TXC CORPORATION

4F, NO. 16, Sec. 2 Chung Yang S Rd., Peitou, Taipei, Taiwan.

TEL : 886-2-2894-1202 , 886-2-2895-2201 FAX : 886-2-2894-1206 , 886-2-2895-6207 www.txccorp.com

SPECIFICATION FOR APPROVAL

CUSTOMER	:	
PRODUCT TYPE	:	SMD SEAM SEALING CXO 7.0×5.0
NOMINAL FREQ.	:	155.520000MHz
TXC P/N	:	7WA5502001
REVISION	:	S1
CUSTOMER P/N	:	
PM / SALES	:	
DATE	:	

CUSTOMER SIGNATURE & Date

(1) TXC requires one copy returned with signature and title of authorized individual that signifies acceptance of the attached specifications.

(2) Orders received and accepted by TXC after return of signed copy of specification will be produced per these specifications.

(3) Any changes to these specifications must be agreed upon by both parties and new revision of the Product Specification Sheet will be issued.

(4) Any issuance of purchase order prior to consigning back the Approval page of "Specification Sheets" from customers will be regarded as the agreement on the contents of these specifications.

Attachment(s):

- [V] 1. Product Specification Sheet
- [ ] 2. Testing Report(Electrical & Temperature)
- [ ] 3. Reliability Report

RoHS Compliant

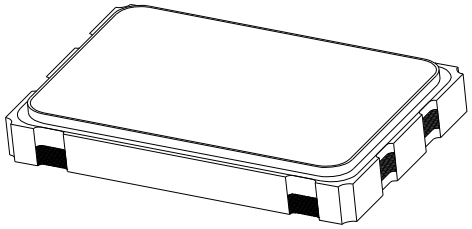
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PRODUCT SPECIFICATION SHEET

PRODUCT TYPE	:	SMD SEAM SEALING CXO 7.0×5.0
NOMINAL FREQ.	:	155.520000MHz
TXC P/N	:	7WA5502001
REVISION	:	S1



PE/RD	QA	MFG
Oscar Chen		
6-Aug-14		

NOTE:

(1) The green product standard set by TXC is based upon the international standards. Related information is publicly described on the TXC's Website, and updated regularly. The document is compliant with the latest green product quality system directives at the time.

(2) Revision "Sx" is for engineering samples only. PE/RD's approval required.

(3) Revision "Ax" is production ready. PE, QA and MFG's approval required.

RoHS Compliant

TXC CORPORATION

PRODUCT TYPE :SMD SEAM SEALING CXO 7.0×5.0 P/N： 7WA5502001 REVISION： S1

Rev	Revise page	Revise contents	Date	Ref.No.	Reviser
S1	N/A	Initial released	6-Aug-14	N/A	Yachuan Miao

TXC CORPORATION

PRODUCT TYPE :SMD SEAM SEALING CXO 7.0×5.0 P/N： 7WA5502001 REVISION： S1

■ ELECTRICAL SPECIFICATIONS

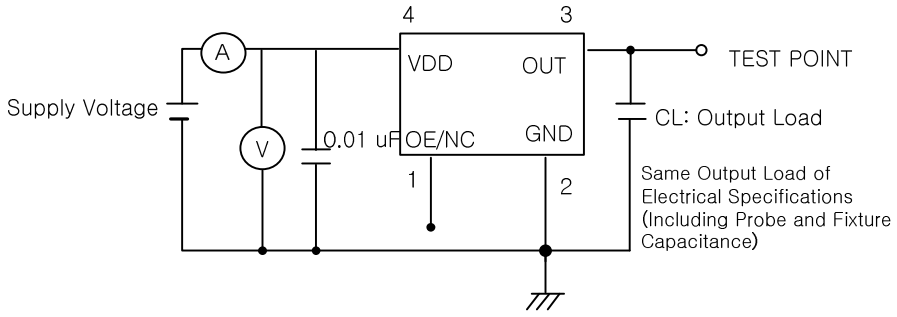
	Parameters	Condition	Electrical Specifications			
			Min.	Typ.	Max.	Units
1	Nominal Frequency			155.520000		MHz
2	Oscillation Mode			3rd Overtone		
3	Operating Temperature		-40	~	85	℃
4	Storage Temperature		-55	~	125	℃
5	Frequency Stability	Note 1	-	-	±50	ppm
6	Supply Voltage (+3.3 V)		2.97	3.3	3.63	V
7	Current Consumption		-	-	50	mA
8	Standby Function			YES		-
9	Output Type			CMOS		-
10	Output Load			15		pF
11	Output Voltage High +25 ℃		90%Vdd	-	-	V
12	Output Voltage Low +25 ℃		-	-	10%Vdd	V
13	Rise Time	10%~90% Output Swing	-	-	5	nS
14	Fall Time	90%~10% Output Swing	-	-	5	nS
15	Symmetry or Duty Cycle		40	50	60	%
16	Start-up Time	To 90% of Final Amplitude	-	-	10	mS
17	Enable Voltage High (Logic 1)	Note 2	70%VDD	-	-	V
18	Enable Voltage Low (Logic 0)	Note 2	-	-	30%VDD	V
19	Aging	1st. Year at 25℃		±3		ppm
20	Output Enable Delay Time		-	-	500	μS
21	Output Disable Delay Time		-	-	500	μS
22	Phase Jitter		-	-	1	pS

