

RoHS Compliant

APPROVAL SHEET

Issued No. : _____

DESCRIPTION : SMD 7050 XO CMOS

NOMINAL FREQ. : 30.000000 MHz

TAITIEN P/N : 13334-L-130-3

TAITIEN MODEL : OCETGLJANF-30.000000MHz

REVISION : 1

DATE : 12/11/2017

QA	Checked	Prepared
<i>X.H. Wang</i>	<i>H.G. Hu</i>	<i>D.R. Jiang, Z.Q. Jiang</i>

CUSTOMER : _____

CUSTOMER P/N : _____

Customer Signature
Approved:
Date:

REVISION HISTORY

Rev.	Revised Page	Revision Content	Date	Ref. No.	Reviser
01	N/A	Initial Released	11/29/2017	N/A	Z.Q.Jiang

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■ ELECTRICAL CHARACTERISTICS

➤ FREQUENCY

	Parameter	Min.	Typ.	Max.	Units	Test Condition
1-1	Nominal Frequency	30.000000			MHz	
1-2	Frequency stability (Overall)	-50		50	ppm	Frequency stability includes frequency tolerance@25°C and frequency stability vs. operating temperature range and voltage variance and first year aging.
	1-2-1 Aging	-3		+3	ppm	Frequency drift in first year
1-3	Operating Temperature range	-40		85	°C	The operating temperature range over which the frequency stability is measured.
1-4	Storage Temperature range	-55		125	°C	

➤ POWER SUPPLY

	Parameter	Min.	Typ.	Max.	Units	Test Condition
2-1	Supply voltage	2.97	3.3	3.63	V	
2-2	Current			10	mA	At maximum supply voltage

➤ OUTPUT

	Parameter	Min.	Typ.	Max.	Units	Test Condition
3-1	Output waveform	CMOS				
3-2	Duty Cycle	45	50	55	%	
3-3	Start Time			5	mSec	
3-4	Transition Time : Rise/Fall Time			5	nSec	
3-5	Output	Output High(Logic "1")	2.97		V	
3-6	Level	Output Low(Logic "0")		0.33	V	
3-7	Output Load			15PF	pF	
3-8	Tri-State	Output Active	2.31 or Floating		V	Pin 1 Tri-state
3-9		Output in High-Impedance state		0.99	V	

