

Precision SMD TCXO/VCTCXO

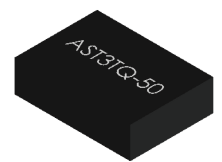
AST3TQ-50



ESD Sensitive



RoHS/RoHS II Compliant



7.0 x 5.0 x 1.9mm

Moisture Sensitivity Level (MSL) – 3

FEATURES:

- Standard available frequencies: 10.00, 12.80, 16.384, 19.20, 19.44, 20.00, 24.576, 25.00, 26.00, 30.72, 40.00 MHz
- LVCMOS Output or Clipped Sine Wave output
- Frequency stability: ± 50 ppb over -40°C to $+85^{\circ}\text{C}$ operating temperature range
- Excellent Phase Noise, Harmonics and Spurious content
- Typical rms jitter of 400fs @ 40MHz carrier & 1.0ps @ 10MHz carrier over 12kHz to 20MHz BW

APPLICATIONS:

- COTS Military Radios & other Communication Hardware
- WiMax,
- LTE, BTS
- CATV, LAN, LMDS
- GPS Tracking with Hold-Over accuracy
- Test & Measurement Equipment
- Point-to-Point communication networks

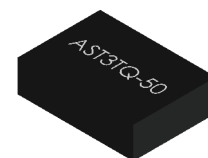
STANDARD SPECIFICATIONS:

Maximum Rating

Parameters	Rating
Storage Temperature Range	-55 to $+125^{\circ}\text{C}$
Supply Voltage	-0.5 to 6V
Control Voltage	0 to 3V
ESD, HBM/CDM/MM	$4\text{kV}/2\text{kV}/200\text{V}$

Key Electrical Specifications

Parameters	Minimum	Typical	Maximum	Units	Notes
Frequency Range	10		40	MHz	
Standard Frequencies	10.00, 12.80, 16.384, 19.20, 19.44, 20.00, 24.576, 25.00, 26.00, 30.72, 40.00			MHz	
Initial Frequency Tolerance (@+25°C) at shipping			±500	ppb	Relative to carrier
Frequency Stability Options					
-40°C to +85°C			±50	ppb	
Frequency Stability vs. Supply Voltage Change (Vdd±5%)			±100	ppb	
Frequency Stability vs. Load Change (Load±5%)			±200	ppb	
Aging (first year @+25°C)			±1.0	ppm	
Aging (20 years @+25°C)		±3.0	±4.6	ppm	
Supply Voltage (Vdd)	+3.135	+3.3	+3.465	V	
Supply Current (Icc)		3.0	4.0	mA	@10MHz carrier
		5.5	7.0		@40MHz carrier
Control Port (<i>Applicable for VCTCXO only</i>)					
Control Voltage Range (Vc)	+0.5	+1.5	+2.5	V	
Center Control Voltage (Vc)		+1.5		V	To be with-in ±500 ppb of Fc @ 25°C (at shipping)
Frequency Tuning Range	±5.00	±7.00	<±13.00	ppm	(Vc = 1.5V±1.0V)
Tuning Slope	Positive				
Linearity			±1	%	
Port Impedance	100			kΩ	



STANDARD SPECIFICATIONS:

(Continued)

Parameters	Minimum	Typical	Maximum	Unites	Notes
Phase Noise (10MHz carrier frequency @25°C):			-95	dBc/Hz	Offset @10Hz
			-120		Offset @100Hz
			-140		Offset @1kHz
			-145		Offset @10kHz
			-150		Offset @100kHz
RMS Jitter (@12kHz~5MHz BW)	0.4		1.3	ps	Carrier Dependent
Clipped Sine Wave					
Output Level	0.8			Vp-p	
Output Load	10kΩ//10pF				
LVCMOS Output (Square Wave)					
V _{OH}	2.4			V	Output Load=15pF
V _{OL}			0.4	V	Output Load=15pF
Output Load			15	pF	
Duty Cycle	45		55	%	@(V _{OH} - V _{OL})/2
Rise/Fall Time			6	ns	Output Load=15pF

PART IDENTIFICATION:

