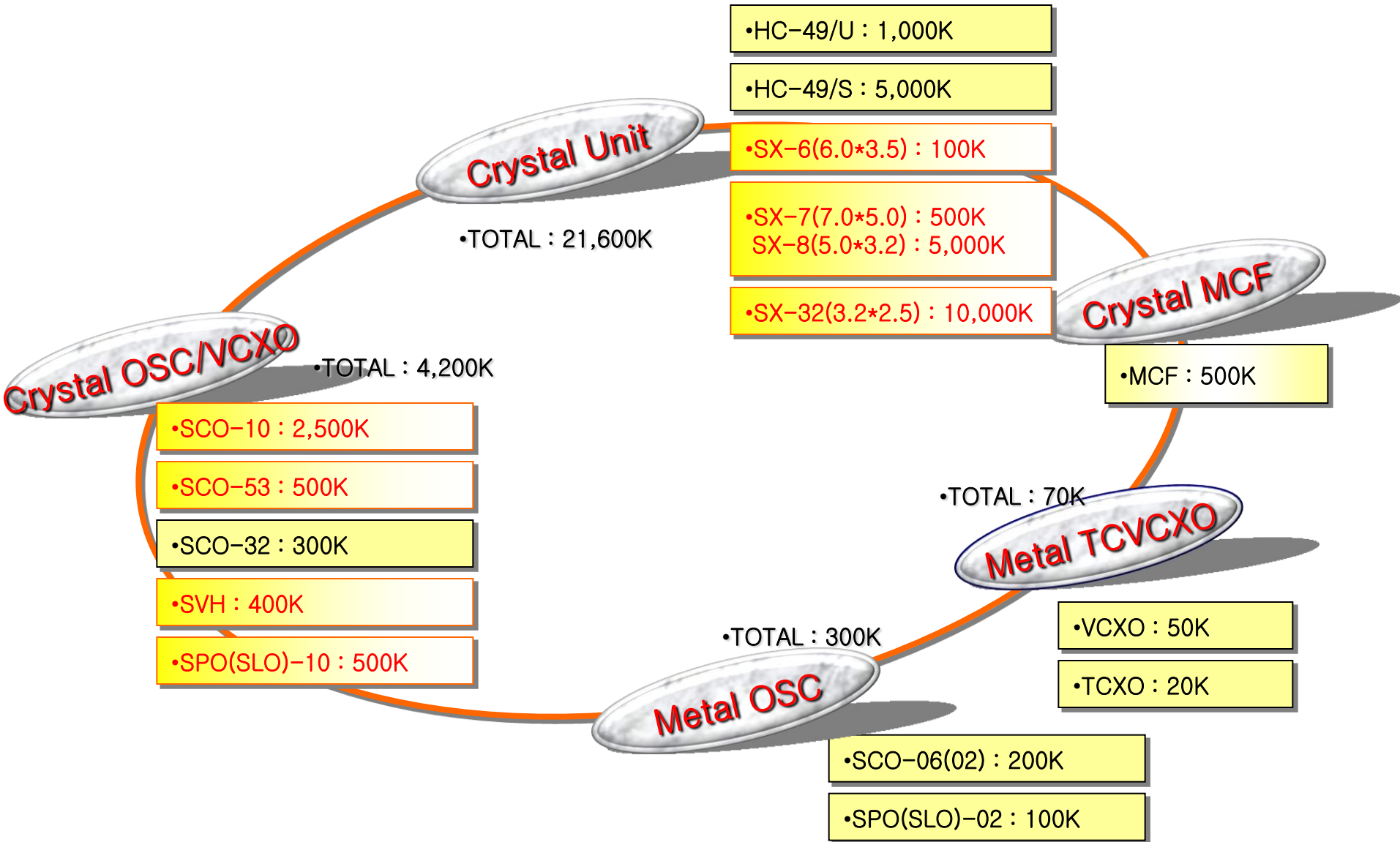




Division	officer	engineer	QC	manufacturer	sales	Total
In Korea	2	2	2		5	11
In China	7	2	2	44	1	56
Total	9	4	4	44	6	67

