Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Precision SMD TCXO

7.0 x 5.0 x 1.9mm

AST3TQ

ESD Sensitive

RoHS/RoHS II Compliant

Moisture Sensitivity Level (MSL) – 3

FEATURES:

- Standard available frequencies: 10.00, 12.80, 19.20, 20.00, 25.00, 26.00, 30.72, 38.40 & 40.00MHz
- Standard LVCMOS Output
- Frequency stabilities to include ±100ppb over -40ºC to +85ºC, ±280ppb over –50ºC to +90ºC and ±500ppb over -55ºC to +95ºC 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 °C
Supply Voltage	-0.5 to 6V
ESD, HBM/CDM/MM	4kV/2kV/200V

Parameters	Minimum	Typical	Maximum	Units	Notes
Frequency Range	10		40	MHz	
Standard Frequencies:	10.00, 12.80, 19.20, 20.00, 25.00, 26.00, 30.72, 38.40, 40.00			MHz	
Initial Frequency Tolerance (@+25°C) at shipping			±0.3	ppm	Relative to carrier
Frequency Stability Options					
-40 °C to +85 °C			±100	ppb	Option "1"
-50 °C to +90 °C			±280	ppb	Option "2" **see note 1**
-55 °C to +95 °C			±500	ppb	Option "5" **see note 2**
Frequency Stability vs. Supply Voltage Change (Vdd±5%):			±100	ppb	
Frequency Stability vs. Load Change (Load±5%):			±200	ppb	
Supply Voltage (Vdd):	+3.135	+3.3	+3.465	V	
Aging (first year @+25 °C):			±1.0	ppm	
Aging (20 years @+25 °C):		±3.0	±4.6	ppm	
Supply Current (Icc)(into 15pF load) :		3.0	4.0	mA	@10MHz carrier
		5.5	7.0		@40MHz carrier
CMOS Output					
V_{OH}	2.4			V	Load=15pF
V_{OL}			0.4	V	Load=15pF
Load:			15	pF	
Duty Cycle:	45		55	%	@(V_{OH}- V_{OL})/2
Rise/Fall Time:			4	ns	Load=15pF
Waveform:		Square Wave			
RMS Jitter (12kHz to 20MHz BW)	0.4		1.3	ps	Carrier dependent
Phase Noise (10MHz carrier frequency @25 °C):			-95	dBc/Hz	Offset @10Hz
			-120		Offset @100Hz
			-140		Offset @ 1k Hz
			-145		Offset @10 kHz
			-150		Offset @100kHz

*Note 1: For 10.000MHz carrier, frequency stability of ±280ppb is only guaranteed over -45°C to +90°C operating temperature range.
*Note 2: For 10.000MHz carrier, option "5" is not available.

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The Power of Linking Together

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Precision SMD TCXO

AST3TQ

Pb RoHS/RoHS II Compliant

7.0 x 5.0 x 1.9mm

OPTIONS & PART IDENTIFICATION: (left blank if standard)

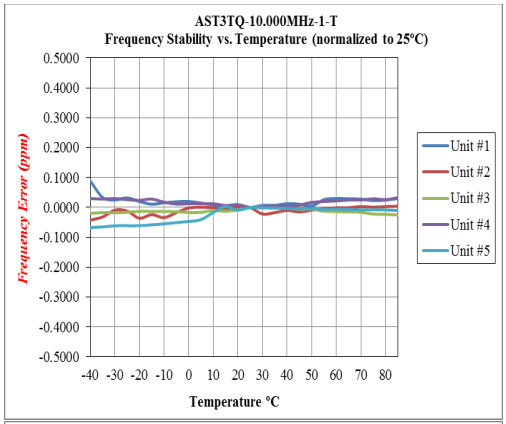
AST3TQ - [ ] MHz - [ ] - [ ]

