

ECN/PCN No.: 4654

For Manufacturer

Product Description: Configurable High Performance SMD TCXO/VCTCXO	Abrakon Part Number / Part Series: ASGTX series	☐ Documentation only ☒ Series ☒ ECN ☐ Part Number ☐ EOL
Affected Revision: C	New Revision: D	Application: ☐ Safety ☒ Non-Safety

Prior to Change:

Voltage Control:

Control Voltage***:	0		<u>Vdd</u>	V	In VCTCXO Mode
Frequency Pull:	±10			ppm	

Phase Jitter RMS:

Phase jitter RMS [$t_{jitter}(\phi)$] **** (12kHz to 20MHz)		<1.00	1.80	ps	Frequency dependent
--	--	-------	------	----	---------------------

Revised notes:

Notes

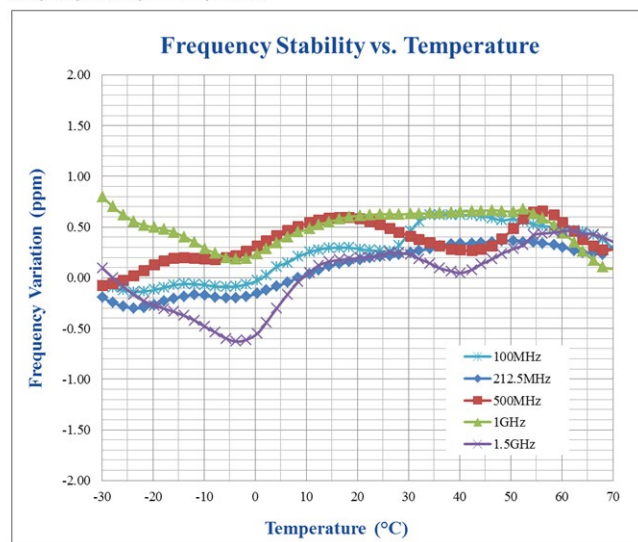
- * Relative to measured frequency post reflow
- ** Please contact Abracon for ±1.00 ppm frequency stability over -40°C to +85°C
- *** Center Control Voltage value is either 1.28V ±0.20V or, 1.55V ±0.20V for the device to be with-in ±1.50 ppm of final frequency, 1-hour post reflow
- **** 1.8ps max is guaranteed for LVCMOS and LVDS output modes. For LVPECL mode at carrier frequency greater than 1.289GHz, the maximum RMS jitter is 3.0ps

Revised Typical Phase Jitter Characteristics:

Carrier	RF Output	rms Phase Jitter	Integration Bandwidth
10.00MHz	LVDS	992 fs	12kHz to 5MHz
25.00MHz	LVDS	774 fs	12kHz to 5MHz
50.00MHz	LVDS	768 fs	12kHz to 10MHz
120.00MHz	LVC MOS	1.1 ps	12kHz to 20MHz
500.00MHz	LVPECL	956 fs	12kHz to 20MHz
1.00GHz	LVDS	911 fs	12kHz to 20MHz
1.2890625GHz	LVDS	1.03 ps	12kHz to 20MHz
1.50GHz	LVDS	1.55 ps	12kHz to 20MHz

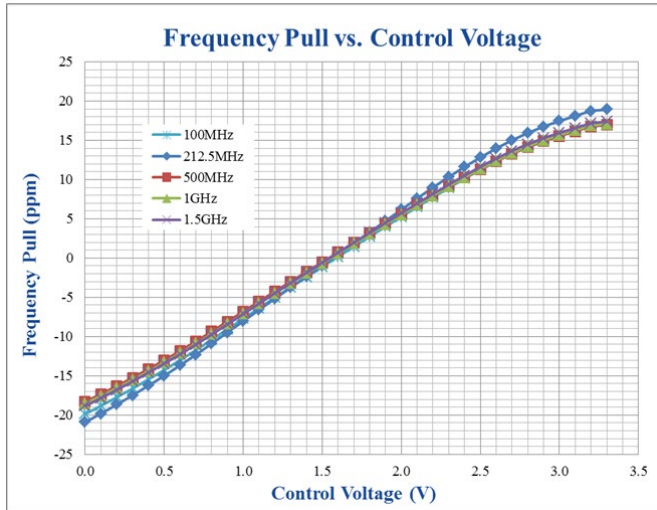
Revised Frequency Stability vs Temperature:

Frequency Stability vs. Temperature



Revised Frequency Pull vs. Control Voltage:

Frequency Pull vs. Control Voltage (VCTCXO mode)



Tape and Reel:

Packaging
Blank = Bulk (Qty < 250pcs)
T = 1000pcs/Reel
T2 = 250pcs/Reel

After Change:

