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 CMOS OSCILLATOR 3.2×2.5
NOMINAL FREQ.	:	12.288000MHz
TXC P/N	:	TC12200001
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

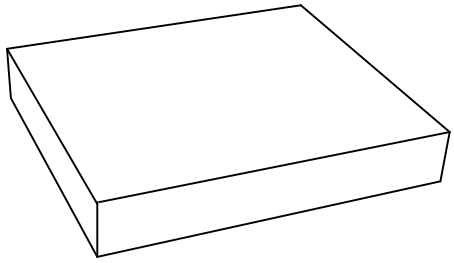
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PRODUCT SPECIFICATION SHEET

PRODUCT TYPE	:	SMD CMOS OSCILLATOR 3.2×2.5
NOMINAL FREQ.	:	12.288000MHz
TXC P/N	:	TC12200001
REVISION	:	S1



PE/RD	QA	MFG
張鏡瑋		
17-Feb-12		

NOTE:

(1) Lead Free Products are "Directive 2002/95/EC of The European Parliament of 27 January 2003 on the restriction of the use of certain hazardous substances (RoHS) in electrical and electronic equipment" Compliant (Attachment: SGS Test Report).

(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

Rev	Revise page	Revise contents	Date	Ref.No.	Reviser
S1	N/A	Initial released	17-Feb-12	N/A	Yachuan Miao

■ ELECTRICAL SPECIFICATIONS

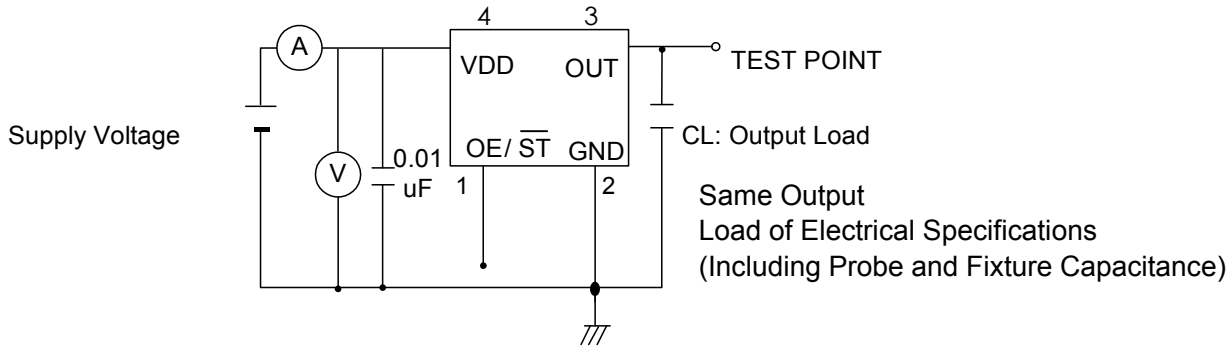
	Parameters	Symbol	Condition	Electrical Specifications			
				MIN	TYP	MAX	UNITS
1	Nominal Frequency	-			12.288000		MHz
2	Operating Temperature	Topr		-40	~	85	℃
3	Storage Temperature	Tstg		-55	~	125	℃
4	Frequency Stability	-	Note 1		±25		ppm
5	Supply Voltage	VDD		2.97	3.3	3.63	V
6	Current Consumption	Icc		-	-	20	mA
7	Output Type	-			CMOS		
8	Output Load	CL			15		pF
9	Output Voltage High	VoH		90%VDD	-	-	V
10	Output Voltage Low	VoL		-	-	10%VDD	V
11	Rise Time	Tr	10%→90%VDD Level	-	-	10	nS
12	Fall Time	Tf	90%→10%VDD Level	-	-	10	nS
13	Symmetry or Duty Cycle	TH/T		40	50	60	%
14	Start-up Time	Tosc		-	-	10	mS
15	Enable Voltage High (Logic 1)	Vhi	Note 2	70%VDD	-	-	V
16	Disable Voltage Low (Logic 0)	Vlo	Note 2	-	-	30%VDD	V
17	Aging	-	1st.Year at 25℃		±3		ppm
18	Output Disable Time	T off		-	-	150	μS
19	Output Enable Time	T on		-	-	150	μS

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

Note 2 Output will be enable if OE/$\overline{ST}$ is Logic 1 or open ; Output will be disable if OE/$\overline{ST}$ is Logic 0.

