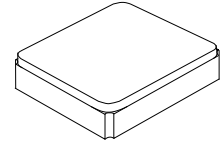


**XTS4201**

**26.000000 MHz**

**TSX**



SM2016-4

## Features:

- Surface Mount Hermetic Package
- Excellent Reliability Performance
- Good Frequency Perturbation and Stability over temperature
- Ultra Miniature Package
- Moisture Sensitivity Level (MSL) : Level-1

## Description and Applications:

Surface mount 2.0mmx1.6mm crystal unit for use in wireless communications devices, especially for a need of ultra miniature package for mobility.

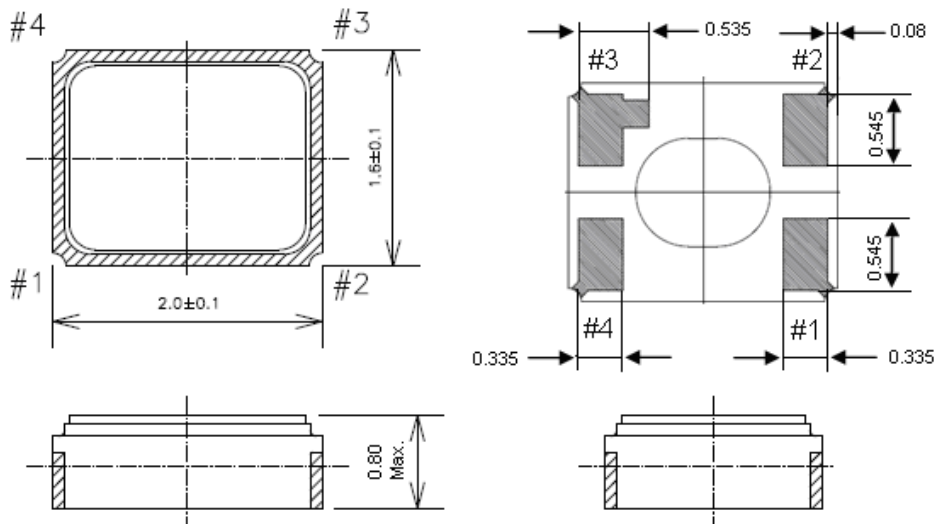
## Electrical Specifications:

<b>XTS4201</b>	<b>Specification(Crystal)</b>
Nominal Frequency	26.000000 MHz
Mode of Oscillation	Fundamental
Storage Temperature Range	-40°C to +105°C
Operating Temperature Range	-40°C to +105°C
<sup>1</sup> Frequency Stability over Operating Temperature Range	-12~10 ppm @ -30°C to 85°C -30~10 ppm @ -40°C to 85°C -30~40 ppm @ -40°C to 105°C
Frequency Make Tolerance (FL)	+/-10 ppm @ 25°C +/- 2°C
Equivalent Series Resistance (ESR)	50 Ω max
Nominal Drive Level	10uW min and 200 uW max
Load Capacitance (CL)	8 pF
Spurious modes resistance within +/- 1MHz	1100 Ohm min
Tuning sensitivity (TS)	12+/-10% ppm/pF
Insulation Resistance at DC 100V	500 MΩ min
Quality Factor	75000 Min.
Full cycle temperature hysteresis	+/- 0.5 ppm ( -40°C to 105°C per 1°C)

