MtronPTI
...when timing matters

SPECIFICATION FOR 2.5V LVDS SMT TCXO
MtronPTI P/N M6301S023

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F_O		250.000000		MHz	
Frequency Tolerance		-1.0		+1.0	ppm	@ +25°C
Frequency Stability						
vs. Temperature	ΔF/F			4.6	ppm	(Max-Min)/2
vs. Aging		-3		+3	ppm	1st year
		-1		+1	ppm	Per year thereafter.
vs. Supply Voltage	$\Delta F_{VDD}/F$		±0.40		ppm	5% voltage variation
vs. Reflow			±0.75		ppm	2 Reflows max.
vs. Load	$\Delta F_{LOAD}/F$		±0.20		ppm	5% voltage variation
RF Output						
Output Type		Differential LVDS Compatible				
Output Load		100 Ω Differential			V	
Output Skew			20		ps	
Common Mode Output Voltage			1.2		V	
Differential Output Voltage		250	425	500	mV	LVDS Load
Symmetry (duty cycle)	T_{DC}	45		55	%	
Rise/Fall Time	T_R/T_F			0.35	nS	From 20% to 80% V_{CC}
Supply Voltage & Power Consumption						
Operating Voltage	V_{cc}	2.375	2.5	2.625	V	
Operating Current	I_{cc}			100	mA	

Environmental Conditions:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Operating Temperature	T_A	-55		+105	°C	
Storage Temperature	T_S	-55		+125	°C	
Shock	Per MIL-STD-202, Method 213, Condition C (100 g's, 6 ms duration, ½ sinewave)					
Thermal Shock	Per MIL-STD-883, Method 1011, Condition A					
Thermal Cycle	Per MIL-STD-883, Method 1010, Condition B					
Hermeticity	Per MIL-STD-202, Method 112 (1 x 10^{-8} atm cc/s of helium)					
Moisture Sensitivity Level (MSL)	MSL 1					
Solderability	Per EIAJ-STD-002					
Max. Soldering Conditions	See Figure 1.					
Package Type	6-pad 5.0 X 7.0 X 1.9 mm leadless ceramic. Sn63 solder tinned pads.					
Vibration	Per MIL-STD-202, Method 204, Condition D (20g's from 10-2000Hz)					

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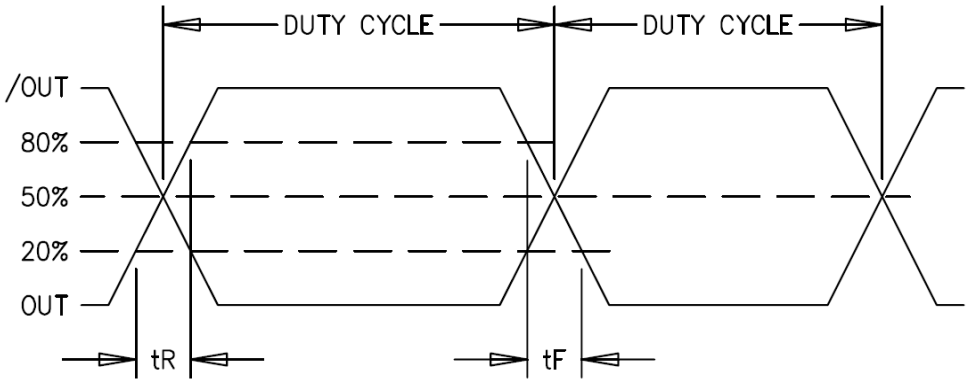
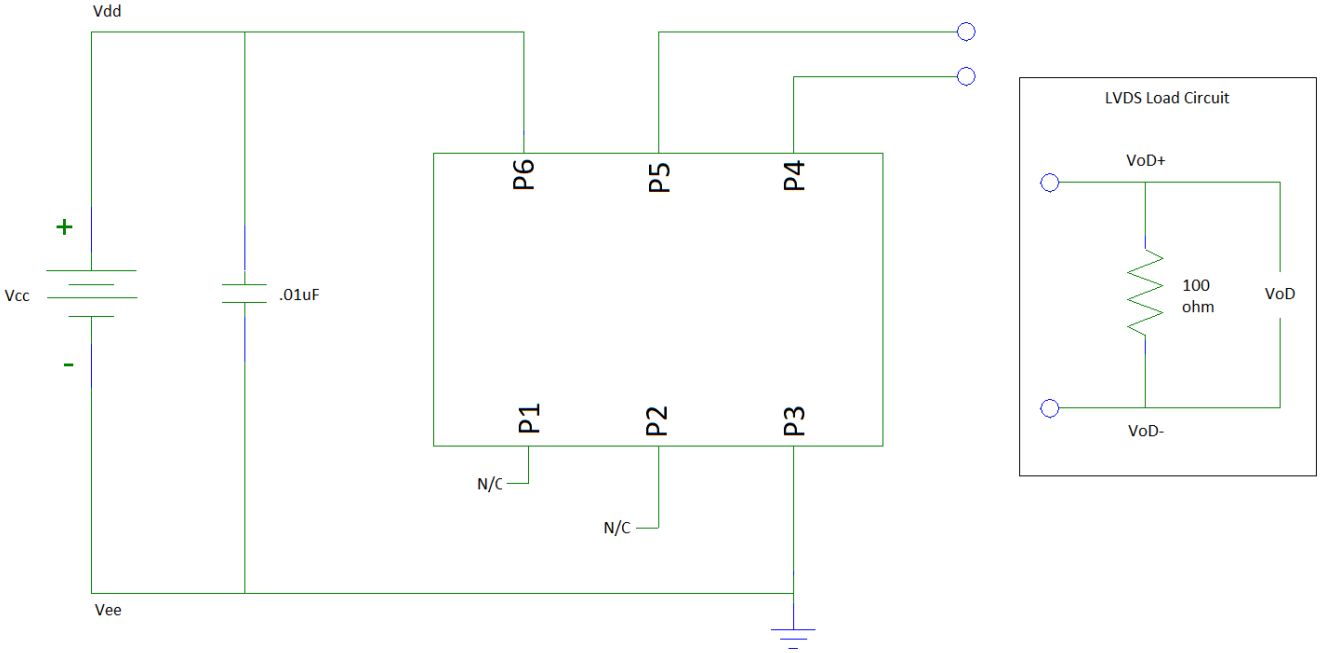
Output Waveform:



Typical Test Circuit & Load Circuit Diagrams:



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Soldering Conditions:

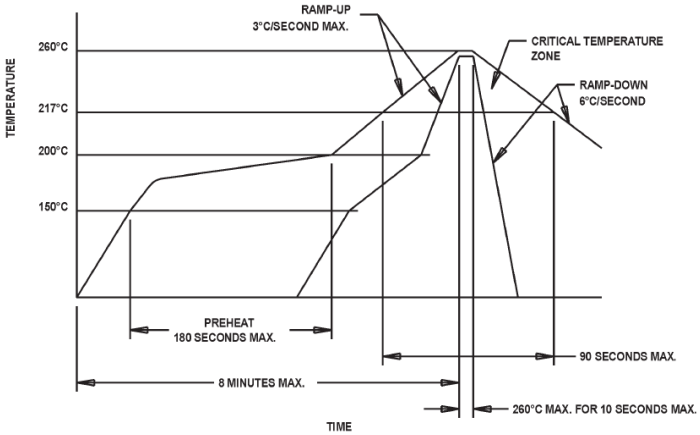

Figure 1

SPECIFICATION FOR 2.5V LVDS SMT TCXO
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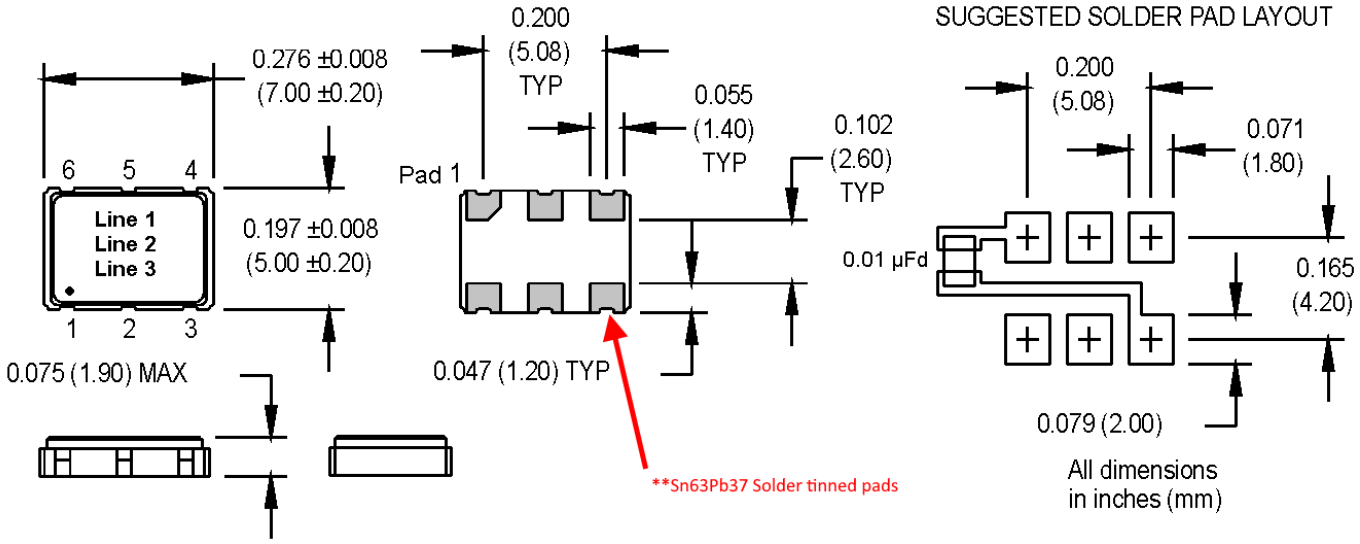
Mechanical, Marking, and Pin Out Information:

Part Marking	
Line 1	M6301S023
Line 2	250M000
Line 3	yyww
Line 4	Pin 1 identifier

Legend	
yy	Year
ww	Work week

Pin	Function
1	N/C
2	N/C
3	Ground
4	Output
5	Complementary Output
6	$+V_{CC}$



Datasheet Revision Table:

Date	Rev.	Author	Details of Revision
02-28-20	B	BRR	Symmetry spec updated, frequency added to part marking, outline revised.
01-28-20	A	BRR	Original release.