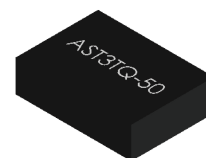
AST3TQ-- MHz - 50 - -

Pull-Ability
T = TCXO
V = VCTCXO

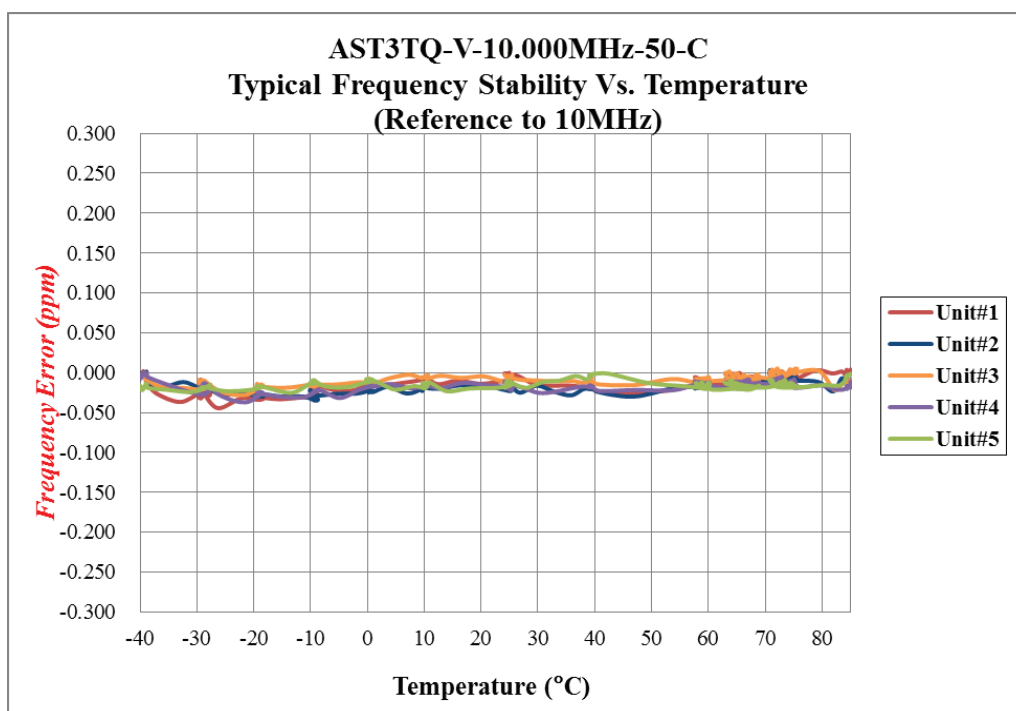
Frequency in MHz
Please specify the frequency in MHz e.g. 19.200MHz

Output Type
C: LVC MOS
SW: Clipped Sine Wave

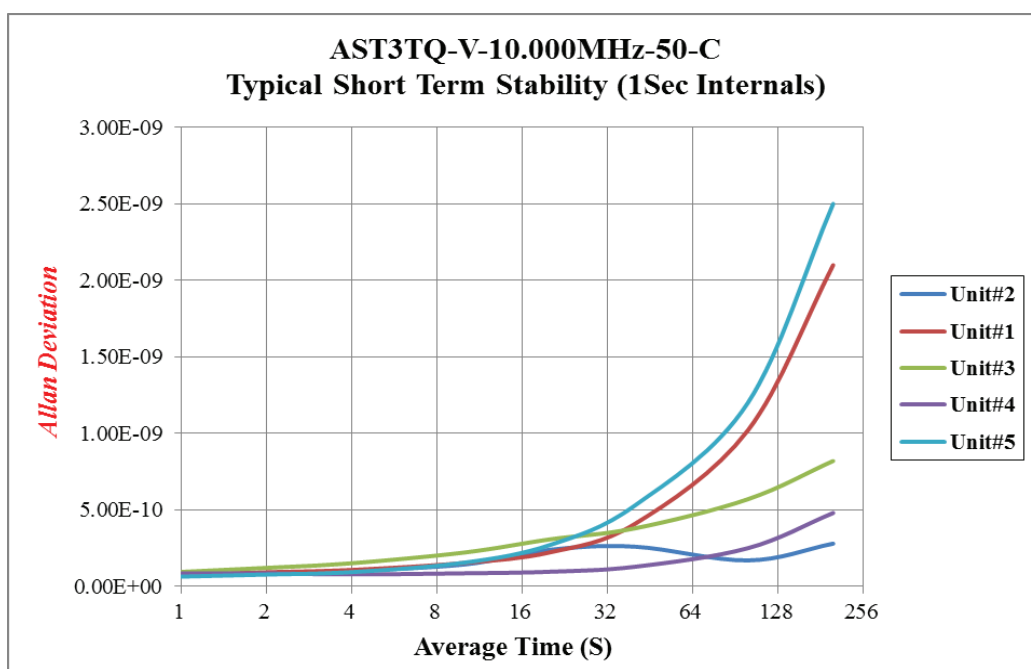
Packaging
Blank: Bulk
T5: 500pcs/reel
T2: 2000pcs/reel



