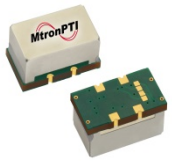
M6130/M6131 SERIES 9x14mm CMOS SMT TCXO

FEATURES
- Low Phase Noise
- Low Power Consumption
- Tight Stability
- LVCMOS Output



Applications
Test and Measurement
Communications
Military
Digital Switching
GPS Reference

Quality & Certifications
AS9100 Rev D
ISO9001:2008

ORDERING INFORMATION

Product Family (Supply Voltage)	Temperature Range		Stability		Output Type		Waveform		Package		Frequency
	Code	Value	Code	Value	Code	Value	Code	Value	Code	Value	xxx.xxxx
	1	0°C to +70°C	**J**	± 1.0 ppm	**T**	VCTCXO	**C**	CMOS	**K**	FR-4	
M6130: 5.0 V	**6**	-20°C to +70°C	**K**	± 2.0 ppm	**F**	TCXO					
M6131: 3.3 V	**2**	-40°C to +85°C	**H**	± 2.5 ppm							
	3 *	-55°C to +105°C	**L**	± 4.6 ppm							
* Contact factory Example: M61312JFCK 100.000000											
M6131	**2**		**J**		F		C		K		100.0000

ELECTRICAL SPECIFICATIONS

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency						
Frequency Range	F_O	60		125	MHz	
Initial Tolerance		-1.0		+1.0	ppm	@+25˚C
vs. Temperature	ΔF/F	-1.0		+1.0	ppm	Over -40°C to +85°C range. (Relative to frequency @+25˚C)
vs. Supply				±0.4	ppm	For 5% supply variation
vs. Load				±0.3	ppm	For 10% load variation
vs. Aging 20 years		-6.0		+6.0	ppm	@ +40°C.
RF Output						
Output Type			LVCMOS			
Output Load	C_L			15	pF	
Symmetry (duty cycle)	T_{DC}	45	50	55	%	@ 50% of V_{CC}
Output Logic Levels	V_{OL}			10	% V_{CC}	
Output Level	V_{OH}	90			% V_{CC}	
Rise/Fall Time				5	ns	Ref. 10% and 90%
Output Current				±24	mA	
Additional Specifications						
SSB Phase Noise Under Static Conditions			-73		dBc/Hz	@ 10 Hz
			-102		dBc/Hz	@ 100 Hz
			-132		dBc/Hz	@ 1 kHz
			-150		dBc/Hz	@ 10 kHz
			-158		dBc/Hz	@ 100 kHz
			-160		dBc/Hz	@ 1 MHz
Supply						
Operating Voltage	V_{CC}	3.135	3.3	3.465	V	
Operating Current	I_{CC}			40	mA	
Temperature						
Operating Temperature	T_A	-40		+85	°C	
Storage Temperature	T_S	-55		+125	°C	

ENVIRONMENTAL CHARACTERISTICS

Mechanical Shock	Per MIL-STD-202, Method 213, Condition C (100 g's, 6msec duration, ½ sinewave)
Vibration	Per MIL-STD-202, Method 201 & 204 Condition D (20 g's from 10-2000Hz)
Solderability	Per EIAJ-STD-002
Max. Soldering Conditions	See solder profile, Figure 1
Package Type	4-Pad FR-4 4-pad 9x14mm
Pad Termination	ENIG over Cu