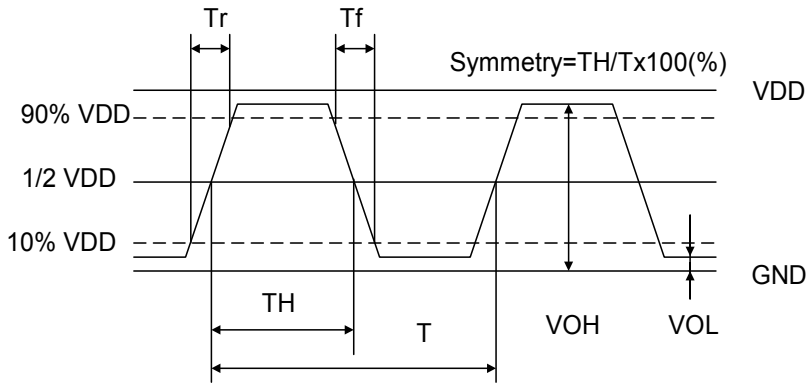
Note 3 The standard testing environment except temperature test is 25±5°C, 40%~70% relative humidity.

■ TESTING CIRCUIT



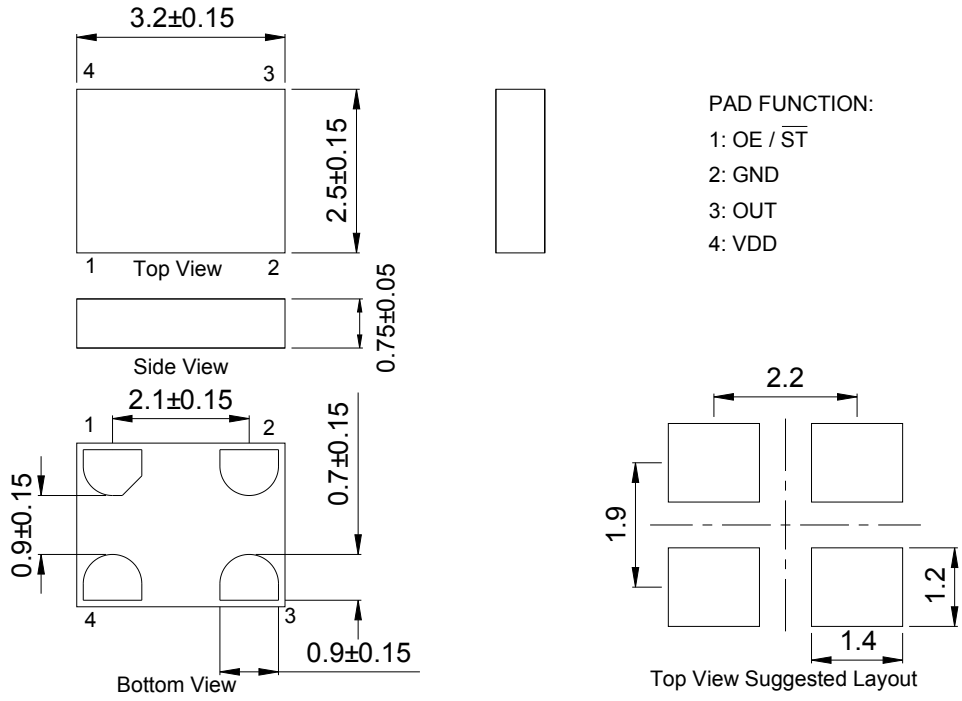
■ WAVEFORM CONDITIONS

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



■ DIMENSIONS

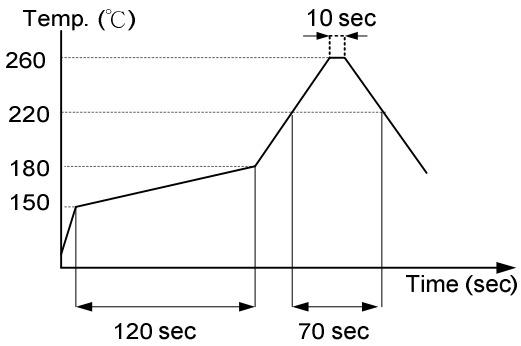
(Unit:mm)



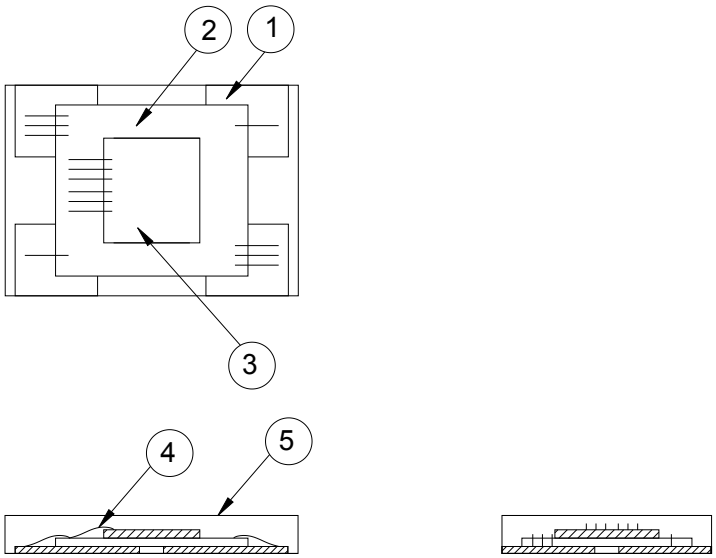
■ SUGGESTED REFLOW PROFILE

Total time : 200 sec. Max.