Note 1：Inclusive of frequency tolerance at 25degC, variation over temperature, supply voltage variation, aging and vibration.

Note 2：Output will be enable if OE is Logic 1 or open ; Output will be disable if OE is Logic 0.

Note 3：The standard testing environment except temperature test is 25±5°C, 40%~70% relative humidity.

■ TESTING CIRCUIT



Testing Circuit Note:

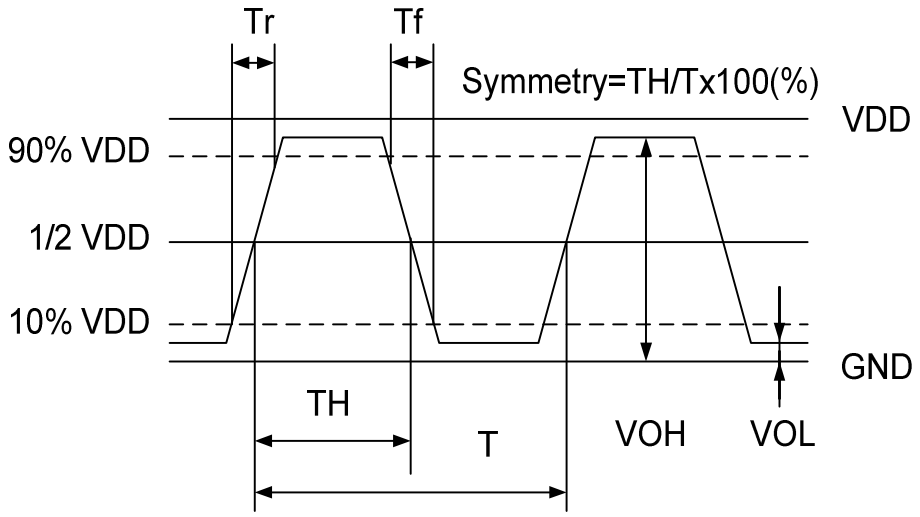
(1) Above testing circuits cover all the specfications except temperature test & Jitter measurement.

(2) All the testing equipments are 50Ohm terminal.

(3) OE/NC terminal is open connection except OE function test.

■ WAVEFORM CONDITIONS

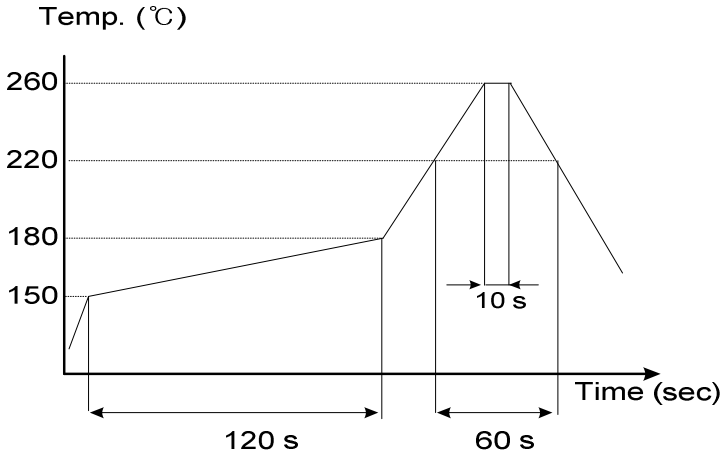
Waveform measurement system should have a min. bandwidth of 5 times the frequency being tested.



■ SUGGESTED REFLOW PROFILE

Total time : 200 sec. Max.