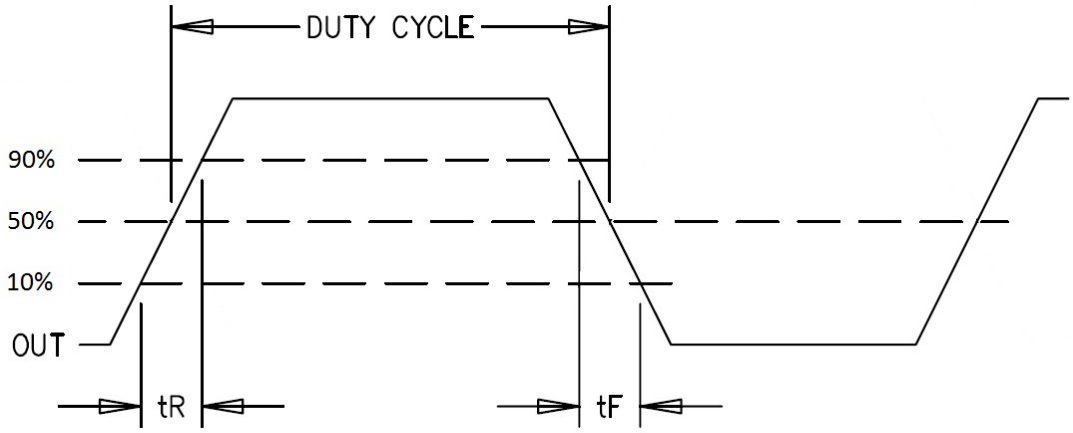
Fast facts

Connect with MtronPTI

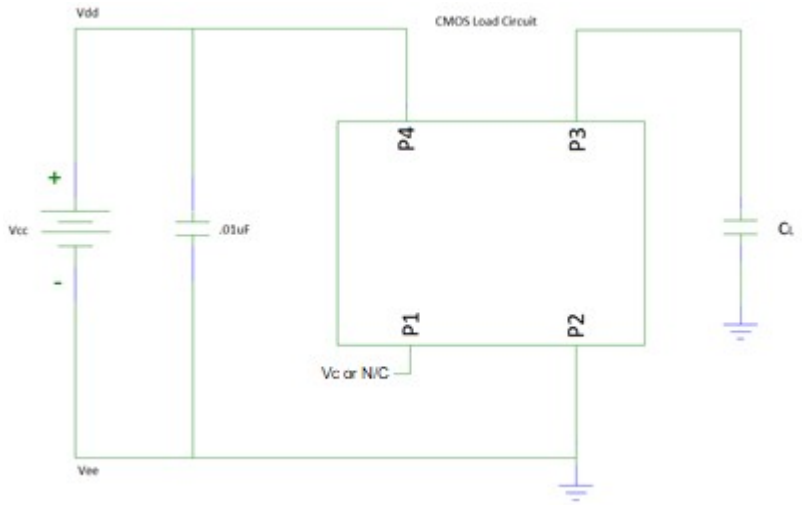
mtronpti.com

Orlando
2525 Shader Rd
Orlando, FL 32804 USA
Phone: 407-298-2000
Fax: 407-293-2979

OUTPUT WAVEFORM



LVCMOS TEST LOAD CIRCUIT DIAGRAM



Fast facts

Connect with MtronPTI

mtronpti.com

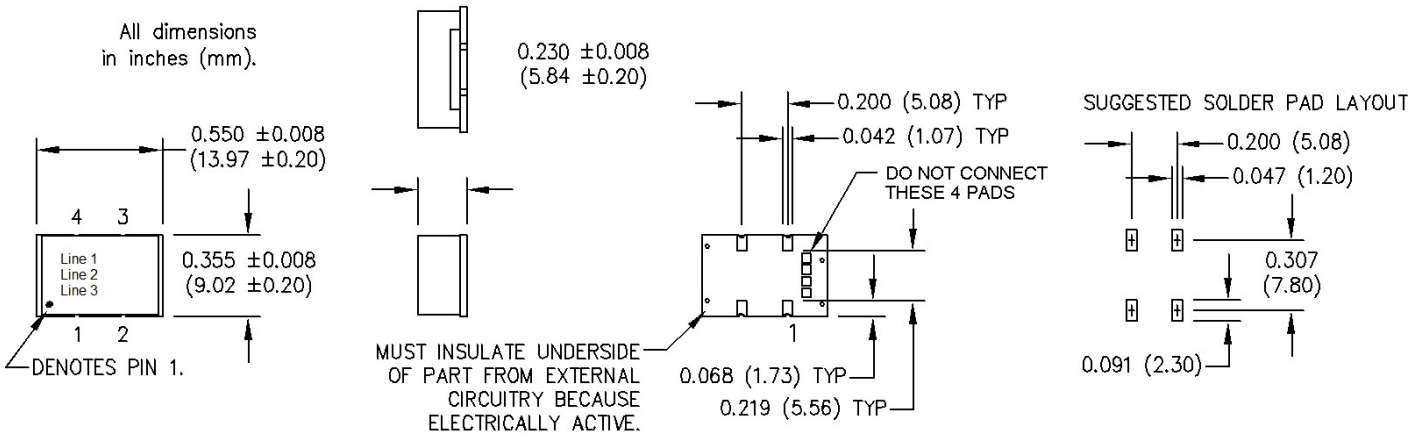
Orlando
2525 Shader Rd
Orlando, FL 32804 USA
Phone: 407-298-2000
Fax: 407-293-2979

