


TX-401

Features

- High Frequency
- Low Phase Noise
- Low power consumption
- Output: True Sinewave
- Tight Tolerances
- Frequency range ¹ of 250 - 700 MHz
- Standard Frequencies : 256; 400; 500; 502 MHz

Applications

- Test & Measurement
- Communication Equipment
- Industrial
- Military

Performance Specifications

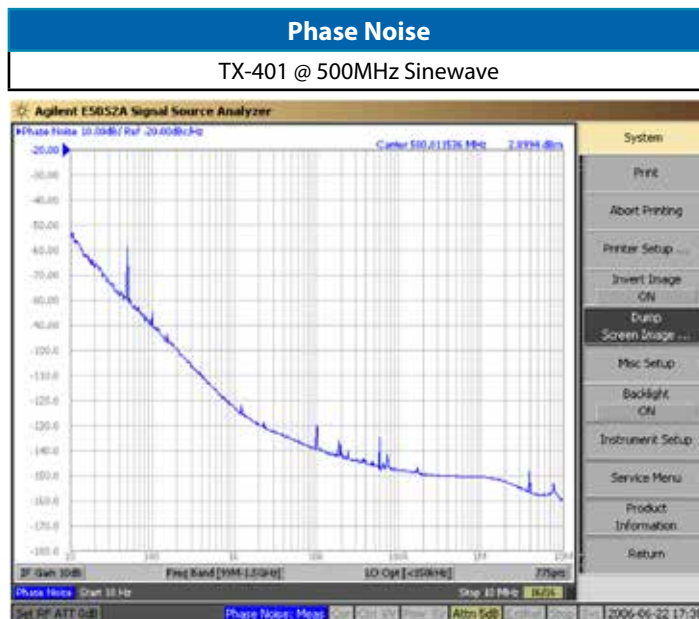
Frequency Stabilities ¹						
Parameter	Min	Typical	Max	Units	Condition	
vs. operating temperature range (referenced to +25°C)	-2		+2	ppm	-40 to +85°C	
	-1		+1	ppm	-40 to +85°C	
	-1		+1	ppm	-20 to +70°C	
Initial tolerance vs. supply voltage change vs. load change vs. aging 10 years	-2		+2	ppm	at time of shipment, nominal EFC V _s ±5% static Load ±10% static after 30 days of operation	
	-0.8		+0.8	ppm		
	-0.2		+0.2	ppm		
	-4		+4	ppm		
Supply Voltage (Vs)						
Supply voltage (Standard)	3.135	3.3	3.465	VDC		
Supply voltage (Option)	4.75	5	5.25	VDC		
Current consumption			75	mA	@3.3V	
			50	mA	@5V	
RF Output						
True Sinewave						
Load	45	50	55	Ohm		
Output Power	0	3	6	dBm		
Harmonics			-25	dBc		
Subharmonics			-40	dBc		

Performance Specifications

Frequency Tuning (EFC)						
Parameter	Min	Typical	Max	Units	Condition	
Tuning Range	Fixed TCXO; No adjust					Opti-on ⁵
Tuning Range	±5		±18	ppm		
Linearity	<10%					
Tuning Slope	Positive					
Control Input Impedance	10			kOhm		
Control Voltage Range	0.3 0.5	1.65 2.5	3.0 4.5	VDC	V _s =3.3V V _s =5V	
Additional Parameters						
Phase Noise ²		-54		dBc/Hz	10 Hz	@ 500MHz Sinewave 5V
		-90		dBc/Hz	100 Hz	
		-122		dBc/Hz	1 kHz	
		-140		dBc/Hz	10 kHz	
		-147		dBc/Hz	100 kHz	
		-150 -160		dBc/Hz	1 MHz 10 MHz	
Jitter			0.1	ps RMS	@ 12 kHz to 20 MHz	
Weight			2.0	g		
Processing & Packing	Handling & Processing Note					

