CONTINUOUS VOLTAGE SMD TCXO

ATXAIG-H12

Request Samples | Check Inventory | ESD Sensitive | Pb

2.5 x 2.0 x 1.0 mm
RoHS/RoHS II Compliant
MSL Level = 1

Features

- AEC-Q200 Qualified
- TS16949 Production Line Certified
- PPAP Available Upon Request
- Both continuous & fixed Vdd options available

Applications

- Cellular and cordless phones
- Standard oscillator for exact equipment
- Consumer electronics
- Industrial control & automation
- Mobile communication

Electrical Specifications [Note 1]

Parameters	Min.	Typ.	Max.	Units	Notes
Frequency Range	8.0		70	MHz	
Operating Temperature	-40		+85	°C	See Options (Table 1)
Storage Temperature	-55		+125	°C	
Frequency Stability Δf/f₀ vs:					
Tolerance	-1.0		+1.0	ppm	Reference to f_o, at 25°C±2°C, Pre-reflow
Tolerance	-2.0		+2.0		Reference to f_o, at 25°C ±2°C, 24 hours after reflow, two times
Temperature	-2.5		+2.5		See Options (Table 1) Reference to f_o, at 25°C ±2°C
Supply Voltage Change	-0.3		+0.3		Vdd ± 5%
Load Change	-0.2		+0.2		
Aging	-1.0		+1.0		First year @+25°C±2°C
Supply Voltage (Vdd)	+3.135	+3.3	+3.465	V	Option E
	+2.85	+3.0	+3.15		Option A
	+2.66	+2.8	+2.94		Option B
	+2.375	+2.5	+2.625		Option C
	+1.71	+1.8	+1.89		Option D
	+1.68		+3.63		Option F
Supply Current (Idd)			10	mA	
Start-up Time			2	ms	
Rise and Fall Time (Tr/Tf) @10%Vdd-90%Vdd, 15pF load			5	ns	
Symmetry @ ½ Vdd	45	50	55	%	
Output Voltage V_{OH}	90%Vdd			V	
Output Voltage V_{OL}			10%Vdd		
Output Load			15	pF	CMOS
Output Waveform	CMOS				
Tri-state function [Note 2]	"1" (VIH≥0.7*Vdd) or Open: Oscillation; "0" (VIL<0.3*Vdd): No Oscillation/Hi Z			V	

Note 1: All measurements made at 25°C ±2°C, nominal Vdd, unless otherwise specified
Note 2: Do not leave pin 1 ($\overline{INH}$) floating. If pin 1 ($\overline{INH}$) is not utilized for toggling, it must be tied to Vdd (logic 1).

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Part Identification

ATXAIG-H12-[ ]-[ ] MHz-[ ]-[ ]

Vdd (V)
A: 3.0V±5%
B: 2.8V±5%
C: 2.5V±5%
D: 1.8V±5%
E: 3.3V±5%
F: +1.68V ~ +3.63V

Frequency in MHz
Please specify the frequency in MHz. e.g. 26.000MHz

Packaging
Blank: Bulk
T3: 3000pcs/reel

Table 1: Frequency Stability vs Operating Temperature

	±2.5ppm	±3.0ppm	±4.0ppm	±5.0ppm
0°C ~ +70°C	A25	A30	A40	A50
-10°C ~ +60°C	B25	B30	B40	B50
-20°C ~ +70°C	C25	C30	C40	C50
-30°C ~ +75°C	D25	D30	D40	D50
-30°C ~ +85°C	E25	E30	E40	E50
-40°C ~ +85°C	F25	F30	F40	F50