PACKAGE PINOUT AND MARKING

Pad	Function
1	Vc or N/C
2	Ground
3	Output
4	+Vcc

Part Marking	
Line 1	Part Number
Line 2	100M0000
Line 3	M yy ww

Legend	
yy	Year
ww	Work week



SOLDERING CONDITIONS

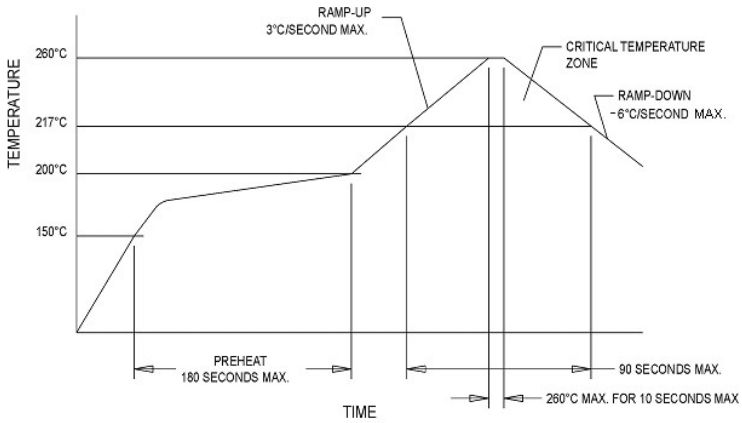


Figure 1

20180206 Rev. Preliminary

Fast facts

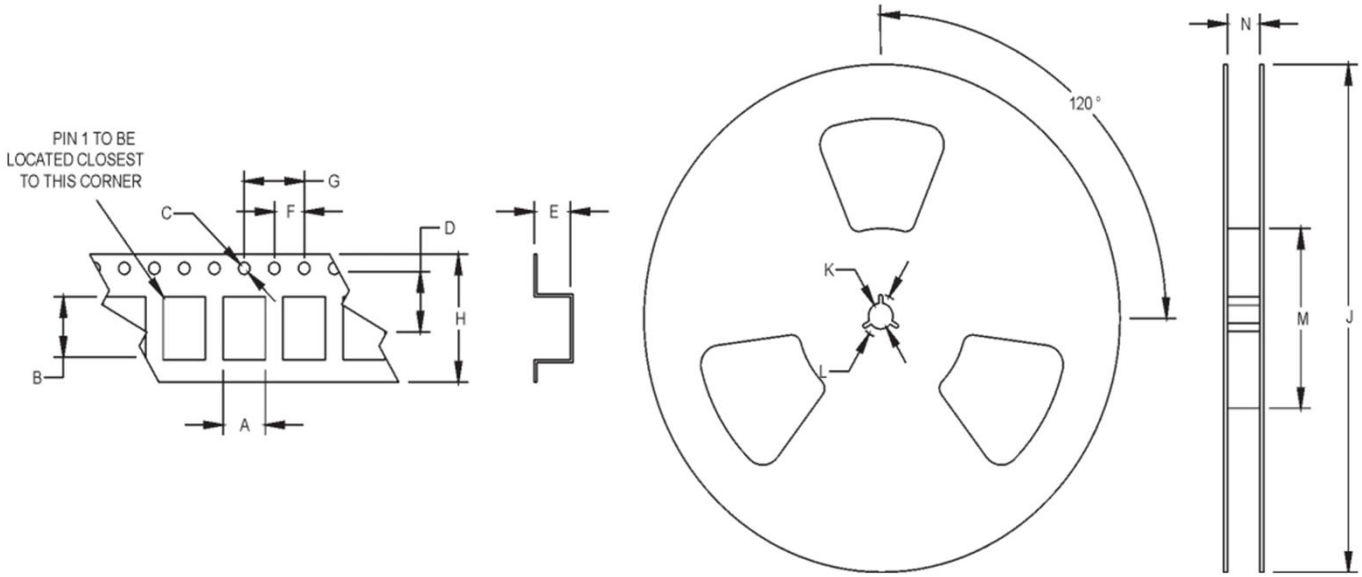
Connect with MtronPTI

mtronpti.com

Orlando
2525 Shader Rd
Orlando, FL 32804 USA
Phone: 407-298-2000
Fax: 407-293-2979

TAPE AND REEL

All units in mm



Tape and Reel Specifications											
A	B	C	D	E	F	G	H	J	K	L	M
9.54	14.62	1.5	11.5	5.4	4	12	24	330	6.5		100

20180206 Rev. Preliminary