TYPICAL FREQUENCY STABILITY VS. TEMPERATURE



TYPICAL SHORT TERM STABILITY



Precision SMD TCXO/VCTCXO

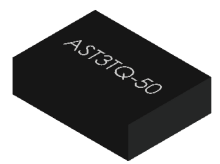
AST3TQ-50



ESD Sensitive

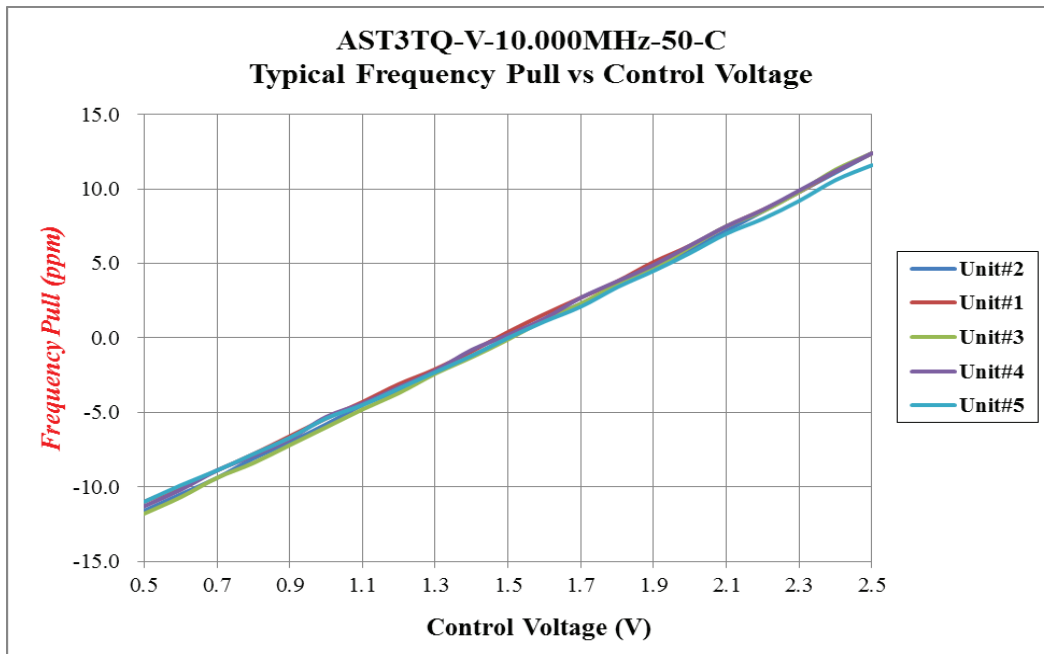


RoHS/RoHS II Compliant



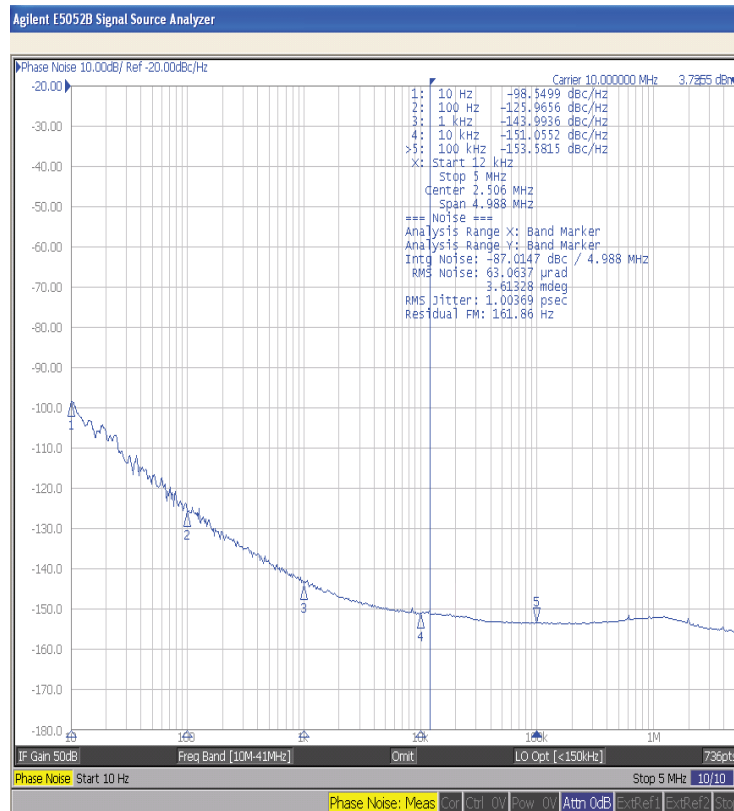
7.0 x 5.0 x 1.9mm

TYPICAL FREQUENCY PULL VS. CONTROL VOLTAGE



TYPICAL PHASE NOISE

10.00 MHz Carrier



ABRACON IS
ISO9001:2008
CERTIFIED



2 Faraday, Suite# B | Irvine | CA 92618 Revised: 04.02.15
Ph. 949.546.8000 | Fax. 949.546.8001

