

## SPECIFICATION FOR 5x7mm LVPECL SMT VCXO

### MtronPTI P/N: M3028S009

#### Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F <sub>O</sub>		70.656000		MHz	
Frequency Stability						
Frequency Stability		-50		+50	ppm	Includes initial tolerance with V <sub>c</sub> = 1.65 and deviation over temperature
Aging		-5		+5	ppm	first year
		-3		+3	ppm	per year after first year
RF Output						
Output Type		PECL				
Output Load		50 ohms to (V <sub>cc</sub> -2) or Thevenin equivalent				
Symmetry (duty cycle)	T <sub>DC</sub>	45		55	%	@ 50% of waveform
Logic “0” Level	V <sub>OL</sub>			V <sub>cc</sub> -1.63		
Logic “1” Level	V <sub>OH</sub>	V <sub>cc</sub> -1.085				
Rise/Fall Time	T <sub>R</sub> /T <sub>F</sub>		0.4	0.7	ns	From 20% to 80% of waveform
Tristate (Pin 2)		Pin 2 high (70% V <sub>dd</sub> min.) or NC				Clock signal outputs
		Pin 2 low (30% V <sub>dd</sub> max.)				Outputs disabled to high Z
Frequency Adjustment						
Control Voltage		0.00	1.65	3.30	V	Pad 1
Absolute Pull Range		±50			ppm	Referenced to nominal frequency, including deviation over temperature, aging, shock, vibration, supply voltage
Modulation Bandwidth	f <sub>m</sub>	10	20		kHz	-3 dB
Linearity				10	%	
Input Impedance	Z <sub>in</sub>	100			kΩ	Pad 1
Supply Voltage & Power Consumption						
Operating Voltage	V <sub>CC</sub>	3.13	3.30	3.47	V	
Operating Current	I <sub>CC</sub>			80	mA	
Other Parameters						
Start-up Time	T <sub>SU</sub>			10	ms	T <sub>ambient</sub> = +25°C
Phase Noise			-120		dBc/Hz	@ 1 kHz
			-131		dBc/Hz	@ 10 kHz
			-143		dBc/Hz	@ 100 kHz

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#### Environmental & Packaging Requirements:

Operating Temperature	T <sub>A</sub>	-40		+85	°C	
Storage Temperature	T <sub>S</sub>	-55		+125	°C	
Mechanical Shock	Per MIL-STD-202, Method 213, Condition C (100 g's, 6 ms duration, ½ sinewave)					
Vibration	Per MIL-STD-202, Method 201 & 204 (10 g's from 10-2000 Hz)					
Thermal Cycle	Per MIL-STD-883, Method 1010, B (-55°C to 125°C, 15 min. dwell, 10 cycles)					
Hermeticity	Per MIL-STD-202, Method 112 (1 x 10 <sup>-8</sup> atm cc/s of Helium)					
Moisture Sensitivity Level	MSL1					
Solderability	Per EIAJ-STD-002					
Max. Soldering Conditions	See solder profile, Figure 1.					
Package Type	5 X 7 mm 6-pad leadless ceramic. RoHS compliant.					

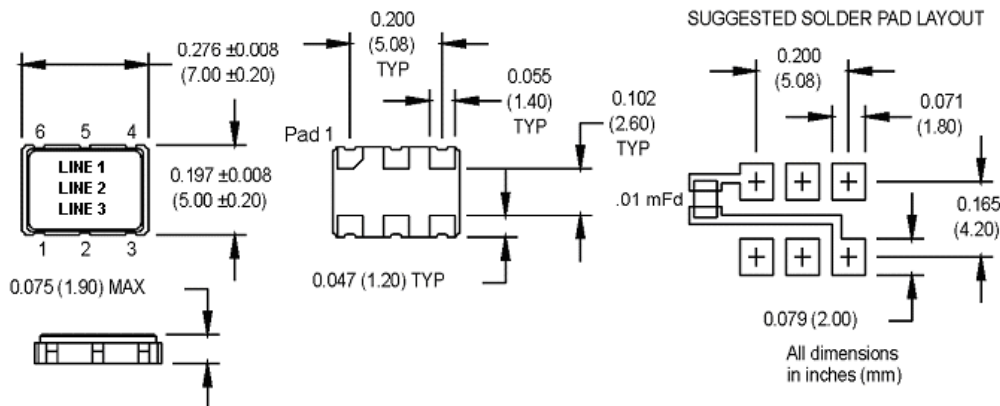
#### Marking and Pin Out:

Pad	Function
1	Control Voltage
2	Tristate Control
3	Ground
4	Output 1
5	Output 2
6	+V <sub>DD</sub>

Part Marking	
Line 1	M3028S009
Line 2	70M656
Line 3	M yy ww vv

Legend	
yy	Year
ww	Work week
vv	Factory code

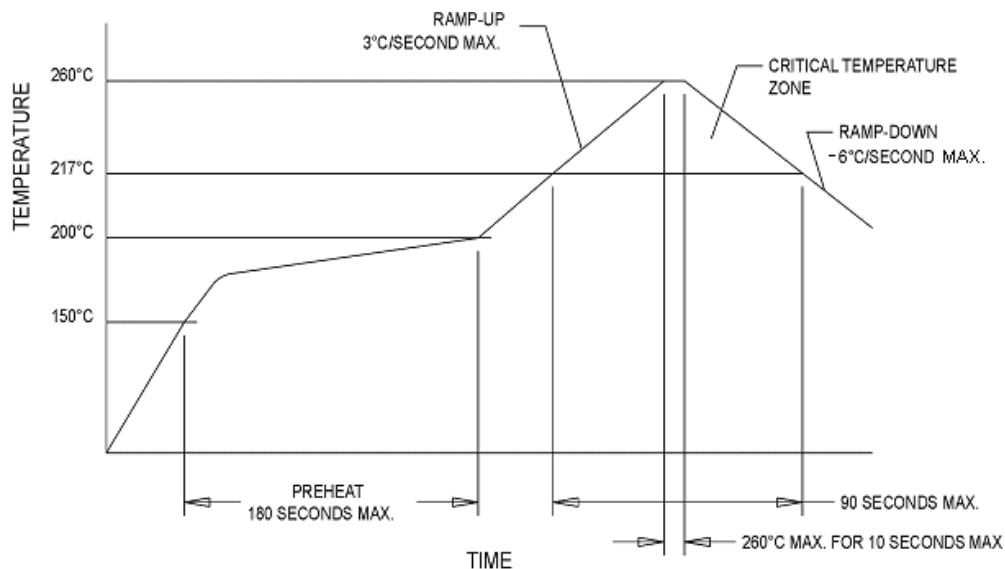
#### Dimensions:



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### Reflow Soldering Profile:



**Figure 1**

### DATA SHEET REVISION TABLE:

Date	Rev.	Author	Details of Revision
09/18/17	0	DCO	Original release
01/18/18	A	MM	Changed APR specification from $\pm 100\text{ppm}$ to $\pm 50\text{ppm}$ .