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With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: [info@chipsmall.com](mailto:info@chipsmall.com) Web: [www.chipsmall.com](http://www.chipsmall.com)

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

**3.3V CMOS 38.880MHz SONET VCXO**
**FRSONT038**


7.0 x 5.0mm Ceramic SMD

**ASSP VCXO™ for SONET**

**Product Features**

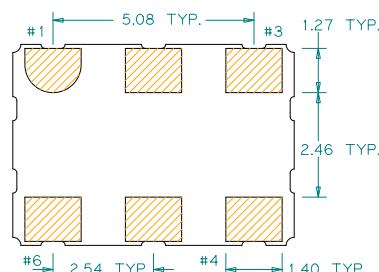
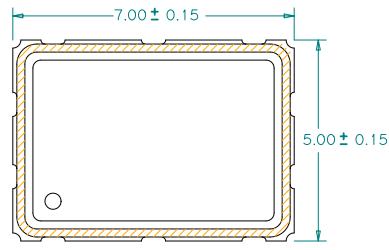
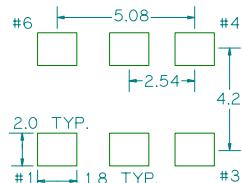
- Very low Pk to Pk jitter - 50ps Max
- Low supply current - 10mA Max
- Low power standby mode
- RoHS Compliant

**Product Description**

This is an enhanced 3.3V, 38.880MHz with superb jitter and low operating current for providing clock references in SONET applications.

**Applications**

- SONET
- SDH
- E3
- STM1

**Package:** (Scale: none, Dimensions are in mm)

**Recommended Land Pattern:**

**Pin Functions:**

Pin	Function
1	Control Voltage
2	Enable/Disable
3	Ground
4	Output
5	N/C
6	V <sub>DD</sub>

\*Extended high frequency power decoupling is recommended (see test circuit for minimum recommendation). To ensure optimal performance, do not route RF traces beneath the package.

**Part Ordering Information:**  
**FRSONT038**

### Electrical Performance

Parameter	Min.	Typ.	Max.	Units	Notes
Output Frequency		38.880		MHz	
Supply Voltage V <sub>DD</sub>	3.135	3.3	3.465	V	
Supply Current, Output Enabled			10	mA	
Supply Current, Output Disabled			1	µA	
Frequency Stability			±25	ppm	See Note 1 below
Operating Temperature Range	-20		+70	°C	
Output Logic 0, V <sub>OL</sub>			10% V <sub>DD</sub>	V	
Output Logic 1, V <sub>OH</sub>	90% V <sub>DD</sub>			V	
Output Load			15	pF	
Duty Cycle	45		55	%	Measured 50% V <sub>DD</sub>
Rise and Fall Time			4	ns	Measured 20/80% of waveform
Jitter, Phase, RMS(1-σ)			1	ps	12kHz~20MHz Frequency Band
Jitter, Peak to Peak (Pk-Pk)			50	ps	100.000 Random Periods

**Notes:**

1. Stability includes all combinations of operating temperature, load changes, rated input (supply) voltage changes, initial calibration tolerance (25°C), aging (10 years at +40°C average effective ambient temperature), shock and vibration.
2. For specifications other than those listed, please contact sales.

### Voltage Control Function

Parameter	Min.	Typ.	Max.	Units	Notes
Absolute Pull Range (APR)	±100			ppm	See 1 below
Control Voltage Range	0.3		3.0	V	As rated
Center Control Voltage		1.65		V	For RMT Nominal Frequency
Monotonic Linearity			10	%	Positive Transfer Slope
Input Impedance	2000			kΩ	Control Voltage Pin

**Notes:**

1. APR is relative to the nominal output frequency; APR is inclusive of frequency deviation due to stability.

### Output Enable / Disable Function

Parameter	Min.	Typ.	Max.	Units	Notes
Input Voltage (pin 2), Output Enable	3.0			V	or open
Input Voltage (pin 2), Output Disable (low power standby)			0.3	V	Output is Hi-Z
Internal Pullup Resistance		50		kΩ	
Output Disable Delay		100	200	ns	
Output Enable Delay		0.2		ms	

### Absolute Maximum Ratings

Parameter	Min.	Typ.	Max.	Units	Notes
Storage Temperature	-55		+125	°C	

For the latest product information visit: <http://www.pericom.com/products/crystals-and-crystal-oscillators/assp-xo/?part=FRSONT038>

For test circuit go to: [http://www.pericom.com/pdf/sre/tc\\_vc6cmos.pdf](http://www.pericom.com/pdf/sre/tc_vc6cmos.pdf)

For soldering reflow profile and reliability test ratings go to: <http://www.pericom.com/pdf/sre/reflow.pdf>

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