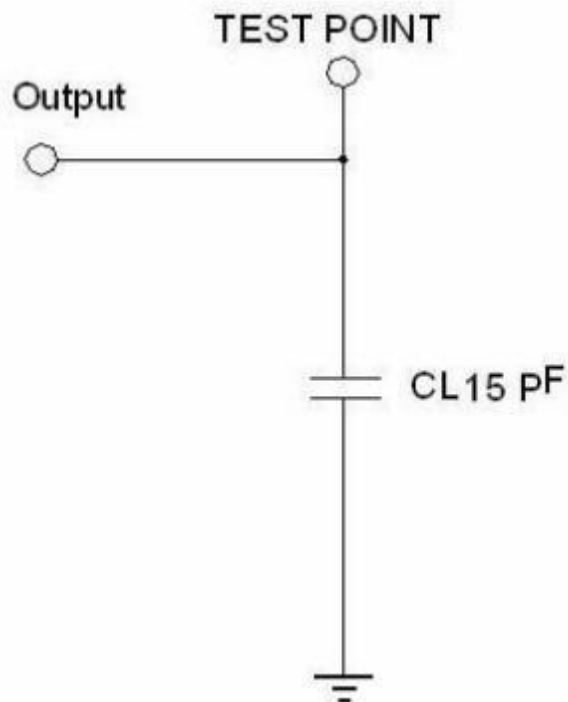
■ CUSTOMER SPECIAL REQUIREMENT

3.3V
4

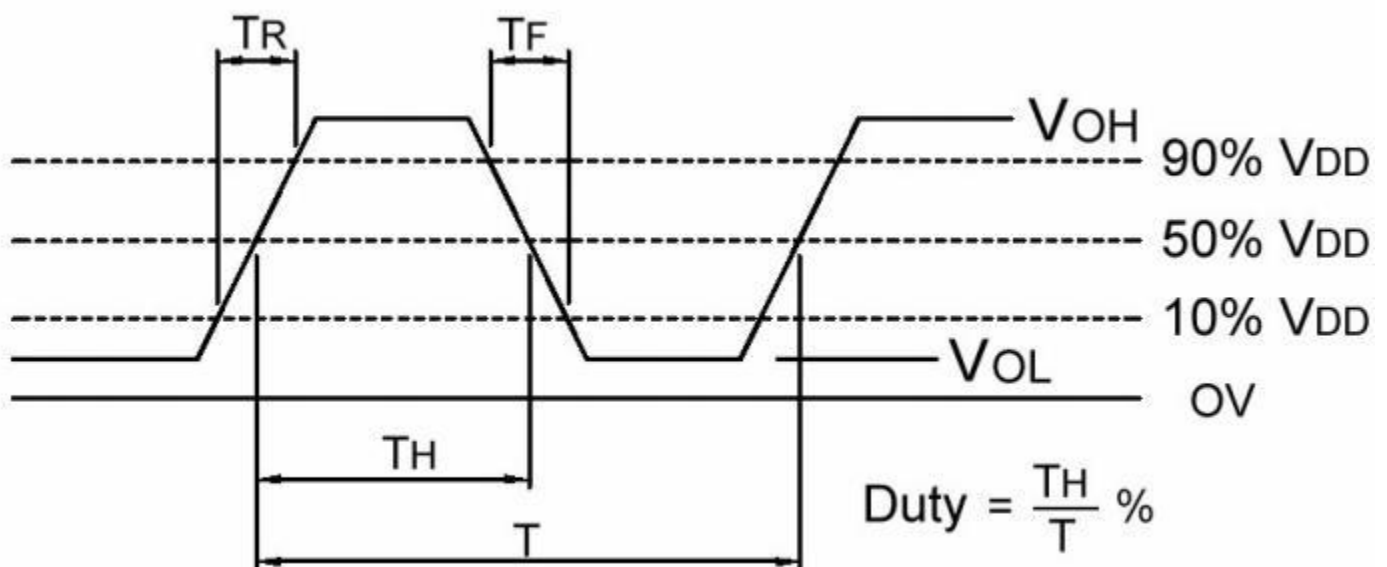
■ ENVIRONMENTAL

	Parameter	Reference Std.	Test Condition
5-1	Vibration Test	MIL-STD-883 2007 Condition A JESD22-B103 Condition 1	10~2000Hz, 1.52mm, 20g, each axis for 4 hrs
5-2	Thermal Shock	MIL-STD-883 1010 Condition B JESD22-A104 Condition B	-55°C , 125°C; soak time is 10 mins, with total 200 cycles
5-3	Mechanical Shock	MIL-STD-883 2002 Condition B JESD22-B104 Condition B	1500g, half-sine, 0.5ms, each axis for 3 times.

■ TEST CIRCUIT (CMOS LOAD)



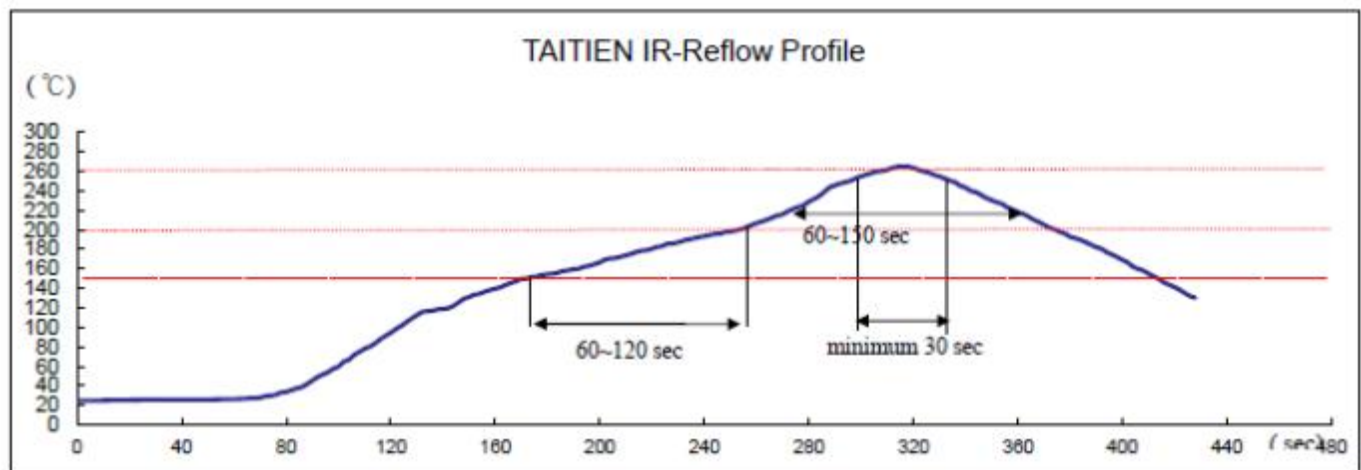
■ OUTPUT WAVEFORM (CMOS LOAD)