Center voltage control:

Voltage Control Function (Vcon)	0	1.17	2.5	V	VCTCXO configuration
---------------------------------	---	------	-----	---	----------------------

Revised notes:

Notes

- * Reference to f_0 , at $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$, 24 hours after **reflow**, one time, nominal Vdd
- ** Reference to f_0 , at $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$, 24 hours after **reflow**, one time, nominal Vdd, and Vcon = 1.17V $\pm$ 0.2V
- *** 1.8ps max is guaranteed for LVCMOS and LVDS output modes. For LVPECL mode at carrier frequency greater than 1.289GHz, the maximum RMS jitter is 3.0ps

Phase Jitter RMS:

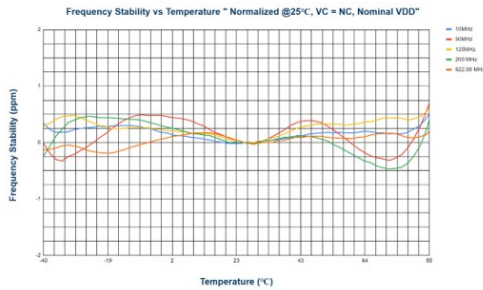
Phase jitter RMS [$\text{jit}(\varphi)$] *** (12kHz to 20MHz)	1.0	3.0	ps	Frequency dependent, see Table 1 below
--	-----	-----	----	--

Revised Typical Phase Jitter Characteristics:

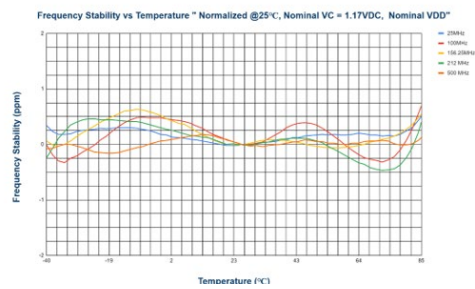
Carrier	RF Output	rms Phase Jitter
10.00MHz	LVDS	992 fs
10.00MHz	LVCMOS	906 fs
25.00MHz	LVDS	774 fs
25.00MHz	LVCMOS	754 fs
50.00MHz	LVDS	768 fs
50.00MHz	LVCMOS	999 fs
120.00MHz	LVCMOS	1.1 ps
500.00MHz	LVPECL	956 fs
1.00GHz	LVDS	911 fs
1.2890625GHz	LVDS	1.03 ps
1.50GHz	LVDS	1.55 ps

Revised Frequency Stability vs Temperature:

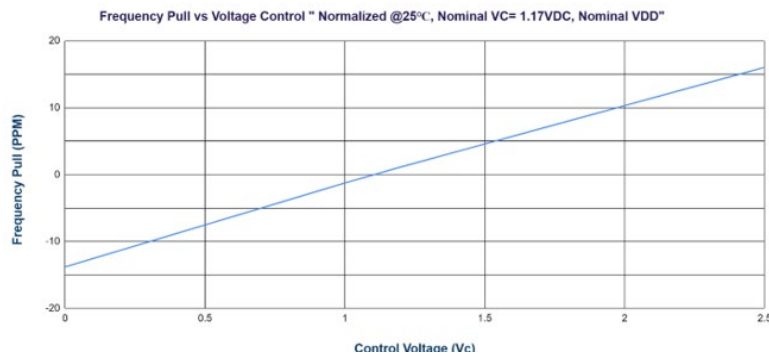
ICXO Configuration



VCTCXO Configuration



Revised Frequency Pull vs. Control Voltage:



Tape and Reel: Removal of T option

Packaging

Blank = Bulk

T2 = 250pcs/Reel

Cause/Reason for Change:

Voltage control function revision. No affect on any mechanical specifications.

Change Plan

Effective Date:

11/3/2023

Additional Remarks:

Change Declaration:

Updated voltage control function parameter.

Issued Date:

11/3/2023

Issued By:

Arturo Longoria

Issued Department:

Engineering

Approval:

Thomas Culhane
Engineering Director

Approval:

Reuben Quintanilla
Quality Director

Approval:

Ying Huang
Purchasing Director

For Abracon EOL only

Last Time Buy (if applicable):

N/A

Alternate Part Number / Part Series:

N/A

Additional Approval:

Additional Approval:

Additional Approval:

Customer Approval (If Applicable)		
Qualification Status: ☐ Approved ☐ Not accepted <i>Note: It is considered approved if there is no feedback from the customer 1 month after ECN/PCN is released.</i>		
Customer Part Number:		Customer Project:
Company Name:	Company Representative:	Representative Signature:
Customer Remarks:		