MtronPTI ...when timing matters
2525 Shader Road Orlando Florida 32804 USA
Phone: 407-298-2000 Fax: 407-293-2979
Website: www.mtronpti.com AMEX: LGL

Specification for an HCMOS SMD OCXO
MtronPTI P/N: XO5084-044sR

Electrical Specifications:

Unless otherwise specified; T= +25°C, Vcc = +5 VDC, CL= 15 pF

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Nominal Frequency	F_O		10.000000		MHz	
Initial Tolerance		-1.0		+1.0	ppm	Time of shipment
Frequency stability vs data of barcode label. Incl. supply voltage range, load variation, aging, retrace and reflow.	$\Delta F_1/F_1$	-50		+50	ppb	Oscillator mounted and soldered on a PCB using a reflow soldering process, stored at RH < 10% during 18 months. Then put into power-on. Frequency measured after power-on for 24h. T=+40°C (Shock, moisture and direction of mounting excl.)
Frequency stability vs. data of barcode label. Incl. supply voltage range, load variation, aging, retrace and reflow.	$\Delta F_1/F_1$	-50		+50	ppb	Oscillator mounted and soldered on a PCB using a reflow soldering process. Then put into power-on. Frequency measured after aging during 3 months in continuous power-on. T=+40°C (Shock, moisture and direction of mounting excl.)
Frequency stability vs. data of barcode label. Incl. supply voltage range, load variation, aging, retrace and reflow.	$\Delta F_1/F_1$	-30		+30	ppb	Oscillator mounted and soldered on a PCB using a reflow soldering process. Then put into power-on. Frequency measured after aging during 1 month in continuous power-on. T=+40°C (Shock, moisture and direction of mounting excl.)
Frequency stability vs. data of barcode (At shipment, aging excl.)	$\Delta F_1/F_1$	-20		+20	ppb	Oscillator mounted and soldered on a PCB using a reflow soldering process. Then put into power-on. Frequency measured after 1h of operation at T = +40°C, V_{CC}= 5.0V_{DC}, C_L=15pF
ΔF1= Frequency deviation from the barcode marking value. F1= Frequency according to barcode marking.						

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Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency Stabilities						
vs. Temp.range		-10		+10	ppb	T= +40°C, +5°C to +70°C
vs. Supply Voltage		-5		+5	ppb	±5% change in voltage
vs. Load		-5		+5	ppb	15*pF* to 20*pF*
25 Year Aging		-4		+4	ppm	
RF Output						
Output Type			HCMOS			
Output Load		15		20	*pF*	
Symmetry (duty cycle)		45	50	55	%	@ 50%V_{CC}
Rise/Fall Time				10	ns	From 10% to 90% (V_{OH} - V_{OL})
Logic “1” Level	V_{OH}	4.5			V	
Logic “0” Level	V_{OL}			0.5	V	
Temperature and Supply Voltage						
Operating Temperature		+5		+70	°C	
Storage Temperature		-55		+85	°C	
Operating Voltage	V_{CC}	4.75	5.0	5.25	V_{DC}	
Power Consumption				1.5	Watts	Steady state @ 25°C, In Still Air
				< 3.0	Watts	@ warm-up
Oven Alarm		2.5			V	Heater ready
				0.4	V	Heater NOT ready
Warm-up Time	ΔF/F			5	Minutes	To be within ±40 ppb of the frequency after 1h of operation
ΔF= Frequency deviation from the final frequency after 1h of operation. F= Frequency after 1h of operation.						

Environmental Conditions:

Solderability	Per EIAJ-STD-002
Soldering Conditions	See Figure 2
RoHS	Sn96 solder is utilized throughout the construction of this OCXO with the exception that Sn10 is utilized to solder the surface mount adapter board to the OCXO.

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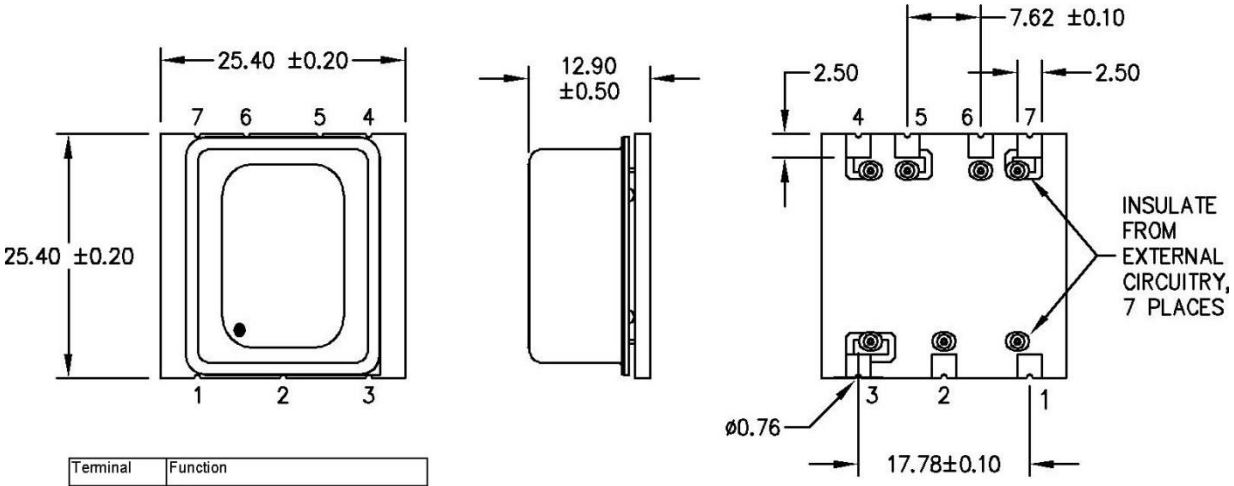
Mechanical, Marking and Layout Information:



Terminal	Function	
1	NC	
2	NC	
3	V_{CC}	
4	Output	
5	Oven alarm	Low: Cold oven
		High: Warm oven
6	NC	
7	GND	

All dimensions are in millimeters.

Barcode marking according to Figure 1, with QR-code the actual frequency deviation and date when measured, other marking see Ericsson 105 63-2031.

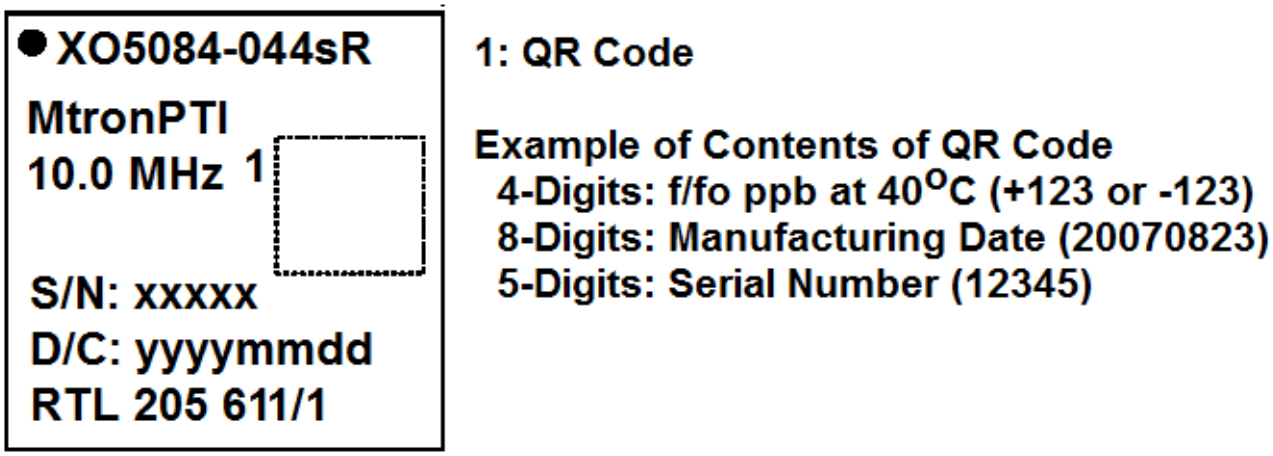


Figure 1

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Recommended Reflow Profile:

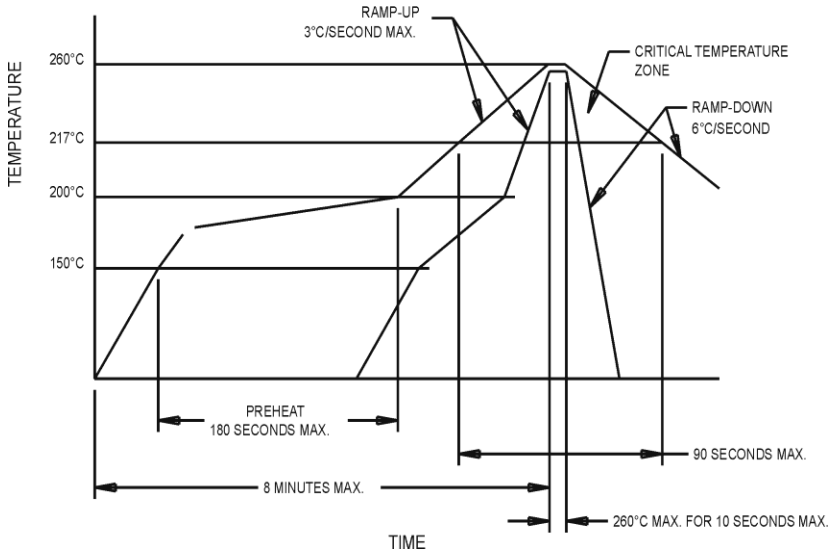

Figure 2

Data Sheet Revision Table:

Date	Rev.	Orig.	Details of Revision
03/06/12	4	BRM	Updated package outline drawing
02/08/12	3	BRM	Updated package outline drawing to reflect larger PAD size
01/26/12	2	BRM	Modified package outline drawing to reflect a 12.9mm ±0.5mm height
01/11/12	1	BRM	Added Ericsson part number revision level to the datasheet header
01/10/12	0	BRM	Original Release.