



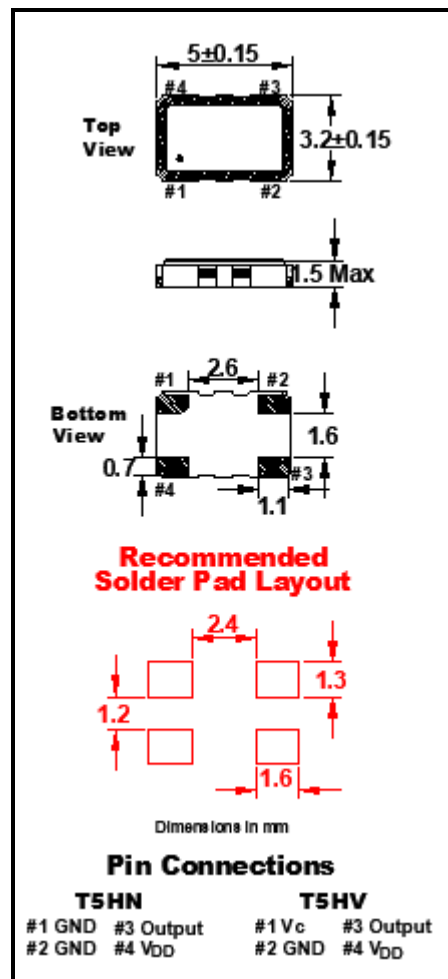
# 5.0x3.2mm HCMOS TCXO/VCTCXO

## T5HN/T5HV (former FOX924B, FOX924E) DATASHEET

- Digital Temperature Compensation

### ELECTRICAL CHARACTERISTICS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range (MHz)	8.000 ~ 40.000
Temperature Range Operating ( $T_{OPR}$ ) Storage ( $T_{STG}$ )	See table below -40°C ~ +85°C
Supply Voltage ( $V_{DD}$ )	+3.3 VDC $\pm$ 5%
Input Current ( $I_{DD}$ )	6.0mA
Initial Frequency Tolerance @ 25°C (after reflow) (T5HV: $V_C = 1.65V$ ) <sup>1</sup>	$\pm$ 2.0 PPM
Frequency Stability Over Temperature Range Over Supply Voltage Change (3.3V $\pm$ 5%) Over Load Change (15pF $\pm$ 5%)	See table below $\pm$ 0.3 PPM $\pm$ 0.3 PPM
Rise Time (0.5V ~ 80% $V_{DD}$ )	10nS
Fall Time (80% $V_{DD}$ ~ 0.5V)	10nS
Symmetry (50% $V_{DD}$ )	40% ~ 60%
Output Voltage ( $V_{OL}$ ) ( $V_{OH}$ )	0.5V 80% $V_{DD}$ Min
Output Load	15pF
Pullability (T5HV: $V_C = 1.65V \pm 1.0V$ ) <sup>1</sup>	$\pm$ 3 ~ $\pm$ 20 PPM min
Aging per year	$\pm$ 1.0 PPM
Startup Time ( $T_S$ ) (to 90% output level)	2.0mS Max
Phase Noise @ 1kHz offset	-130 dBc/Hz Typical
Reflow Soldering Temp	260°C / 10 Seconds x 2
Moisture Sensitivity Level (MSL)	1
Termination Finish	Au over Ni
Lead-Free	Yes
RoHS/REACH Compliant	Yes



Operating Temperature	$\pm$ 1 PPM	$\pm$ 1.5 PPM	$\pm$ 2 PPM	$\pm$ 2.5 PPM
-30 ~ +85°C	O	O	O	O
-40 ~ +85°C	X	O	O	O

Key: O=Available, X=Not Available

<sup>1</sup>For proper operation, a control voltage ( $V_C$ ) must be applied to pin 1 of VCTCXO's.  
All specifications subject to change without notice.





# 5.0x3.2mm HCMOS TCXO/VCTCXO

**T5HN/T5HV**  
(former FOX924B, FOX924E)  
**DATASHEET**

Tape Specifications (millimeters)							Reel Specifications (millimeters)							
A	B	C	D	E	F	Reel Qty	G	H	I	J	K	L	M	
Ø1.5	4.0	8.0	5.5	12.0	1.7	-T1 = 1,000	2.0	Ø13	Ø21	Ø80	Ø180	13.5	2.0	

Diagram illustrating the dimensions and specifications for the 5.0x3.2mm HCMOS TCXO/VCTCXO tape and reel.

**Tape Dimensions:**

- A: Carrier width
- B: Pitch
- C: Carrier width
- D: Carrier height
- E: Carrier height
- F: Carrier width

**Reel Dimensions:**

- G: Reel diameter
- H: Reel diameter
- I: Reel diameter
- J: Reel diameter
- K: Reel diameter
- L: Reel diameter
- M: Reel diameter

**Other Dimensions:**

- Direction of Pull
- 120°

## Available Options & Part Identification for TCXO Model T3HN/T3HV<sup>1</sup> **F T5HN B P K 25.0**

F	T5HN	B	P	K	25.0
<u>FOX</u>	<u>Model Number</u>	<u>Voltage</u> B = +3.3V±5%	<u>Stability</u> T = ±1.0 PPM S = ±1.5 PPM R = ±2.0 PPM P = ±2.5 PPM	<u>Operating Temperature</u> K = -30 to +85°C M = -40 to +85°C	<u>Frequency (MHz)</u>

<sup>1</sup> Not all frequencies in the frequency range, or every combination of stability, temp range, and voltage available. See stabilities/operating temp table.



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Title / Description: <b>T5HN/T3HV SERIES STANDARD SPECIFICATIONS</b>			
Drawing Number: T5HN_T5HV-DOC-1		Size: A	
Part Number:		Cage: <b>61429</b>	
Draftsperson: MAJ	Approved: BEC	Revision Date: 05/21/2019	