 Crystal unit						
 Metal OSC						
 Ceramic OSC.						
 Ceramic X-TAL						
 M.C.F.						
 Cylinder X-TAL						
 TCXO. VCXO						

Product Capacity per Month (In CHINA)



Production Process (BLANK PRODUCT)



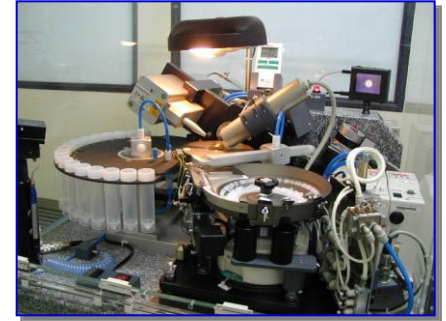
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<Quartz Adhesive >



<Quartz cutting>



< Angle classification >



< Wafer Outside Grinding >



< Grinding #1000>



< Grinding #2500>



<Polishing #4000>



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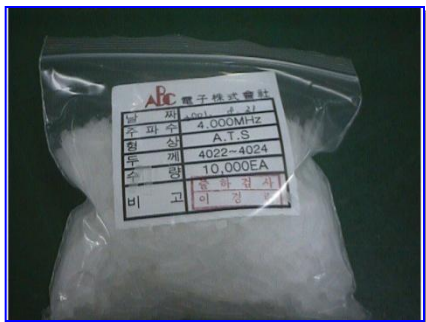


< Frequencies are classified >



<Output BLANK >

Production Process (Metal PRODUCT)



<Input BLANK>



<cleaning>



<Base plating>



< Assembly, bonding >



<Hardening>



<Adjusting Frequency>



<Middle test>



<Visual test>



<welding>



<Leak test >



<Reflow simulation>



<AGING test>

Production Process (Metal PRODUCT)



<TC test>



<Final test>



<Laser marking>



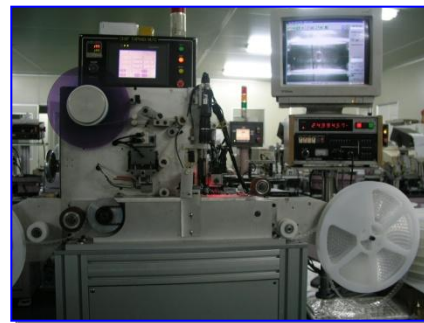
<Lead cutting>



<Visual test>



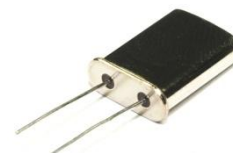
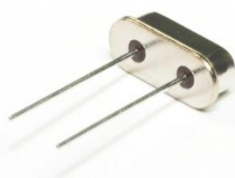
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<Tapping>



<Packing >



Reliability Test Process (Metal PRODUCT)