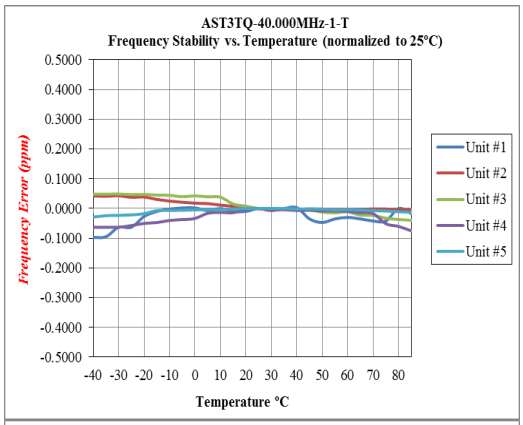
Frequency in MHz	Freq. Stability vs. Operating Temp.	Packaging
Please specify the frequency in MHz. e.g. 19.200MHz	1: ±100ppb over -40 to +85°C	Blank: Bulk
	2: ±280ppb over -50 to +90°C *	T: 500pcs/reel
	5: ±500ppb over -55 to +95°C **	T2: 2000pcs/reel

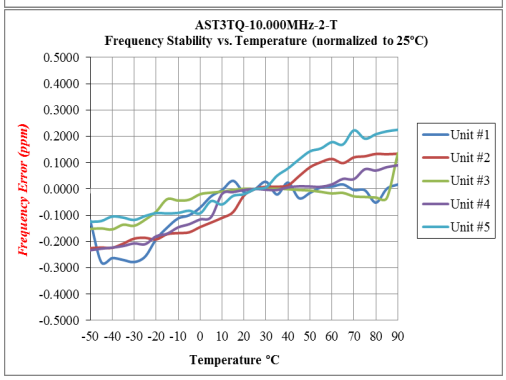
*** Note 1: For 10.000MHz carrier, frequency stability of ±280ppb is only guaranteed over -45°C to +90°C operating temperature range.**

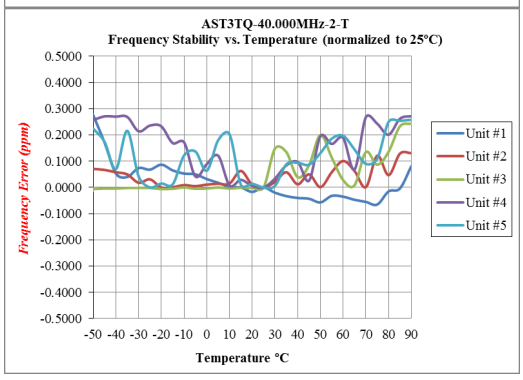
****Note 2: For 10.000MHz carrier, option "5" is not available.**