■ RECOMMENDED IR REFLOW PROFILE

- IR REFLOW PROFILE OF CERAMIC SMD PRODUCTS FOR Pb FREE PROCESS

TAITIEN ELECTRONICS CO., LTD.



Reference Standard: JEDEC-STD 020

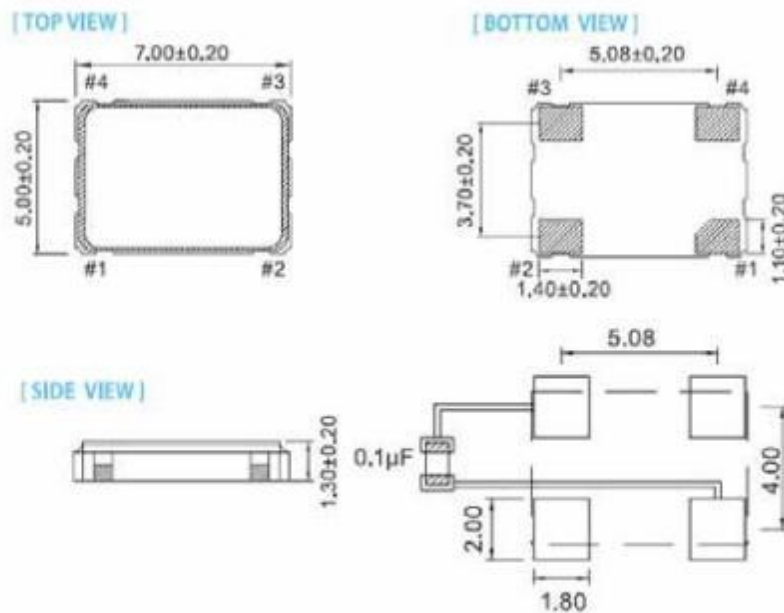
Test conditions: Pre-heating : 150°C to 200°C, 60~120secs.

Heating : 217°C, 60~150sec.

Peak temperature at least : 260°C, The time above 255 °C : minimum 30sec.

■ PRODUCT DIMENSIONS

➤ DIMENSIONS



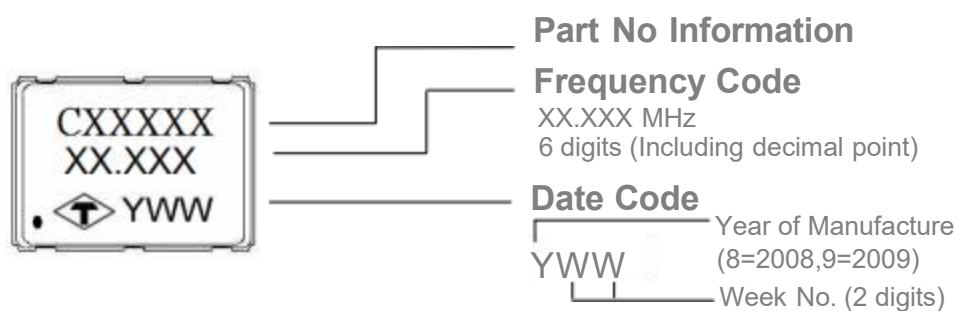
To ensure optimal oscillator performance, place a by-pass capacitor of $0.1\mu\text{F}$ as close to the part as possible between VDD and GND pads.