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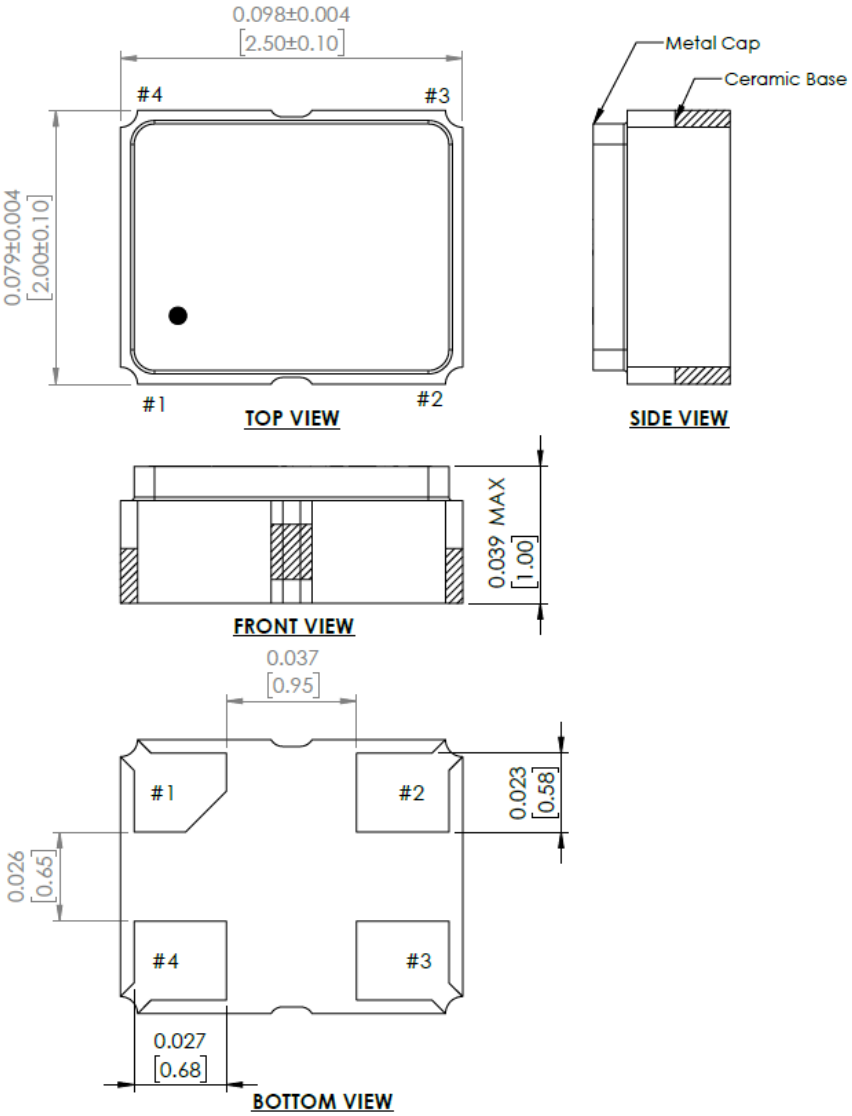
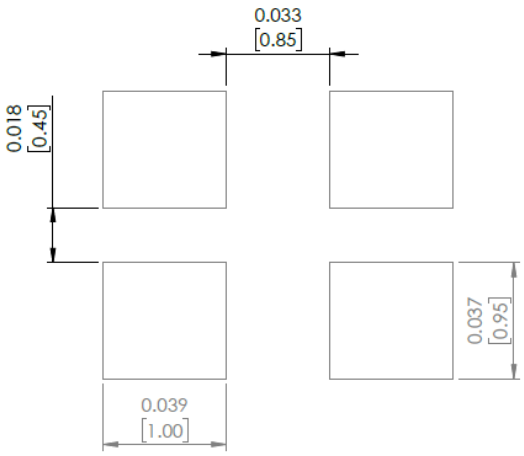
Mechanical Dimensions



Recommended Land Pattern



Pin #	Function
1	$\overline{\text{INH}}$
2	GND
3	Output
4	Vdd

$\overline{\text{INH}}$ Function	
#1	#3 (Output)
Open	Active
"H" Level	Active
"L" Level	High Z (No Oscillation)