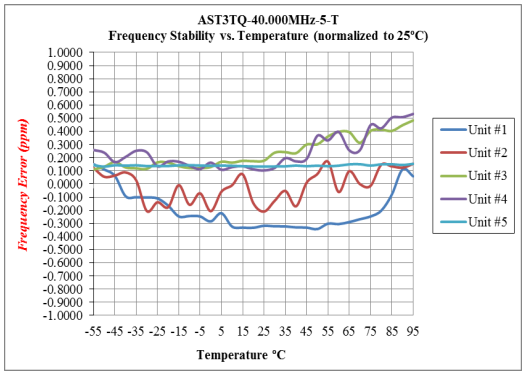
FREQUENCY STABILITY VS. TEMPERATURE











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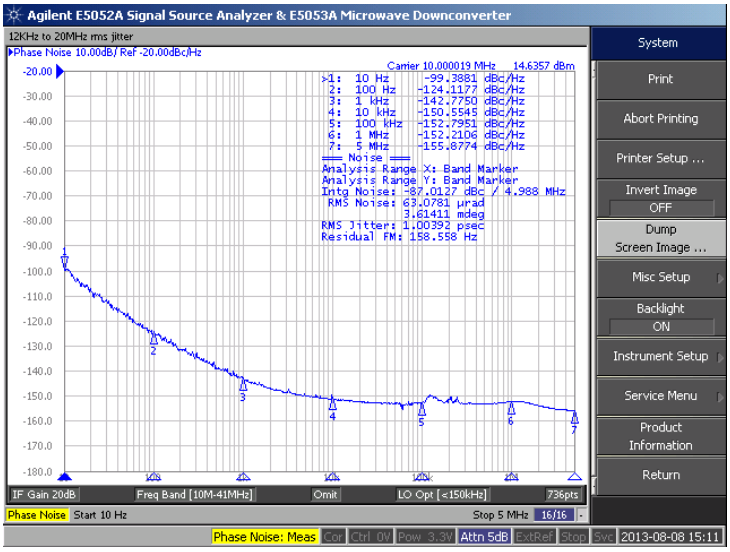
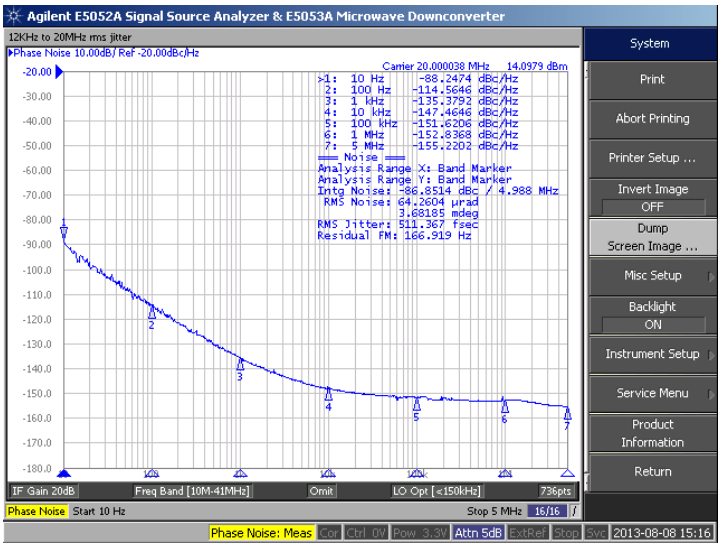
7.0 x 5.0 x 1.9mm