➤ PIN FUNCTIONS

Pin	Function
#1	Tri-State
#2	GND
#3	Output
#4	VDD

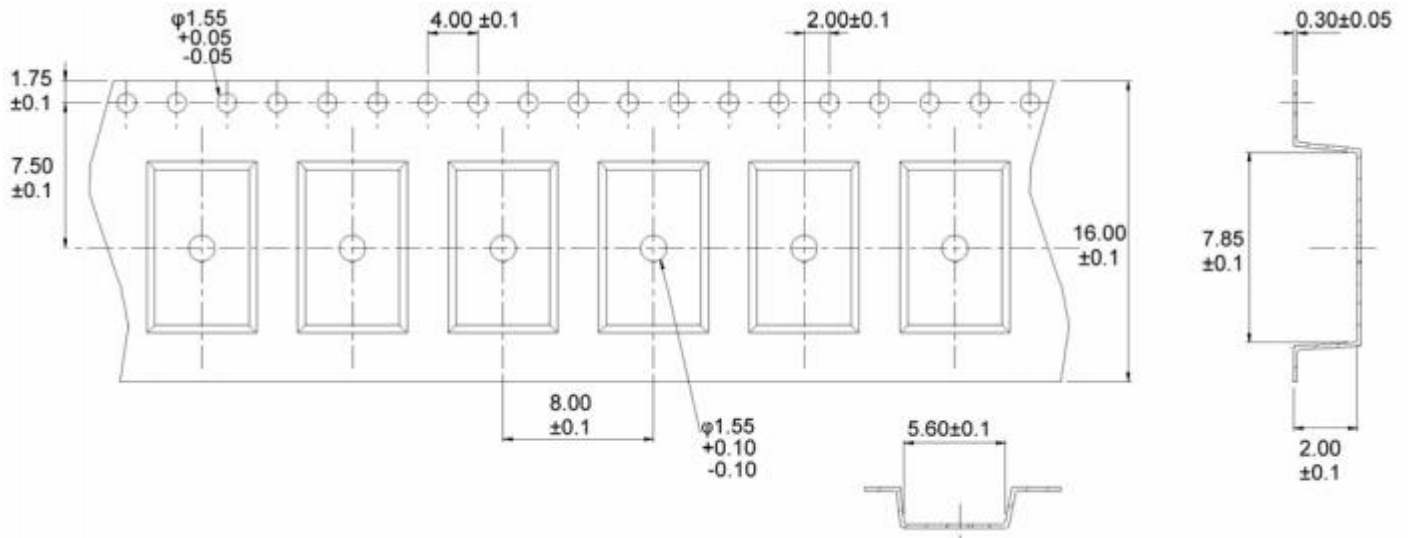
■ PRODUCT IDENTIFICATION (MARKING)