Solder melting point :220 ℃



■ STRUCTURE ILLUSTRATION

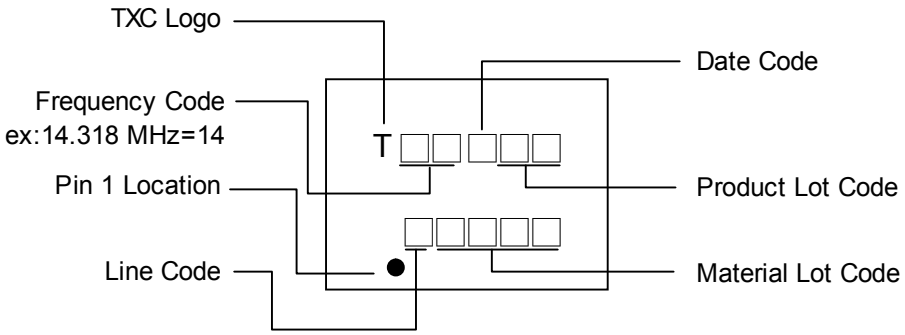


NO	COMPONENTS	MATERIALS	FINISH/SPECIFICATIONS
1	Leadframe	C194 (Copper/ Iron/ Zinc)	-
2	CMOS Chip	Si	-
3	Resonator	Si	-
4	Wire	Au	-
5	Encapsulation	Epoxy Resin (Silica Fused)	Color Black

■ WEIGHT:

0.018±0.002 g/pcs

■ MARKING

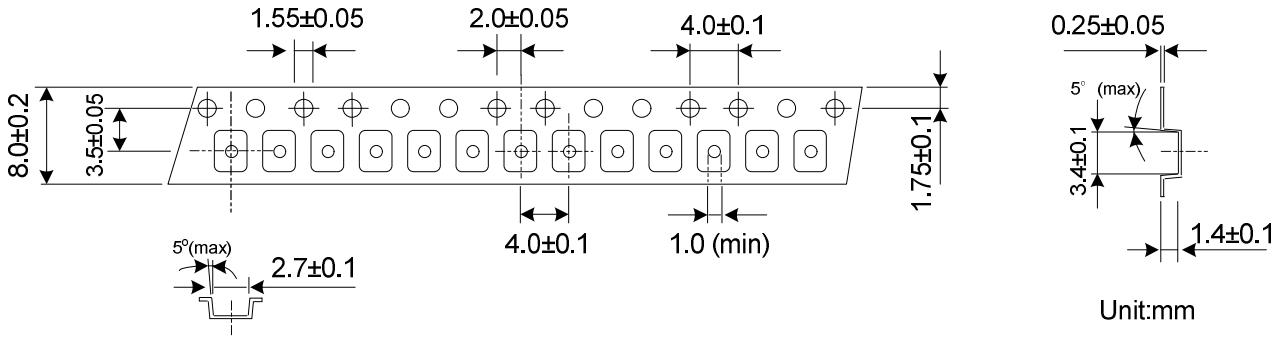


Date Code:

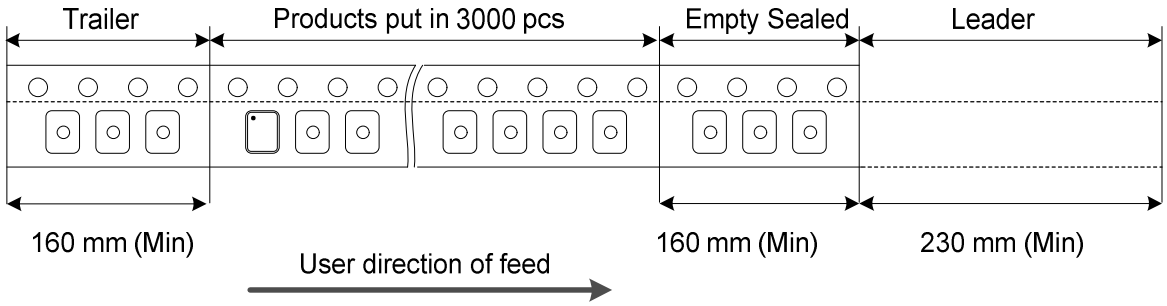
YEAR \ MONTH				JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2005	2009	2013	2017	A	B	C	D	E	F	G	H	J	K	L	M
2006	2010	2014	2018	N	P	Q	R	S	T	U	V	W	X	Y	Z
2007	2011	2015	2019	a	b	c	d	e	f	g	h	j	k	l	m
2008	2012	2016	2020	n	p	q	r	s	t	u	v	w	x	y	z