Note 3:
-Do not leave Pin 1 ($\overline{\text{INH}}$) floating
-If Pin 1 ($\overline{\text{INH}}$) is not utilized for toggling, it must be tied to Vdd (logic 1)

Note 4:
Recommended to use approximately 0.01µF bypass capacitor between PIN 2 and PIN 4

=

Dimensions: inches (mm)

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Reflow Profile [JDEC J-STD-020]

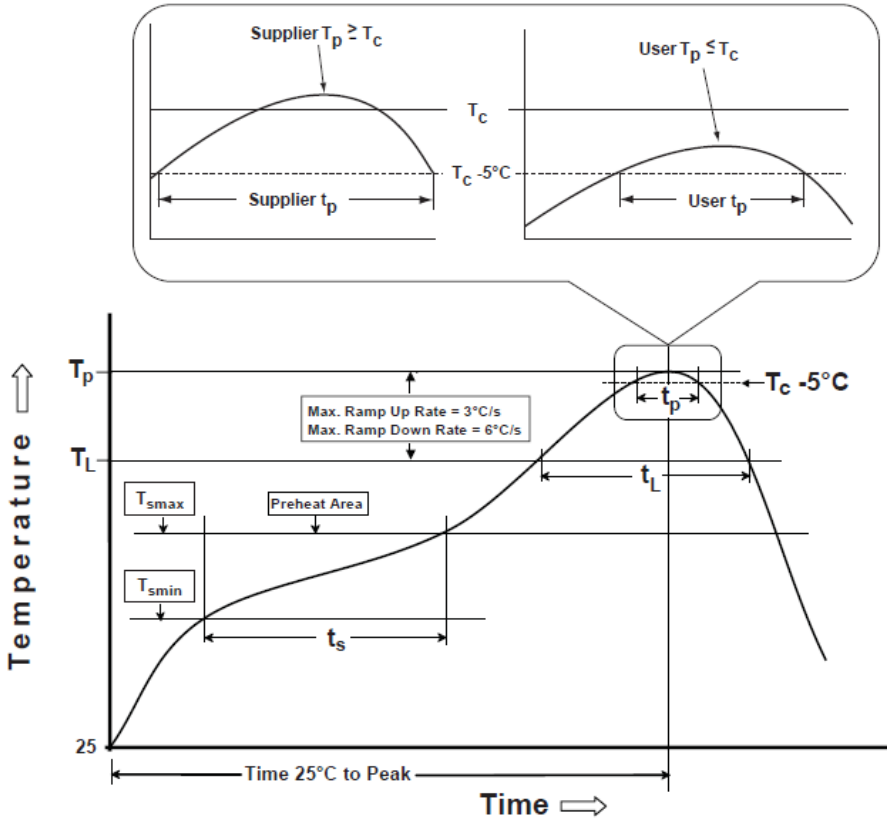

Table 1

SnPb Eutectic Process Classification Temperatures (T_c)		
Package Thickness	**Volume mm³ <350**	**Volume mm³ ≥350**
<2.5 mm	235 °C	220 °C
≥2.5 mm	220 °C	220 °C

Table 2

Pb-Free Process Classification Temperatures (T_c)			
Package Thickness	**Volume mm³ <350**	**Volume mm³ 350-2000**	**Volume mm³ >2000**
<1.6 mm	260 °C	260 °C	260 °C
1.6 mm - 2.5 mm	260 °C	250 °C	245 °C
>2.5 mm	250 °C	245 °C	245 °C