Solder melting point :220 ℃

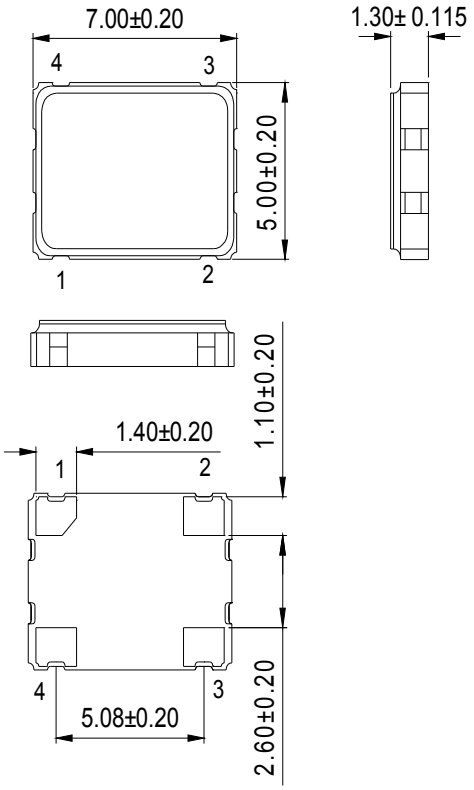


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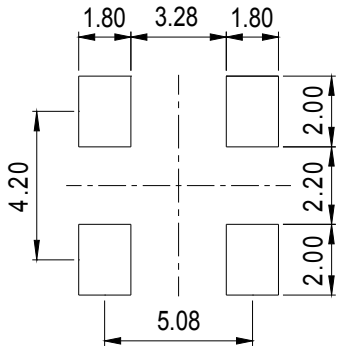
■ DIMENSIONS

(Unit:mm)

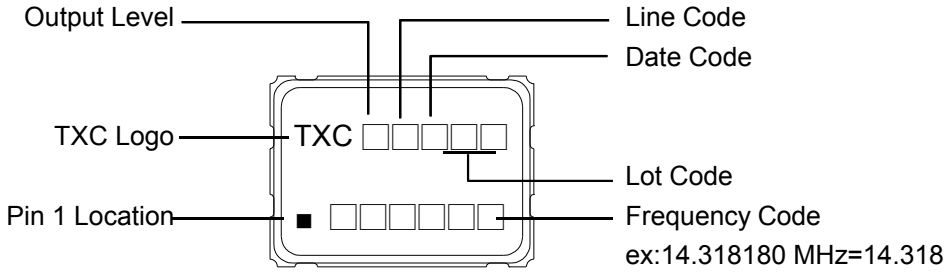


PAD FUNCTION:
1: ENABLE CONTROL OR NC
2: GND
3: OUT
4: VDD

Suggested Layout



■ MARKING



Output Level:

V_{DD}(V)	5.00	3.30	2.80	2.50	1.80	2.90	3.00	2.85	2.60	2.55	2.00	1.50	2.70	3.40	1.90	1.20	1.00
CODE	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S

Date Code:

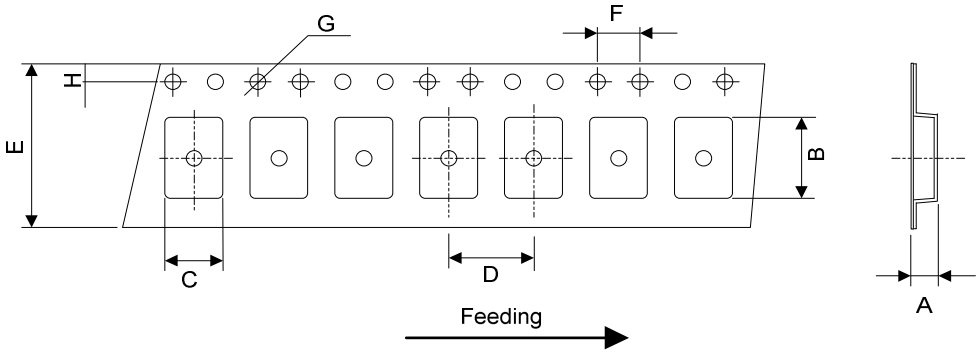
YEAR \ MONTH				JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2005	2009	2013	2017	A	B	C	D	E	F	G	H	J	K	L	M
2006	2010	2014	2018	N	P	Q	R	S	T	U	V	W	X	Y	Z
2007	2011	2015	2019	a	b	c	d	e	f	g	h	j	k	l	m
2008	2012	2016	2020	n	p	q	r	s	t	u	v	w	x	y	z