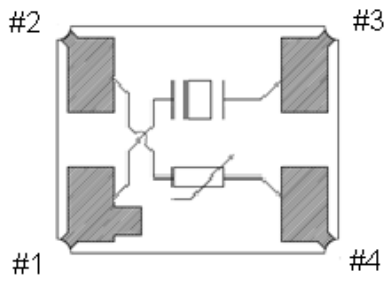
Small cycle temperature hysteresis	+/- 0.2 ppm (-40°C to -30°C per 0.5°C) +/- 0.05 ppm (-30°C to 85°C per 0.5°C) +/- 0.2 ppm (85°C to 105°C per 0.5°C)
Full Cycle Frequency stability slope	+/- 0.1 ppm/°C (-40°C to -30°C per 1°C) +/- 0.05 ppm/°C (-30°C to 85°C per 1°C) +/- 0.1 ppm/°C (85°C to 105°C per 1°C)
Small Cycle Frequency stability slope	+/- 0.25 ppm/°C (-40°C to -30°C per 0.5°C) +/- 0.05 ppm/°C (-30°C to 85°C per 0.5°C) +/- 0.25 ppm/°C (85°C to 105°C per 0.5°C)
Frequency Drift After Reflow	+/- 2.0 ppm after 3 reflows
Aging: First year After 2 year After 5 years After 10 years	+/- 0.7 ppm max +/- 1.4 ppm max +/- 2.5 ppm max +/- 5.0 ppm max
1st order coefficient (C1)	-0.4 to -0.1 ppm/°C
2nd order coefficient (C2)	-4.5 to +4.5 x10 <sup>-4</sup> ppm/°C <sup>2</sup>
3rd order coefficient (C3)	+8.7 to +11.0 x10 <sup>-5</sup> ppm/°C <sup>3</sup>
Inflection point (Ti)	+29 to +32 °C
DLD spec: DLD2 (Max R - Min R) DLDH2 (R Hysteresis) FDLD (Max F - Min F) FDLDH (F Hysteresis)	0.01 uW to 200 uW 2.5 Ω max 1.5 Ω max 6.0 ppm max 0.7 ppm max
Resistance (25°C)	100K +/- 1% Ω
B-constant	4250 +/- 1% k (Evaluated from 25°C to 50°C, 1% tolerance)
Marking	Laser Marking

## Mechanical Dimensions (unit: mm):

Base 1 :

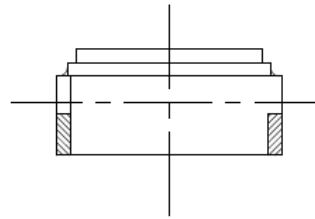
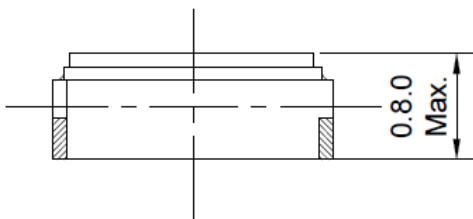
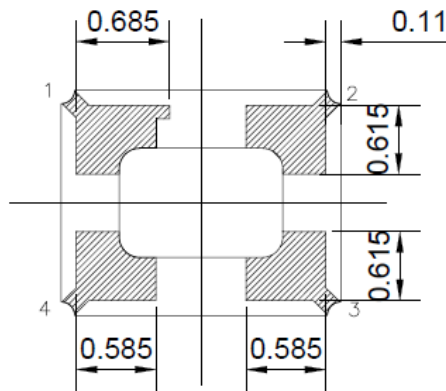
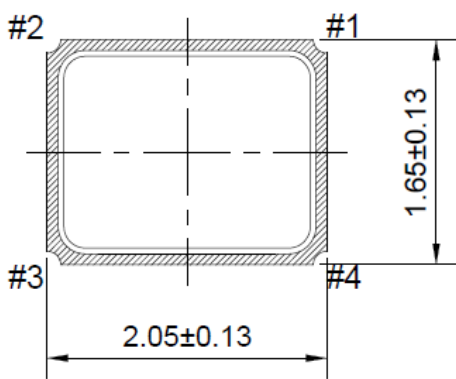


