Xtaltq Technologies

Features

- Ultra Stable
- Low Phase Noise
- SMD Package(9.35*14.65mm)

Applications

- Base Stations
- Instrumentations
- Synthesizer
- SDH/SONET

BT0914A Series Specifications

Parameter		Value			Unit	Conditions	
		Min.	Typ.	Max.			
Supply Voltage		–	3.3	–			
		–	5	–	V		
Current with Output		–	–	45	mA		
Frequency Range		10 ~ 125			MHz		
Nominal Frequency		10, 20, 40, 50,100,122.88,125			MHz		
Initial Frequency Tolerance		±0.3	±0.5	±1	ppm	At shipment, nominal EFC, +25	
Freq. Stability Vs. Temp.		±0.20	±0.5	±2	ppm	-20°C~+70°C *Height≥4mm	
		±0.20	±0.5	±2	ppm	-40°C~+85°C *Height≥4mm	
		±0.10	–	±2	ppm	-40°C~+85°C *Height≥7mm	
		±0.28	±0.5	±2	ppm	-50°C~+85°C *Height≥6mm	
Sine wave	Output Level	7	–	–	dBm		
	Harmonics	–	–	-30	dBc		
	Spurious	–	–	-70	dBc		
	Load	–	50	–	Ω		
HCMOS	V_{OH}	2.4	–	–	V	HCMOS Output, Load=15pf	
	V_{OL}	–	–	0.4	V	HCMOS Output, Load=15pf	
	Duty Cycle	45	–	55	%	(V_{OH} - V_{OL})/2	
	Rise/Fall Edge	–	–	6	ns	HCMOS Output, Load=15pf	
	Load	–	–	15	pf		
RMS Jitter(By E5052B)		20	–	40	fs	12KHz~5MHz	
Supply Sensitivity		–	–	±0.1	ppm	Vcc±5%	
Load Sensitivity		–	–	±0.2		Load±5%	
Aging/ First Year		–	–	±1.0		Standard	
SSB Phase Noise @10MHz		–	-77	-75	dBc/Hz	Offset 10Hz	At +25℃
		–	-112	-110		Offset 100Hz	
		–	-142	-140		Offset 1kHz	
		–	-158	-155		Offset 10kHz	
		–	-163	-158		Offset 100kHz	
Control Voltage Range		1.5 ± 1.0			V		
Frequency Turning Range		±5	–	–	ppm		
Tuning Slope		Positive					
Linearity		–	–	10	%		

Phase Noise @1KHz

Frequency Range	<-135dBc	<-140dBc	<-145dBc	<-150dBc	
10MHz~20MHz(Including 20MHz)	○	○	○	○	○=Available X= Not Available
20MHz~100MHz(Including 100MHz)	○	○	○	X	
>100MHz	○	○	X	X	

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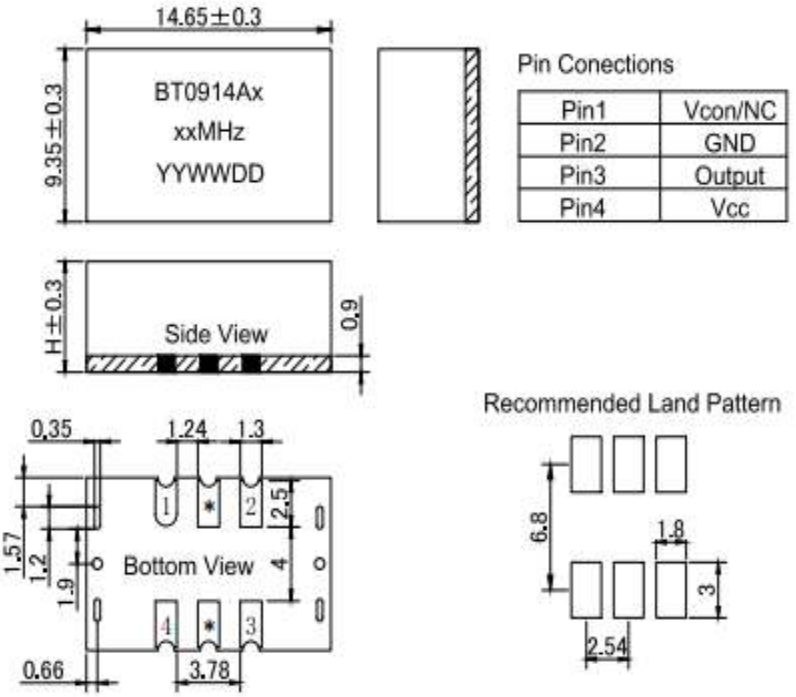
Environmental Conditions	
Operating Temperature Range	-40℃ ~ +85℃
Storage Temperature Range	-55℃ ~ +105℃

Outline Dimension & Pin Connections



Note:

1. The pins with '*' are for factory test.
2. Leave pin 1 unconnected If Vcon is not used.
3. The height is 7mm(min) once Frequency stability is ±0.05~±0.1ppm@ -40~+85°C,others is 6mm(min).

Reliability

Parameter	Condition
Temperature Stress Test	IEC60068, GJB360B
Mechanical Stress Test	IEC60068, GJB360B
EMC Test (ESD)	IEC61000, JESD22
Solder Ability	EIA/JESD22-B102-C
Contact Pads	Gold over Nickel
RoHS	RHOS Directive 2011/65/EU Annex II Recasting 2002/95/EC

Ordering Guide

BT 0914A X X X XXX X X XX.XX

- Product: TCXO
- Outline: 9.0mm x 14.0mm
- Output Wave: H:CMOS, S:Sine Wave
- Supply Voltage: 3: 3.3 Vdc, 5: 5.0 Vdc
- Temp. Range: C: -20℃ ~ +70℃, G: -40℃ ~ +70℃, I: -40℃ ~ +85℃
- Frequency in MHz
- Tuning: N:No Tuning, A: ±5ppm
- Phase Noise: C: -130dBc/Hz@1kHz, D: -135dBc/Hz@1kHz, E: -140dBc/Hz@1kHz, G: -145dBc/Hz@1kHz
- Stability: 206: ±2.0ppm, 106: ±1.0ppm, 507: ±0.5ppm, 287: ±0.28ppm, 107: ±0.1ppm

Example: BT0914AS5I287AA100