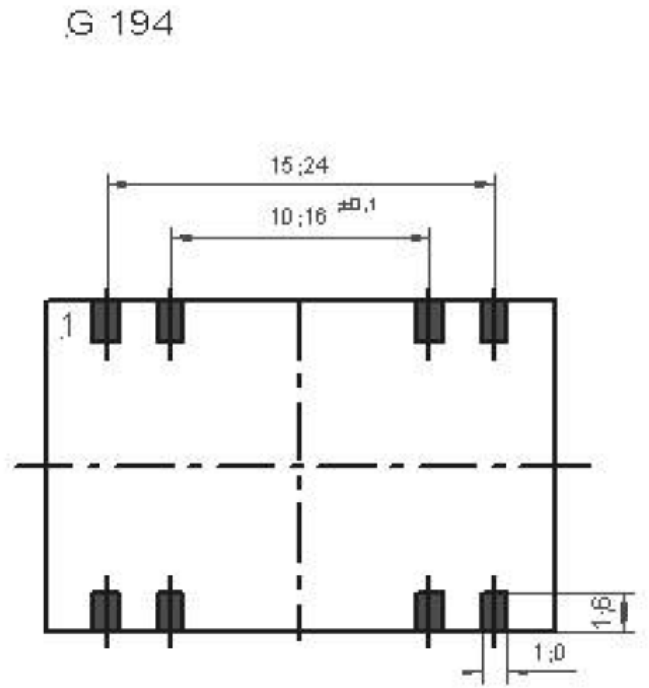
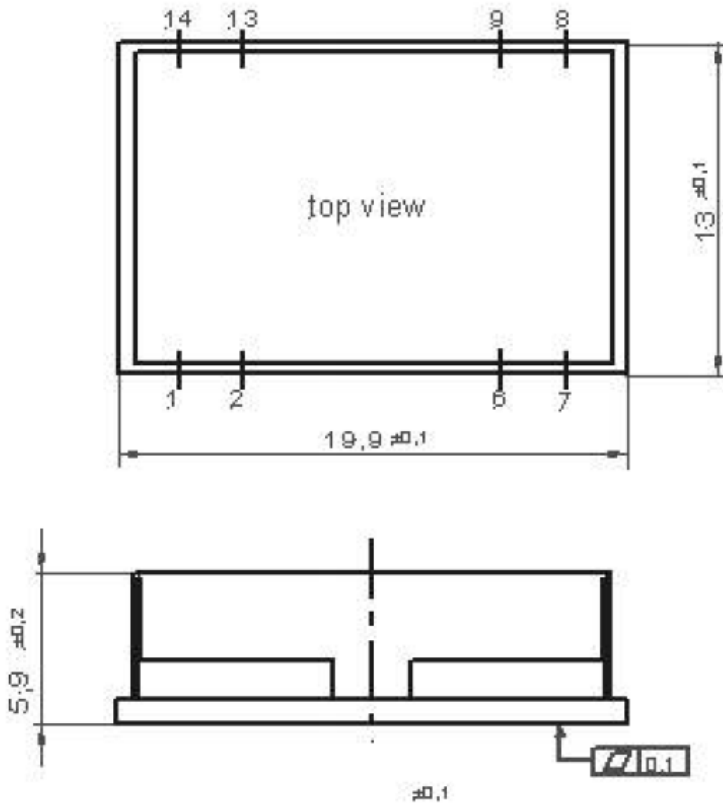
Absolute Maximum Ratings					
supply voltage (V _s)			6.0	V	
Operable Temperature Range	-40		+85	°C	
Storage Temperature Range	-40		+105	°C	

Typical Performance



Outline Drawing / Enclosure

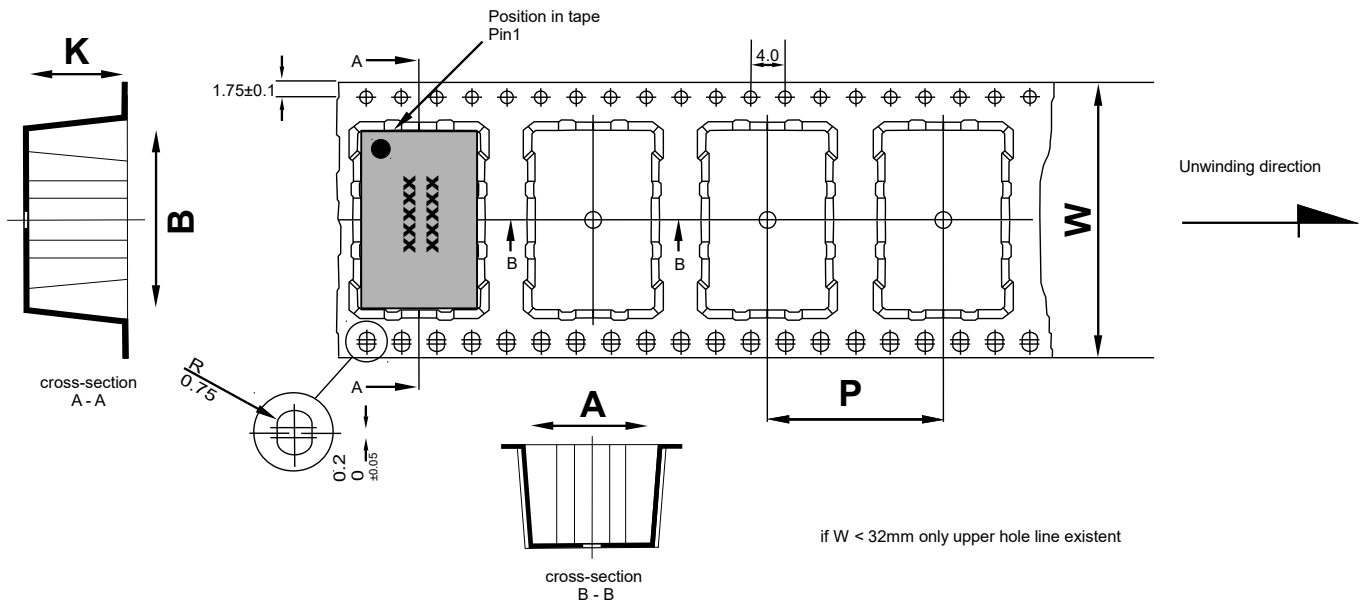
TX-401	
Type	Height "H"
G194	5.9



all units in mm

Pin Connections	
1	Control Voltage Input (Vc) / N.C.
2	N.C.
6	GND (Case)
7	GND (Case)
8	RF-Output
9	GND (Case)
13	N.C.
14	Supply Voltage Input (Vs)