➤ PROCEDURE : LASER

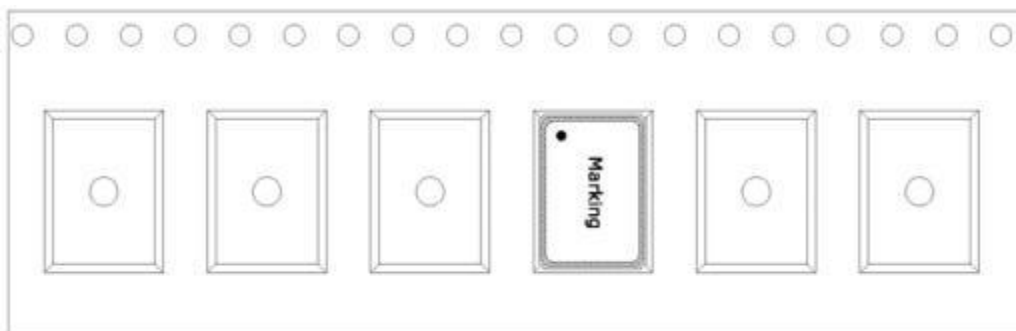


■ PACKAGE INFORMATION

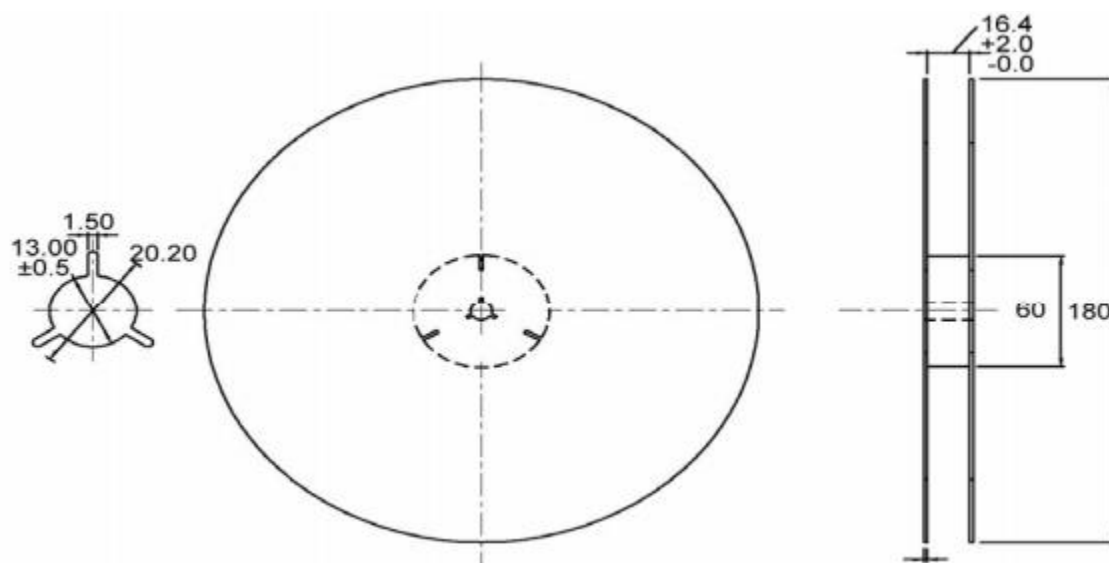
➤ TAPE (CARRIER) DIMENSIONS



➤ THE DIRECTION OF PACKING



➤ REEL DIMENSIONS



Unit:mm

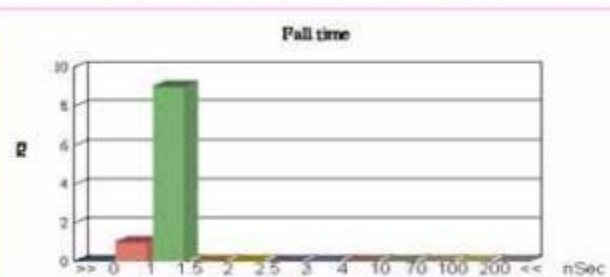
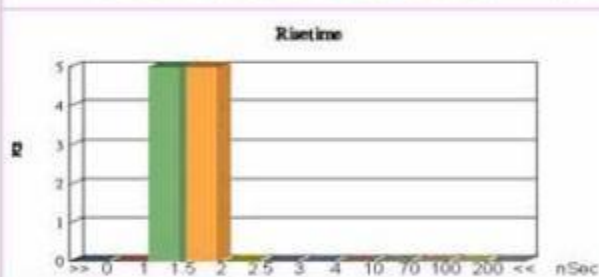
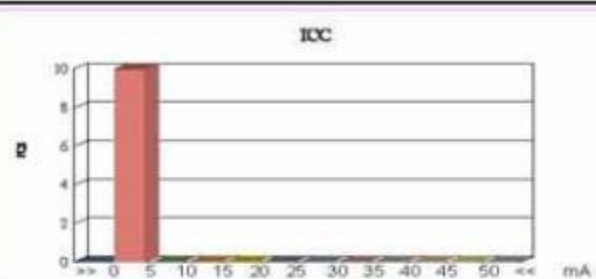
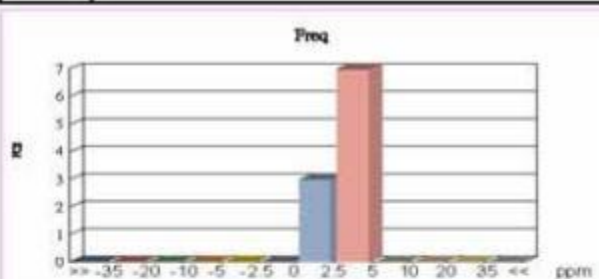
■ ATTACHMENT