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Preheat / soak		
Temperature minimum (T_{smin})	100°C	150°C
Temperature maximum (T_{smax})	150°C	200°C
Time (T_{smin} to T_{smax}) (t_s)	60 - 120 sec.	60 - 120 sec.
Average ramp-up rate (T_{smax} to T_P)	3°C/sec. max	3°C/sec. max
Liquidous temperature (T_L)	183°C	217°C
Time at liquidous (t_L)	60 - 150 sec.	60 - 150 sec.
Peak package body temperature (T_P)*	***see Table 1***	***see Table 2***
Time (t_p)** within 5°C of the specified classification temperature (T_C)	20 sec.	30 sec.
Ramp-down rate (T_p to T_{smax})	6°C/sec. max	6°C/sec. max
Time 25°C to peak temperature	6 min. max	8 min. max

*Tolerance for peak profile temperature (T_P) is defined as a supplier minimum and a user maximum.

**Tolerance for time at peak profile temperature (t_p) is defined as supplier minimum and a user maximum.

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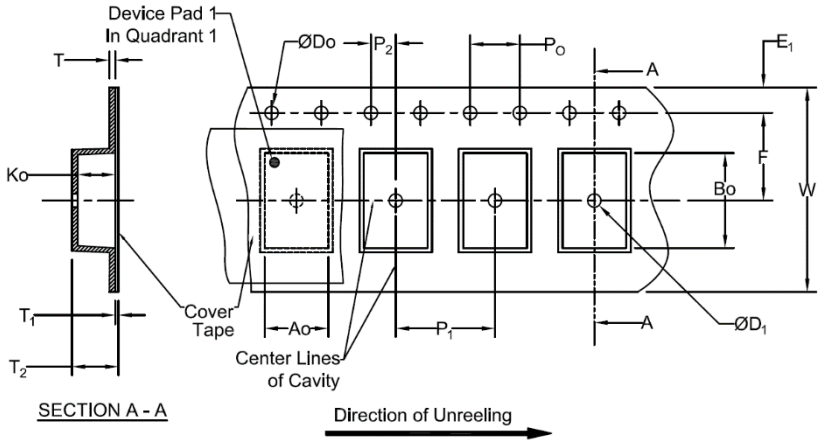
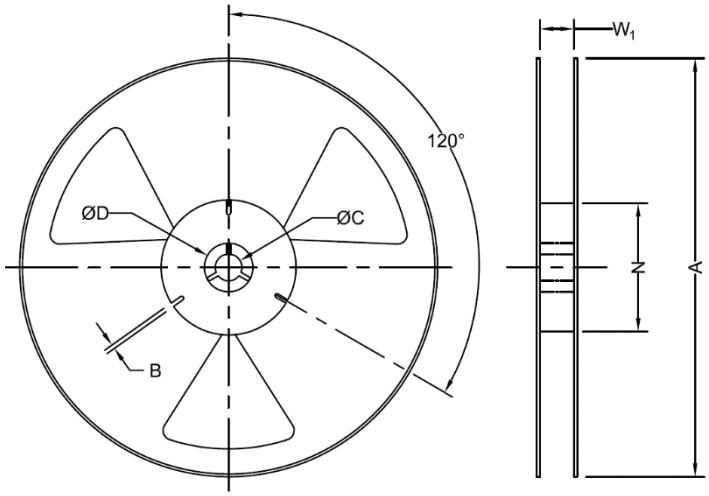
Packaging

T3: 3,000pcs/reel



Tape Specifications (mm)							
Width	Ao	Bo	Do	D_1 (Min)	E_1	F	Ko
8mm	*	*	1.5+0.1/-0.0	1.0	1.75±0.1	3.5±0.05	*
Width	P_1	P_2	P_0	T (Max)	T_1 (Max)	T_2 (Max)	W (Max)
8mm	4.0±0.1	2.0±0.05	4.0±0.1	0.6	0.1	2.5	8.3

***Note: Compliant to EIA-481**



Reel Specifications (mm)							
Width	Qty/Reel	A	B	C (Min)	D	N	*W_1
8mm	3000	178	1.5	13.0+0.5/-0.2	20.2	50	8.4+1.5/-0.0

***Note: Measured at Hub**

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