Visit www.abracon.com for Terms and Conditions of Sale

Precision SMD TCXO/VCTCXO

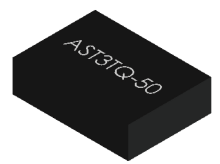
AST3TQ-50



ESD Sensitive

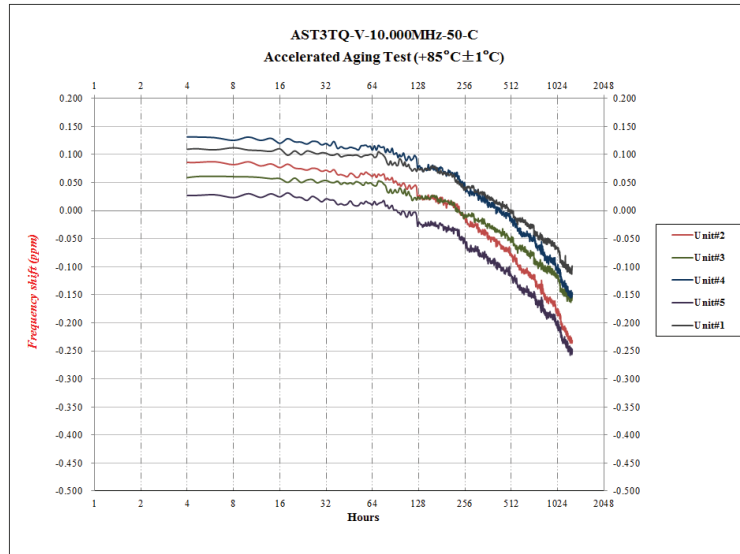


RoHS/RoHS II Compliant



7.0 x 5.0 x 1.9mm

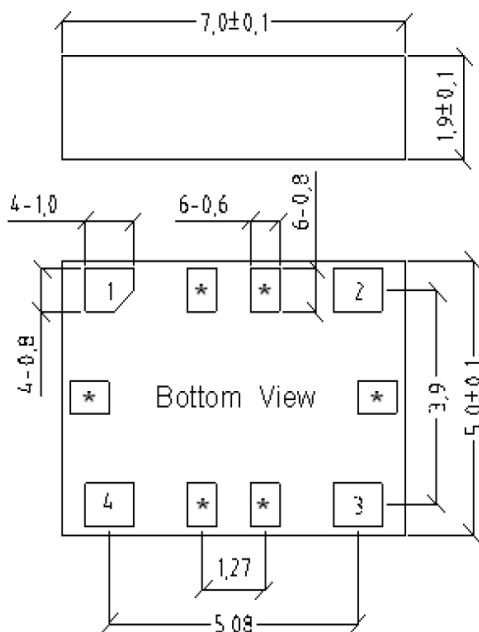
TYPICAL AGING:



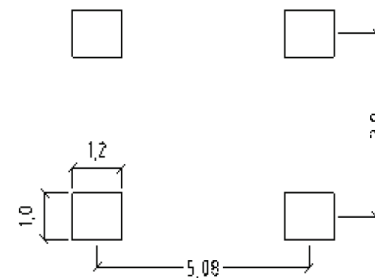
Aging Test Conditions	
Series	AST3TQ-50
Frequency	10MHz
Acquisition Mode	Cycle
Acquisition Time	1129 hours
Test Temperature	+85°C ± 1°C
Number of Samples	5pcs