Standard Shipping Method (TX-401)



Dimension in mm:

A, B and K are dependent upon component dimensions

production tolerance complying DIN IEC 286-3

All dimensions in millimeters unless otherwise stated

Enclosure Type	Tape Width W (mm)	Quantity per meter	Quantity per reel	Dimension P
G194	32		500	20

Recommended Reflow Profile

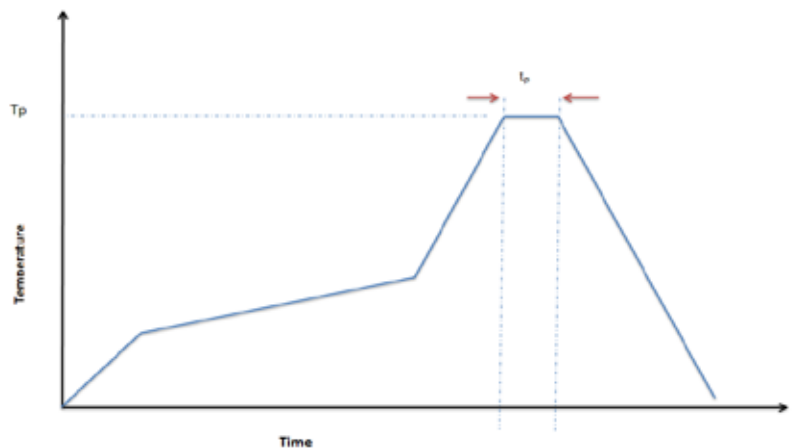
TP: max 250°C (@ solder joint, customer board level)

T_p: max: 10...30 sec

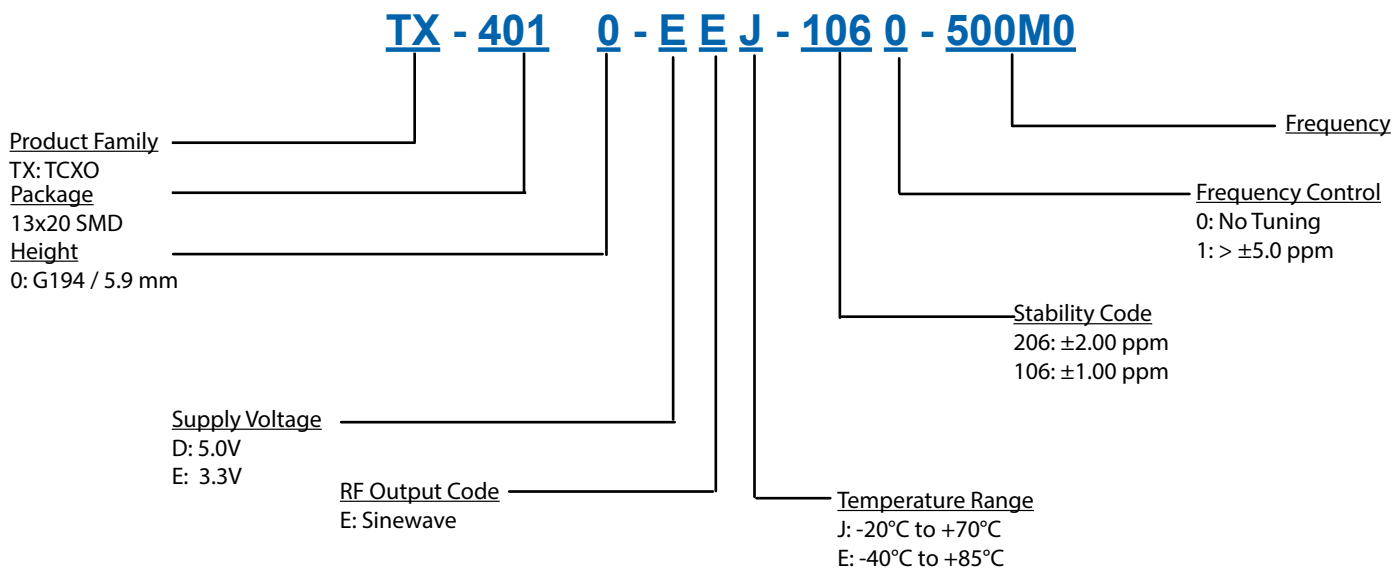
Additional Information:

This SMD oscillator has been designed for pick and place reflow soldering

SMD oscillators must be on the top side of the PCB during the reflow process.



Ordering Information



Notes:

1. Contact factory for improved stabilities or additional product options. Not all options and codes are available at all frequencies.
2. Phase noise degrades with increasing output frequency.
3. Contact factory for availability.

Unless other stated all values are valid at typical conditions for supply voltage, frequency control voltage, load, temperature (25°C).

Subject to technical modification.



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