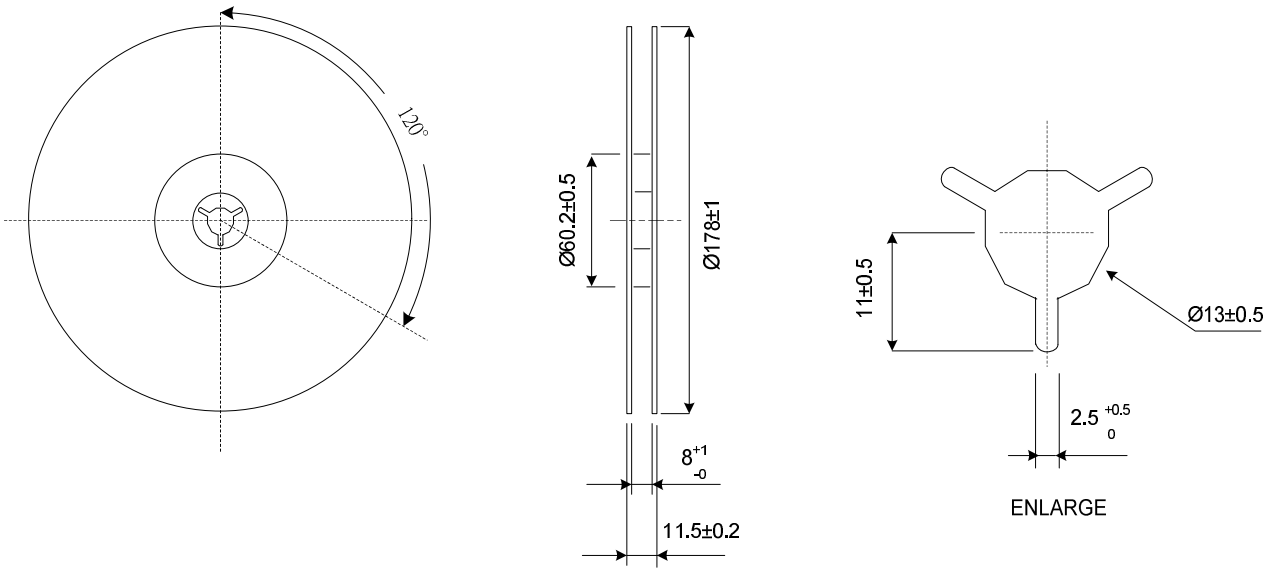
*This date code will be cycled every four years

■ TAPE & REEL

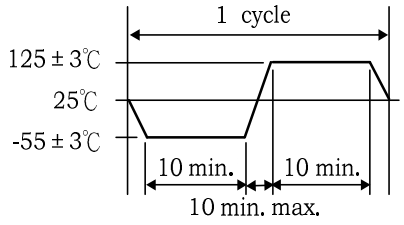


REMARK :





■ RELIABILITY SPECIFICATIONS

No.	Test Item	Test Condition	Test Method
1	Mechanical Shock	Device are shocked to half sine wave (10000 G) three mutually perpendicular axes each 3 times. 0.5m sec. duration time	MIL-STD-883. Method 2002
2	Vibration	Frequency range 10 ~ 2000 Hz Amplitude 1.52 mm/20G Sweep time 20 minute perpendicular axes each test time 4 Hrs (Total test time 12 Hrs)	MIL-STD-883. Method 2007 Condition A
3	Solderability	Temperature 245 ℃ ± 5℃ Immersing depth 0.5 mm minimum Immersion time 5 ± 1 seconds Flux Rosin resin methyl alcohol solvent (1 : 4)	MIL-STD-883. Method 2003
4	Resistance To Soldering Heat	Pre-heat temperature 125 ℃ Pre-heat time 60 ~ 120 sec. Test temperature 260 ± 5 ℃ Test time 30 ± 1 sec.	MIL-STD-202. Method 210. Condition K
5	High Temp. Storage	+ 150 ℃ ± 3 ℃ for 1000 ± 12 Hrs	MIL-STD-883. Method 1008
6	Aging	Biased, Nominal VDD, Temperature: 125 ℃, Duration: 30 days	JESD22 A108
7	Thermal Shock	Total 200 cycles of the following temperature cycle 	MIL-STD-883. Method 1011. Condition B