*This date code will be cycled every four years

TXC CORPORATION

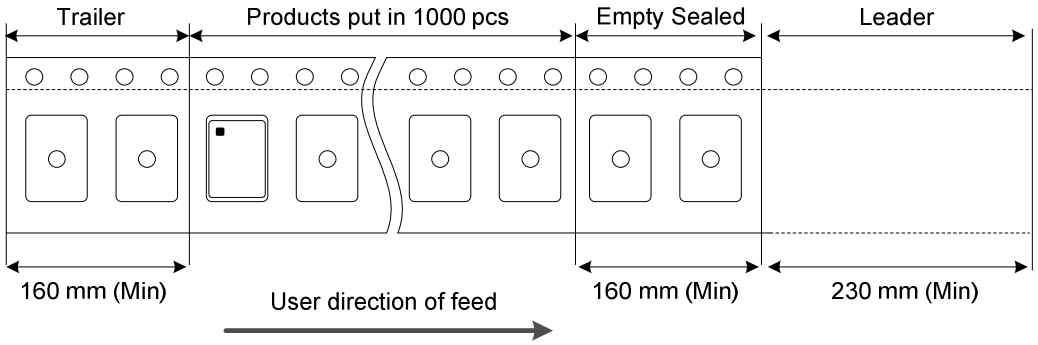
PRODUCT TYPE :SMD SEAM SEALING CXO 7.0×5.0 P/N： 7WA5502001 REVISION： S1

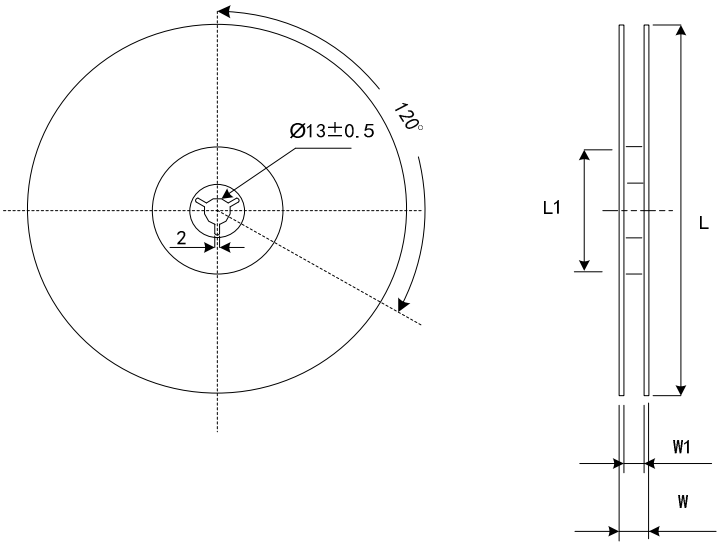
■ TAPE & REEL



	A	B	C	D	E	F	G	H	
DIMENSIONS	2.00 ±0.10	7.90 ±0.10	5.45 ±0.10	8.00 ±0.10	16.00 ±0.30	4.00 ±0.10	1.50 +0.1/0	1.75 ±0.10	(UNIT:mm)

Remark:



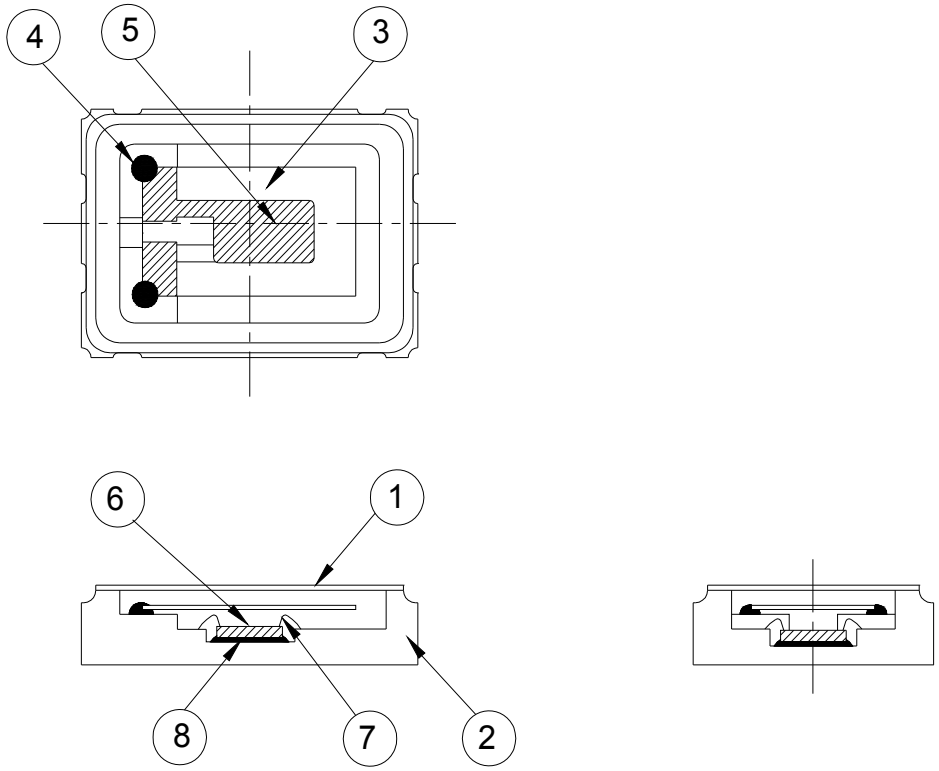


	L	L1	W	W1	
DIMENSIONS	180 ±1.00	62 ±0.50	20.5 ±0.2	16 +1/-0	Standard Reel Quantity is 1,000 pcs per reel (UNIT:mm)

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■ STRUCTURE ILLUSTRATION



NO	COMPONENTS	MATERIALS	FINISH/SPECIFICATIONS
1	LID	Kovar (Fe/Co/Ni)	-
2	Base(Package)	Ceramic (Al_2O_3) + Kovar (Fe/Co/Ni)+Pad (Au)	Color black
3	Crystal blank	SiO_2	-
4	Conductive adhesive	Ag	Silicon resin
5	Electrode	Noble Metal	-
6	IC chip	-	-
7	Bonding wire	Au	Pad 1 options : NC is 5 wires , EN is 6 wires.
8	Die attached	Conductive (Ag)	Epoxy resin

■ WEIGHT:

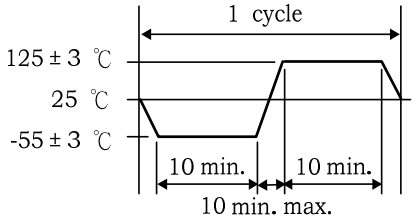
0.152±0.001 g/pcs

■ RELIABILITY SPECIFICATIONS

1.Mechanical Endurance

No.	Test Item	Test Methods		REF. DOC
1.1	Drop Test	75 cm height, fall freely onto concrete floor 3 times.		JIS C6701
1.2	Mechanical Shock	Device are shocked to half sine wave (1000 G) three mutually perpendicular axes each 3 times. 0.5m sec. duration time		MIL-STD-202
1.3	Vibration	Frequency range Amplitude Sweep time Perpendicular axes each test time	10 ~ 2000 Hz 1.52 mm/20G 20 minutes 4 Hrs (Total test time 12 Hrs)	MIL-STD-883
1.4	Gross Leak	Standard Sample For Automatic Gross Leak Detector, Test Pressure: 2kg / cm^2		MIL-STD-883
1.5	Fine Leak	Pre-condition - Helium Bomging 4.5 Kgf / cm2 for 2 hrs Tested by mass-spectrumeter		
1.6	Solderability	Temperature Immersing depth Immersion time Flux	245 ℃ ± 5℃ 0.5 mm minimum 5 ± 1 seconds Rosin resin methyl alcohol solvent (1 : 4)	MIL-STD-883

2.Environmental Endurance

No.	Test Item	Test Methods		REF. DOC
2.1	Resistance To Soldering Heat	Pre-heat temperature Pre-heat time Test temperature Test time	125 ℃ 60 ~ 120 sec. 260 ± 5 ℃ 10 ± 1 sec.	MIL-STD-202
2.2	High Temp. Storage	+ 125 ℃ ± 3 ℃ for 1000 Hrs		MIL-STD-883
2.3	Low Temp. Storage	- 40 ℃ ± 3 ℃ for 1000 Hrs		
2.4	Thermal Shock (Air to Air)	Total 100 cycles of the following temperature cycle 		MIL-STD-883
2.5	Pressure Cooker Test	120 ± 3℃ , RH100% , 2 bar ,for 240 Hrs		EIA-JESD22
2.6	High Temp＆Humidity	85℃ ± 3℃, RH 85% , 1000 Hrs		EIA-JESD22
2.7	Aging	85℃ ± 3℃, Voltage input by specification, 1000 Hrs		EIA-JESD22