➤ ELECTRICAL CHARACTERISTICS TEST

TAITIEN ELECTRONICS CO., LTD

OSC-TYPE OQC REPORT

LotNo	SA2-171200124	Customer		Custpo					
OrderNo	DLX-TYDZ-201711250	Noc	OC003000000013334130	Model	OCETGLIANF	OrderQty	1000	(pcs)	
SZ No	NW1-171200002-011	Freq	30.000000 (MHz)	D/C	749	TestQty	10	(pcs)	
Level	首單普通	Vdd	3.3 (V)	Temp	25±2℃	Date	2017/12/7	Tester	H0505283
[105B SAMPLING]				NG QTY	SAMP SIZE	Ac	Re	Result	
ELECTRICAL				0	10	0	1	OK	
VISUAL(MECHANICAL)				0	10	0	1	OK	
FINE&GROSS LEAK				0	10	0	1	OK	
MARKING				0	10	0	1	OK	
	Freq VDD(1-10%)	Freq VDD	Freq VDD(1+10%)	ICC	RiseTime	Fall Time	Start Time	Duty	Tri
Unit	PPM	PPM	PPM	mA	nSEC	nSEC	mSEC	%	
Cus.spec	0/0	50/-50	0/0	10	5.0/0.0	5.0/0.0	5	55.0/45.0	
UCL	0	22	0	10	5.0	5.0	5.0	55.0	T
LCL	0	-22	0	0	0.0	0.0	0.0	45.0	
Average	—	2.97	—	2.69	1.54	1.15	0.05	48.92	T
STD	—	1.34	—	0.01	0.25	0.16	0.00	0.78	
MAX	—	4.78	—	2.71	1.97	1.43	0.05	49.69	
MIN	—	0.27	—	2.66	1.15	0.88	0.05	47.01	
CA	—	13.50	—	—	—	—	—	—	
CP	—	5.47	—	—	—	—	—	—	
CPK	—	4.73	—	—	—	—	—	—	
Remark									



SUPERVISOR:

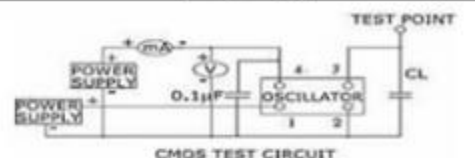
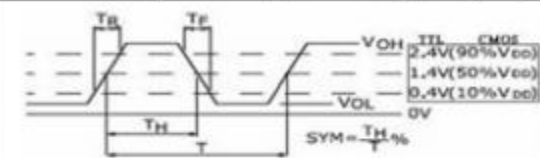


INSPECTOR:



TAITIEN ELECTRONICS CO., LTD

OSC-TYPE OQC REPORT

SZ NO	NW1-171200002-011		SPEC NO	13334L1303		MODEL	OCETGLJANF		TestDate	2017/12/7		Temp	25±2℃	
CUSTPN			Frequency	30.000000 (Mhz)		VDD	3.3 (V)		WaveForm	CMOS		CL	15 pf	
Test Circuit						WaveForm								
	CMOS TEST CIRCUIT						SYMBOL = $\frac{T_H}{T} \%$							
	Freq VDD(1-10%)	Freq VDD	Freq VDD(1+10%)	ICC	Rise Time	Fall Time	Start Time	Duty	Tri	Result				
Unit	PPM	PPM	PPM	mA	nSEC	nSEC	mSEC	%						
Max	0	22	0	10	5	5	5	55						
Min	0	-22	0	0	0	0	0	45						
1		3.39		2.66	1.76	1.02	0.05	47.01	T	OK				
2		4.78		2.68	1.97	1.43	0.05	48.39	T	OK				
3		0.27		2.69	1.43	1.30	0.05	49.21	T	OK				
4		2.74		2.67	1.46	0.88	0.05	48.99	T	OK				
5		2.82		2.69	1.58	1.05	0.05	49.25	T	OK				
6		3.43		2.69	1.70	1.14	0.05	48.61	T	OK				
7		1.79		2.70	1.26	1.26	0.05	49.23	T	OK				
8		4.58		2.69	1.69	1.05	0.05	49.69	T	OK				
9		2.16		2.70	1.35	1.25	0.05	49.61	T	OK				
10		3.73		2.71	1.15	1.15	0.05	49.18	T	OK				
Average	—	2.97	—	2.69	1.54	1.15	0.05	48.92						
STD	—	1.34	—	0.01	0.25	0.16	0.00	0.78						
MAX	—	4.78	—	2.71	1.97	1.43	0.05	49.69						
MIN	—	0.27	—	2.66	1.15	0.88	0.05	47.01						
CA	—	13.50	—	—	—	—	—	—						
CP	—	5.47	—	—	—	—	—	—						
CPK	—	4.73	—	—	—	—	—	—						