NO	Test Name	Test Procedure & Condition	Recommended Test Method
1	High Temperature Storage (HTS)	Temperature = +85°C, Duration = 168 hrs	
2	Low Temperature Storage (LTS)	Temperature = -40°C Duration = 168 hrs	
3	Humidity Test (HT)	Precondition = Reflow Sock Ta=+260±5°C 10sec 2Times(only SMD) Relative Humidity = +85°C/90~95% Duration = 168 hrs	MIL-STD-883 Method 1004
4	Thermal Shock (TS)	Temperature = -40°C to +85°C Duration = 1Hours N=15 cycles, Temp' shift shall be done within 30sec	MIL-STD-883 Method 1010
5	Aging (A)	Temperature = +85°C, Duration: 1,000 hour	MIL-O-55310
6	Terminal Strength (TS-PT) / Pull Test (Only Through-Hole)	Weight = 2 pounds (lb), Duration = 5 ~ 10 sec	MIL-STD-202 Method 211 Condition A
	Terminal Strength (TS-BT) / Bend Test (Only Through-Hole)	Weight = 1 pounds (lb) Bending Angle = 90 degree Bending Count = 3 times * The rate of bending shall be approximately 3 seconds per bend in each direction.	MIL-STD-202 Method 211 Condition C
7	Solder ability (SLD)	Precondition = 16 hours at 150°C Dry Bake is recommended but 8 hours of Steam Aging Soldering Temperature = +245 °C ± 5 °C Solder Immersion Time = 5 ± 0.5 s	MIL-STD-883 Method 2003, The test method from J-STD-002
8	Resistance to Soldering Heat (RSH)	Solder Iron = +350°C±10°C (solder iron temp) / 4~5s Dip = +260°C±5°C(solder temp) / 10 ±1s IR/convection reflow = +250°C ± 5 °C / 30±5s	MIL-STD-202 Method 210
9	Drop Test (DT)	High = 750mm onto hard wooden board Drop Time = 3 times (Only 49/S TYPE : 500mm)	
10	Vibration (V)	Vibration Frequency = 10 to 55 Hz, 1.5mm, Full wave Cycle = 2 min Direction = X.Y.Z, Time = 2 hours in each direction	MIL-STD-883 Method 2007 Condition A
11	Seal / Gross Leak (GL)	Fluorocarbon liquid at 125°C ±5°C Immersion Time = 30 sec.	MIL-STD-202 Method 112 Test Condition D
	Seal / Fine Leak (FL)	Leak rate shall be measured by using = Mass-spectrometer-type helium leak detector	MIL-STD-202 Method 112 Test Condition D

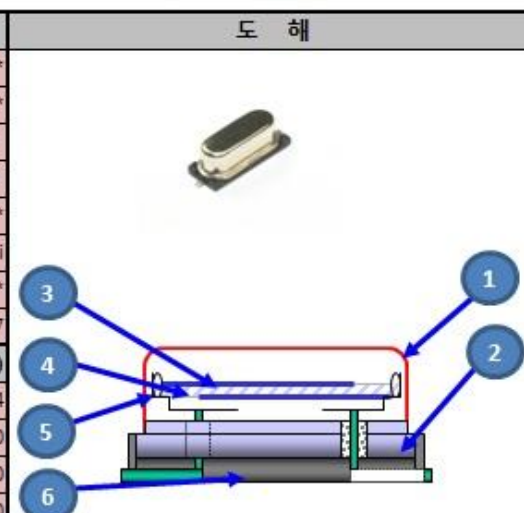
제품 내 환경 유해 물질 (ROHS, WEEE) 분석 결과

* 당사는 삼성전자 납입기준 ICP DATA 유효기간 2년을 적용 함.
 * 특별 요청이 있을 경우, ICP DATA 유효기간 1년의 성적서를 제출토록 함.