TYPICAL PHASE NOISE

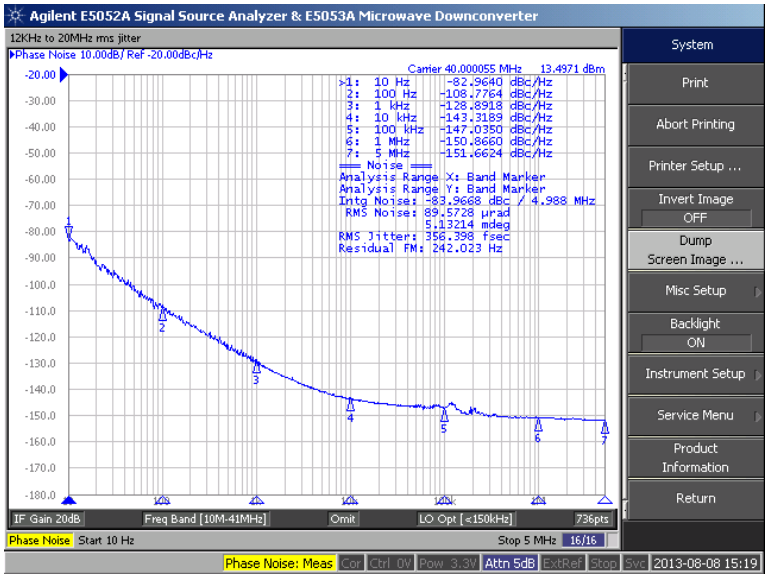
10.00 MHz Carrier



20.00 MHz Carrier



40.00 MHz Carrier



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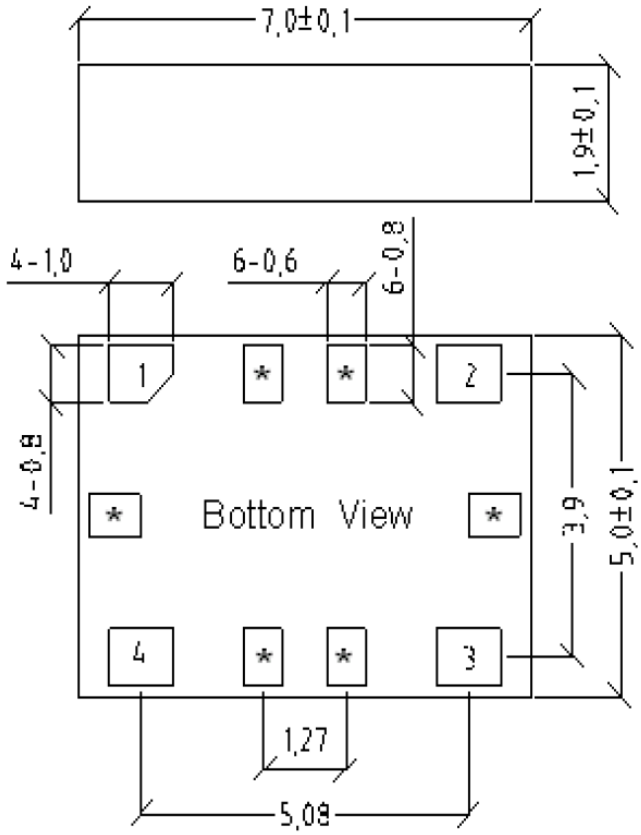
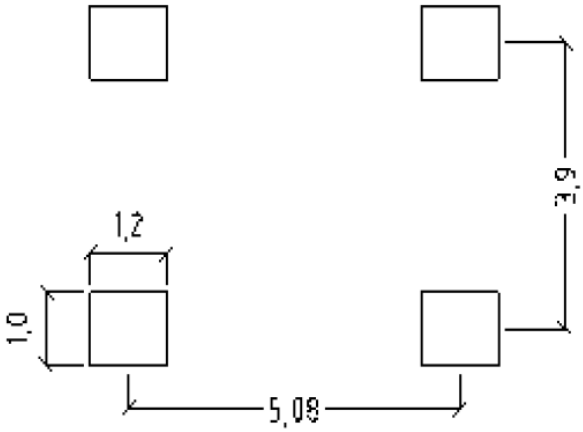
OUTLINE DIMENSION:



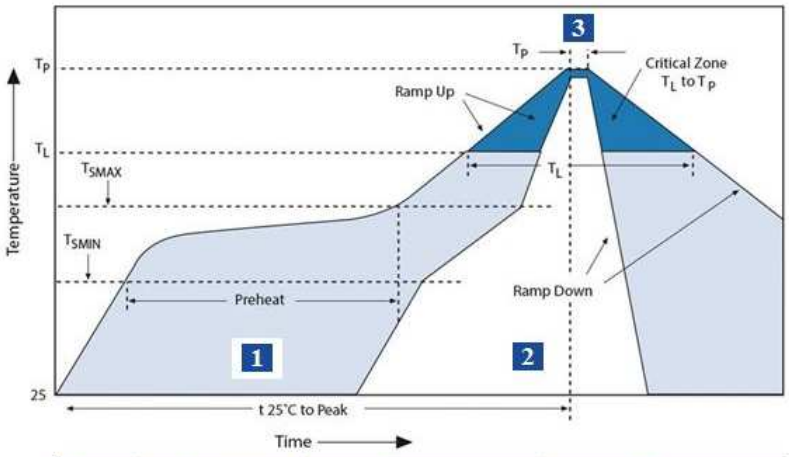
Recommended Land Pattern



Pin	Function
1	NC
2	GND
3	Output
4	Vdd
*	For factory test only

Dimensions: mm

REFLOW PROFILE:



Zone	Description	Temperature	Times
1	Preheat	T_{SMIN} ~ T_{SMAX} 150°C ~ 200°C	60 ~ 120 sec.
2	Reflow	T_L 220°C	60 ~ 150 sec.
3	Peak heat	T_P 260°C	25 sec. MAX