SUPERVISOR:



INSPECTOR:



ATTACHMENT

SUBSTANCE ANALYSIS LIST OF RAW MATERIAL

TAITIEN ELECTRONICS CO.,LTD.
原材料有害物質成分分解表(Hazardous Substance Analysis List of Raw Material)

型號Model: OC type

零件編號: weight: 159.85 ± 20N mg

部品名稱 Part Name	數量 Qty	材質材料 Homogeneous Material	成分 - 化學 (Composition - Chemical Element)	物質材料重量 Material Mass (g/pcs)	物質百分比 Substance Percentage (%)	CAS No.	物質材料供應商 Material Supplier	檢測機構 Test Institution	檢測報告編號 Test report No.	送檢日期 Test date	有害物質檢測式代碼的含量 (ppm) Hazardous substances content										對應輸入的 檢驗報告 Corresponding inspection report
											Pb	Cd	Hg	Cu	PFOS	PFOA	CS	Bi	PPDS	PFDA	
BASE	SPCS	Ceramic	K2O3	88.97	92.90	1344-28-1	KYOCERA	CTI	ECL01J024899001	05/11/2017											
			Q2O8	0.65	0.70	1208-59-9					NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
			Mo	0.09	0.09	3409-86-7															
			SiO2	4.30	4.50	14808-40-7															
			CaO	0.01	0.70	1305-78-8															
		Metallizing	MgO	0.57	0.80	1309-48-4			ECL01J024899004R1	05/15/2017	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
			Bi	11.28	97.00	7440-39-7															
			Nb	0.20	0.00	7429-90-7															
			Al	0.50	100.00	7440-19-6					NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
			Ni	1.40	60.00	7440-02-0															
		Plate-Al	Cu	0.26	19.00	7440-48-4			ECL01J024899002	05/11/2017	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
			Cu	3.53	17.00	7440-48-4															
			Fe	11.21	54.00	7439-89-6															
		Gold Ring	Ni	0.02	26.00	7440-02-0			ECL01J024899005R1	05/12/2017	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
			Ag	3.50	65.00	7440-22-4															
			Cu	6.82	15.00	7440-48-4															
Cover	SPCS	Kovar	Cu	0.11	0.50	7440-48-4	WANOTECH	PONY	BLCHLUS05512104	03/03/2017	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
			Fe	10.02	56.70	7439-89-6															
			Nb	0.10	0.00	7429-90-7															
			Ni	0.05	42.00	7440-02-0															
Base	SPCS	Quartz	SiO2	2.81	100.00	14808-40-7	麥德隆材料	SGS	CANEIC1719920101/03	10/17/2017	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
IC	SPCS	Silicon	Si	0.26	100.00	7440-21-3	矽C	SGS	CEI0017/7285	07/20/2017	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Adhesive	-	3309G	Ag	0.74	74.00	7440-22-4	THREE BOND	SGS	SHAEC1701123403	04/19/2017	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
			SiO2	0.10	10.00	14808-40-7															
			CH3COOH	0.01	1.00	64-19-7															
		3309F	Epoxy resin	0.10	10.00	-			SHAEC1710579501	01/04/2017	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
			Epoxy resin	0.10	20.00	-															
Electrode	-	Weld-In	Ni	0.00	100	7440-02-0	臺灣光電	CTI	ECL01J0347001	08/09/2017	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Ag	-	Ag	Ag	0.22	100	7440-19-6	臺灣光電	SGS	SHAEC1710749400 A01	08/11/2017	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Electrode	-	Ag	Ag	0.32	100	7440-22-4	臺灣光電	CTI	ECL01J048801001E	08/09/2017	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	