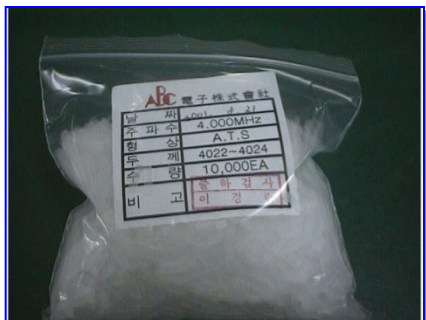
완제품	SX-1 CRYSTAL						TOTAL
품명	1) CAN	2) BASE	3) ELECTRODE	4) QUARTZ	5) SILVER EPOXY	6) INSULATOR	
재질	C7521	SPCC	SILVER	SILICONE DIOXIE	SILVER	PPS	*
중량 (g/ea)	0.155	0.362	0.005	0.015	0.002	0.055	0.594
%	26.09427609	60.94276094	0.841750842	2.525252525	0.336700337	9.259259259	100.000
제조업체명	선명테크	jewon	유창금속	가람전자	3본드	태승화학	*
표면처리	Ni	Ni	*	*	*	*	Ni
사용의도	변색방지	변색방지	*	*	*	*	*
수량	1	1	1	1	2	1	7
유해 물질 함유량 (ppm)							TOTAL (ppm)
Pb	50.4	N.D	N.D	N.D	N.D	N.D	50.4
Cd	N.D	N.D	N.D	N.D	N.D	N.D	0
Hg	N.D	N.D	N.D	N.D	N.D	N.D	0
Cr6+	N.D	N.D	N.D	N.D	N.D	N.D	0
PBB	N.D	N.D	N.D	*	N.D	N.D	0
PBDE	N.D	N.D	N.D	*	N.D	N.D	0
PFOs(B,C)	N/A	N/A	N/A	N/A	N/A	N.D	N/A
SVHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
예외조항	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CASNO	7440-50-8	7439-89-6	7440-22-4	14808-60-7	7440-22-4	9016-75-5	*
성적서NO	CTSAYAA09-23960	CANEC1000991302	CTSAYAA10-06086	SH9115818	CTSAYAA09-34323	RT09R-U1659-002-E	*
DATE	2009-08-26	2010-03-18	2010-03-03	2009-06-23	2009-12-08	2009-08-20	*
분석기관	SGS	SGS	SGS	SGS	SGS	INTERTEK	*
ICP DATA							
MSDS DATA							

Sample



작성	검토	승인
9/28	9/28	9/28

Production Process (Ceramic PRODUCT)



<Input BLANK>



<Cleaning>



<Base plating>



< Assembly, bonding >



< Hardening >



< Adjusting Frequency >



< ANNEALING >



<Visual test>



<Sealing>



< Leak test>



<REFLOW>



<Aging>

Production Process (Ceramic PRODUCT)



<TC test>



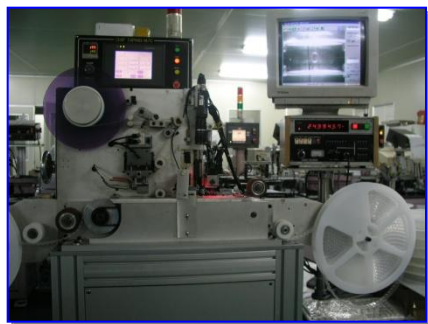
< Final test >



<Laser marking>



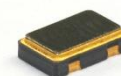
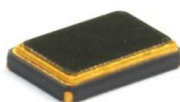
< Lead cutting >



<Tapping>



<Packing>



Reliability Test Process (Ceramic PRODUCT)