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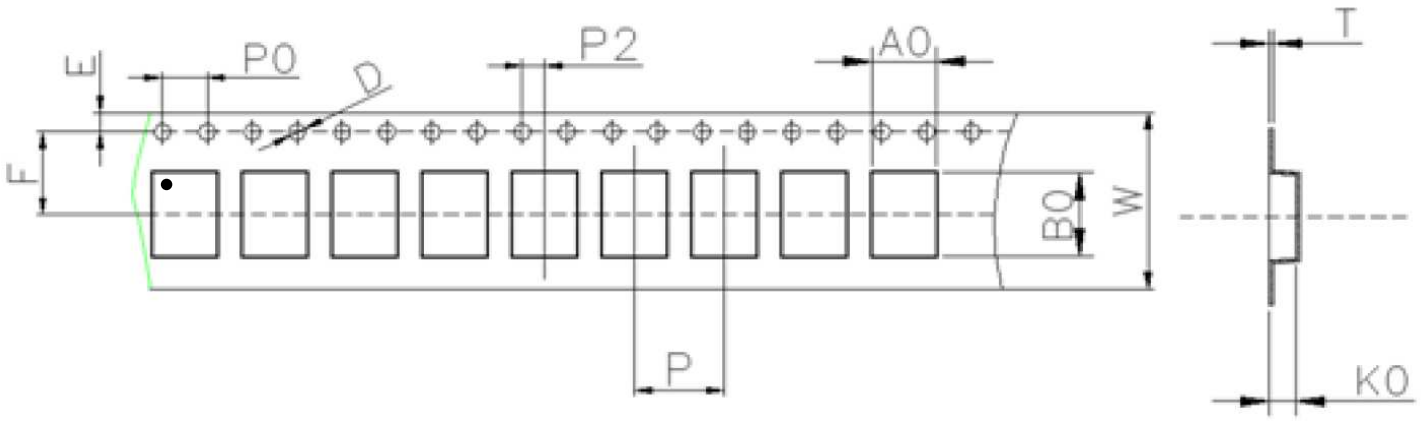
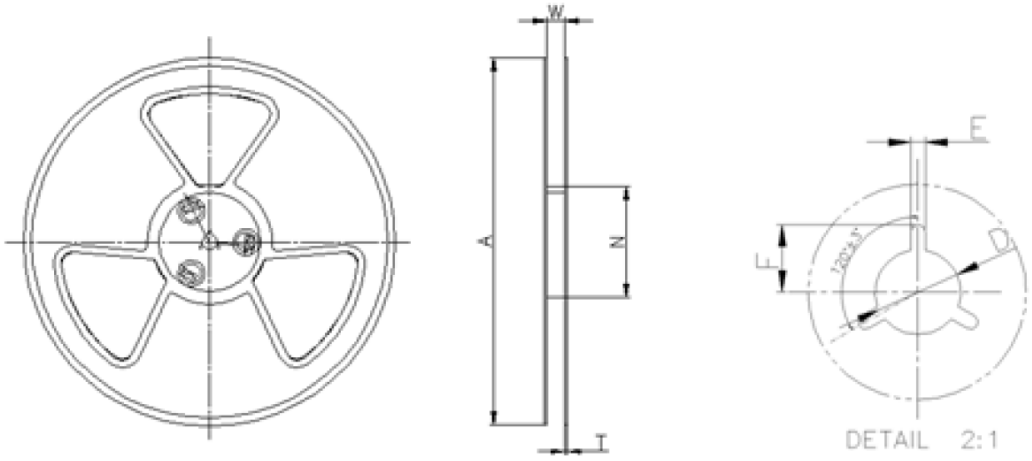
TAPE & REEL:

Packaging:
T: 500pcs/reel
T2: 2000pcs/reel
MSL-3 packaging applies to MOQ=25 units (cut tape) & T 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	



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

Dimensions: mm