## Terminal land connection (TOP VIEW)

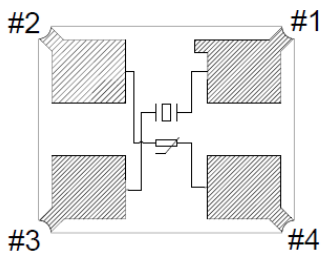


#1	XTAL IN
#2	THERMISTOR OUT, GND
#3	XTAL OUT
#4	THERMISTOR IN

## Base 2 :

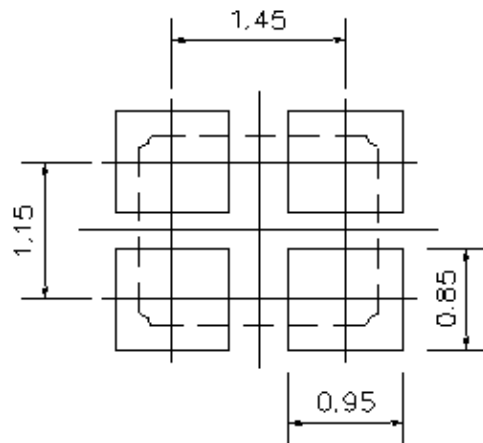


## Terminal land connection (TOP VIEW)



#1	XTAL IN/OUT
#2	THERMISTOR IN
#3	XTAL IN/OUT
#4	THERMISTOR OUT, GND

## Recommended Land Pattern: (unit: mm)

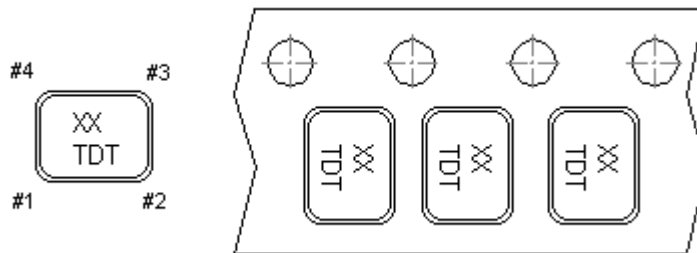


Recommended Land Pattern

## Marking:

Line 1: XX; Frequency (26)

Line 2: T; Traceable Code + D; date Code of Year/Month+ T ; Traceability code (1 or no letter)