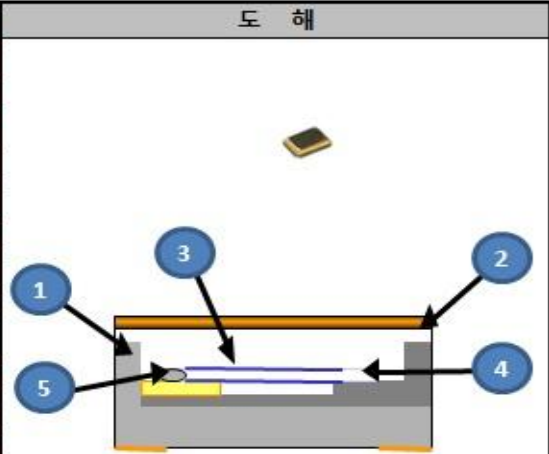
NO	Test Name	Test Procedure & Condition	Recommended Test Method
1	High Temperature Storage (HTS)	Temperature = +85°C Duration = 168 hrs	
2	Low Temperature Storage (LTS)	Temperature = -40°C Duration = 168 hrs	
3	Humidity Test (HT)	Precondition = Reflow Sock Ta=+260±5°C 10sec 2Times(only SMD) Relative Humidity = +85°C/90~95% Duration = 168 hrs	MIL-STD-883 Method 1004
4	Thermal Shock (TS)	Temperature = -55°C to +125°C Duration = 30 min N=15 cycles Temp' shift shall be done within 30sec	MIL-STD-883 Method 1010
5	Aging (A)	Temperature = +85°C Duration: 1,000 hours	MIL-O-55310
6	Solder ability (SLD)	Precondition = 16 hours at 150°C Dry Bake is recommended but 8 hours of Steam Aging Soldering Temperature = +245 °C ± 5 °C Solder Immersion Time = 5 ± 0.5 s	MIL-STD-883 Method 2003, The test method from J-STD-002
7	Resistance to Soldering Heat (RSH)	Solder Iron = +350°C±10°C(solder iron temp) / 4~5s Dip = +260°C±5°C(solder temp) / 10 ± 1s IR/convection reflow = +250°C ± 5 °C / 30±5s	MIL-STD-202 Method 210
8	Drop Test (DT)	Hight = 1200mm onto hard wooden board Drop Time = 3 times	
9	Vibration (V)	Vibration Frequency = 10 to 55 Hz, 1.5mm, Full wave Cycle = 2 min Direction = X.Y.Z Time = 2 hours in each direction	MIL-STD-883 Method 2007 Condition A
10	Seal / Gross Leak (GL)	Fluorocarbon liquid at 125°C ±5°C Immersion Time = 30 sec.	MIL-STD-202 Method 112 Test Condition D
	Seal / Fine Leak (FL)	Leak rate shall be measured by using = Mass-spectrometer-type helium leak detector	MIL-STD-202 Method 112 Test Condition D

제품 내 환경 유해 물질 (ROHS, WEEE) 분석 결과

* 당사는 삼성전자 납입기준 ICP DATA 유효기간 2년을 적용 함.
 * 특별 요청이 있을 경우, ICP DATA 유효기간 1년의 성적서를 제출토록 함.



완제품	SX-32 CRYSTAL (3.2 by 2.5mm)					TOTAL
품명	1) PACKAGE	4) BLANK	3) SILVER	5) ADHESION	2) LID	*
재질	Al2O3	SiO2	Ag	Ag	Ni	*
중량 (g/ea)	0.02023	0.00034	0.00001	0.00003	0.00482	0.0254
%	79.55171058	1.337003539	0.000323634	0.117970901	18.95399135	100.000
제조업체명	KYOCERA	가람전자	유창금속	3본드	한국포토엡칭	*
표면처리	*		*	*	Ni	Ni
사용의도	*	*	*	*	납땜성강화	*
수량	1	1		2	1	6
유해 물질 함유량 (ppm)						TOTAL (ppm)
Pb	N.D	N.D	N.D	N.D	N.D	0
Cd	N.D	N.D	N.D	N.D	N.D	0
Hg	N.D	N.D	N.D	N.D	N.D	0
Cr6+	N.D	N.D	N.D	N.D	N.D	0
PBB	N.A	*	N.D	N.D	N.D	0
PBDE	N.A	*	N.D	N.D	N.D	0
PFOS(B,Cl)	N/A	N/A	N/A	N/A	N/A	N/A
SVHC	N/A	N/A	N/A	N/A	N/A	N/A
예외조항	N/A	N/A	N/A	N/A	N/A	N/A
CASNO	1344-28-1	14808-60-7	7440-22-4	7440-22-4	1309-37-1	*
성적서NO	SDEKG-09-420	SH9115818	CTSAYAA10-06086	CTSAYAA09-34323	CTSAYAU10-01564	*
DATE	2009-06-02	2009-06-23	2010-03-03	2009-12-08	2010-04-05	*
분석기관	SGS	SGS	SGS	SGS	SGS	*
ICP DATA						
MSDS DATA						



작성	검토	승인
9/28	9/28	9/28

Application