Aging Data			
No.	Aging Time (hrs)	Aging/Day (ppm)	Projected Aging/year (ppm)
#1	1129	-0.0039	-0.3896
#2	1129	-0.0059	-0.5925
#3	1129	-0.0042	-0.4202
#4	1129	-0.0056	-0.5555
#5	1129	-0.0055	-0.5492

OUTLINE DIMENSION:



Recommended Land Pattern



Pin	Function
1	NC (for TCXO) Vc (for VCTCXO)
2	GND
3	Output
4	Vdd
*	For factory test only

Precision SMD TCXO/VCTCXO

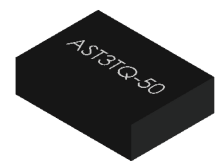
AST3TQ-50



ESD Sensitive



RoHS/RoHS II Compliant



7.0 x 5.0 x 1.9mm

REFLOW PROFILE:



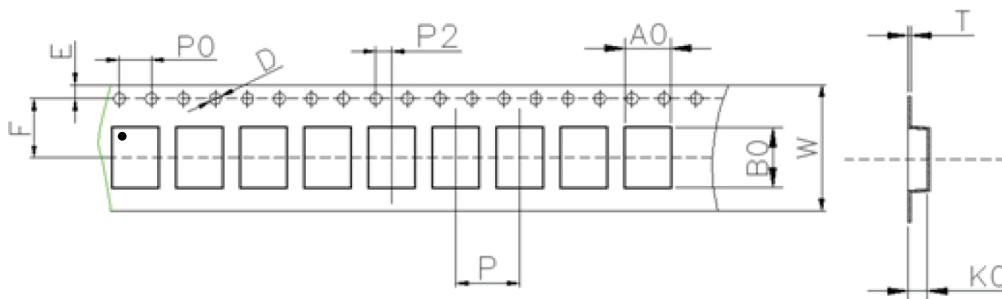
TAPE & REEL:

Packaging:

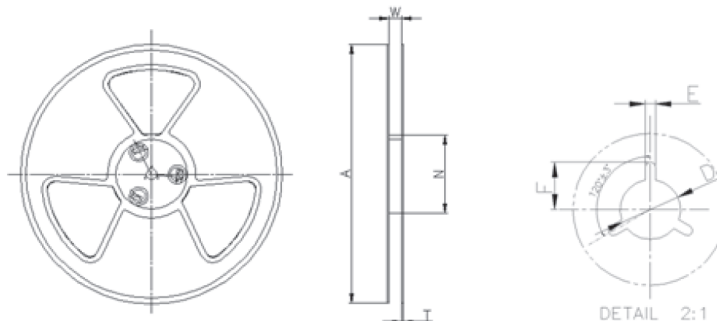
T5: 500pcs/reel

T2: 2,000pcs/reel

MSL-3 packaging applies to MOQ=25 units (cut tape) & T5 and T2.



W	A0	B0	K0	P	F
16.0±0.3	5.7±0.15	7.6±0.15	2.4±0.15	8.0±0.1	7.5±0.1
E	D	P0	P2	T	
1.75±0.1	1.5+0.1/-0.0	4.0±0.1	2.0±0.1	0.3±0.05	



Dimensions: mm

W	A	N	T	E	F	D
16.5±0.4	330±0.5	100±0.3	1.8±0.2	2.1±0.3	10.75±0.3	13.5+0.5/-0.2

ATTENTION: Abracon Corporation's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependant Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon Corporation is required. Please contact Abracon Corporation for more information.

ABRACON IS
ISO9001:2008
CERTIFIED



2 Faraday, Suite# B | Irvine | CA 92618 **Revised: 04.02.15**

Ph. 949.546.8000 | Fax. 949.546.8001

Visit www.abracon.com for Terms and Conditions of Sale



**Стандарт
Электрон
Связь**

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

Наши контакты:

Телефон: +7 812 627 14 35

Электронная почта: sales@st-electron.ru

Адрес: 198099, Санкт-Петербург,
Промышленная ул, дом № 19, литера Н,
помещение 100-Н Офис 331