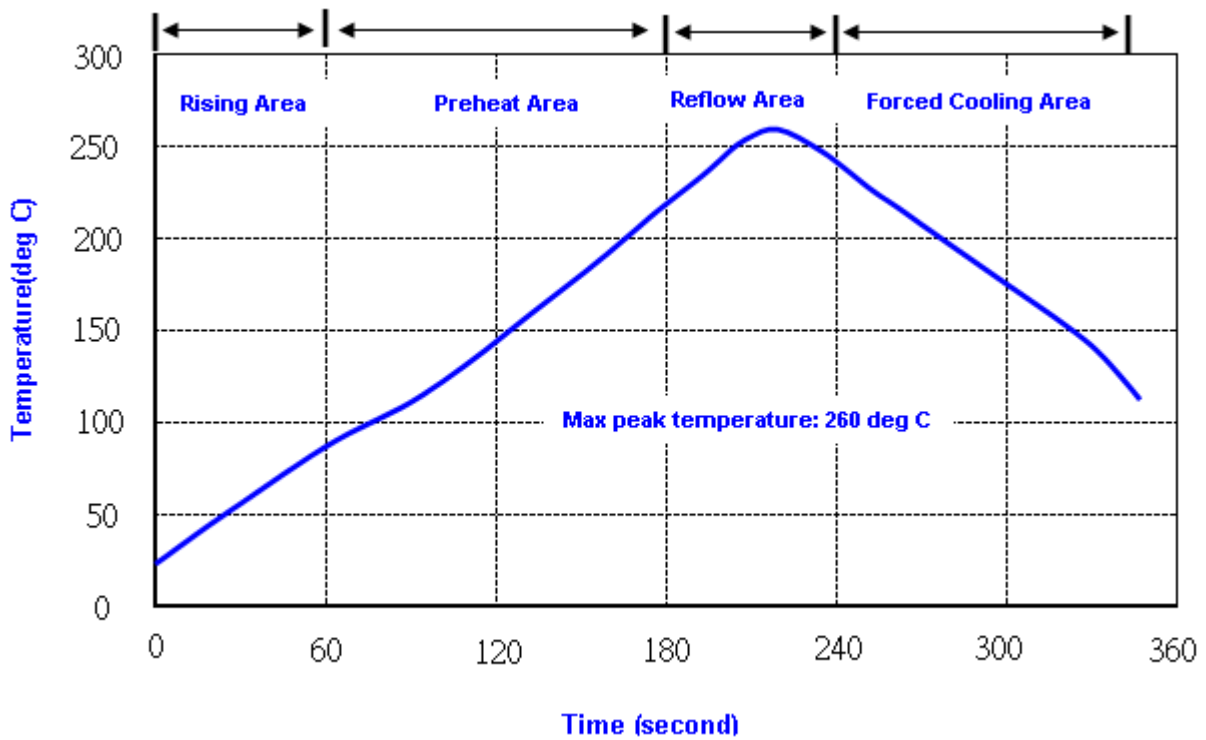


## Date Code Table: Year/Month

Year/Month	1	2	3	4	5	6	7	8	9	10	11	12
2020	a	b	c	d	e	f	g	h	i	j	k	m
2021	n	p	q	r	s	t	u	v	w	x	y	z
2022	A	B	C	D	E	F	G	H	J	K	L	M
2023	N	P	Q	R	S	T	U	V	W	X	Y	Z
2024	a	b	c	d	e	f	g	h	i	j	k	m
2025	n	p	q	r	s	t	u	v	w	x	y	z
2026	A	B	C	D	E	F	G	H	J	K	L	M
2027	N	P	Q	R	S	T	U	V	W	X	Y	Z
2028	a	b	c	d	e	f	g	h	i	j	k	m
2029	n	p	q	r	s	t	u	v	w	x	y	z



## Reflow Profile:



- Note: 1. Max peak temperature: 260 $\pm$ 5 deg C; Time: 10 $\pm$ 2 sec  
2. Temperature: 217 $\pm$ 5 deg C; Time: 90~100 sec

# Reliability Specifications

Test name	Test process / method	Reference standard
<b>Mechanical characteristics</b>		
resistance to Soldering heat (IR reflow)	Temp./ Duration : 260°C /10sec ×2 times Total time : 4min.(IR-reflow)	EIAJED-4701 -300(301)M(II)
Vibration	Total peak amplitude : 1.5mm Vibration frequency : 10 to 55 Hz Sweep period : 1.0 minute Vibration directions : 3 mutually perpendicular Duration : 2 hr / direc.	MIL-STD 202F method 201A
Mechanical Shock	directions : 3 impacts per axis Acceleration : 3000g's, +20/-0 % Duration : 0.3 ms (total 18 shocks) Waveform : Half-sine	MIL-STD 202F method 213C
Solderability	Solder Temperature:265±5°C Duration time: 5±0.5 seconds.	MIL-STD 883G method 2003
<b>Environmental characteristics</b>		
Thermal Shock	Heat cycle conditions -55 °C (30min) ↔ 125 °C (30min) * cycle time : 10 times	MIL-STD 883G method 1010.7
Humidity test	Temperature : 70 ± 2 °C Relative humidity : 90~95% Duration : 96 hours	MIL-STD 202F method 103B
Dry heat ( Aging test )	Temperature : 125 ± 2 °C Duration : 168 hours	MIL-STD 883G method 1008.2 condition C
PCT test	Pressure: 2.06kg/cm <sup>2</sup> (2.03*10 <sup>5</sup> pa) Temperature : 121 ± 2 °C Relative humidity : 100% Duration : 24 hours	EIAJED-4701-3 B-123A



**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

**NOTES:**

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.