



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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!



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HCMOS 2.5x2mm 1.8V Oscillator



Model: F210 SERIES

RoHS & REACH Compliant

Rev. 9/17/2012

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FEATURES

- Standby Function
- Tape and Reel (3,000 pcs. STD)

• PART NUMBER SELECTION

Part Number	Model Number	Frequency Stability ¹	Operating Temperature (°C)	Frequency Range (MHz)
819-Frequency-xxxxx	F210	±100PPM	-10 ~ +70	0.750 ~ 50.000
819A-Frequency-xxxxx	F210R	±100PPM	-40 ~ +85	0.750 ~ 50.000
819B-Frequency-xxxxx	F215	±50PPM	-10 ~ +70	0.750 ~ 50.000
819C-Frequency-xxxxx	F215R	±50PPM	-40 ~ +85	0.750 ~ 50.000
819D-Frequency-xxxxx	F216	±25PPM	-10 ~ +70	0.750 ~ 50.000
819E-Frequency-xxxxx	F216R	±25PPM*	-40 ~ +85	1.800 ~ 50.000

• ELECTRICAL CHARACTERISTICS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range (Fo)	0.750 ~ 50.000 MHz
Storage Temperature Range (TSTG)	-55°C ~ +100°C
Supply Voltage (VDD)	1.8V ± 5%
Input Current (IDD)	
0.750 ~ 10.000 MHz	2.5mA
10.000+ ~ 20.000 MHz	3.5mA
20.000+ ~ 30.000 MHz	4.0mA
30.000+ ~ 40.000 MHz	4.5mA
40.000+ ~ 50.000 MHz	5.0mA
Output Symmetry (50% VDD)	45% ~ 55%
Rise Time (10% ~ 90% VDD)	10nS
Fall Time (90% ~ 10% VDD)	10nS
Output Voltage (VOL)	10% VDD
(VOH)	90% VDD Min
Output Current (IOL)	2mA Min
(IOH)	-2mA Min
Output Load (HCMOS)	15pF
Standby Current	10µA
Start-up Time (Ts)	10mS
Output Disable Time ²	10µS
Output Enable Time ²	10mS
Reflow Soldering Temp	260°C / 10 Seconds
Moisture Sensitivity Level (MSL)	1
Termination Finish	Au

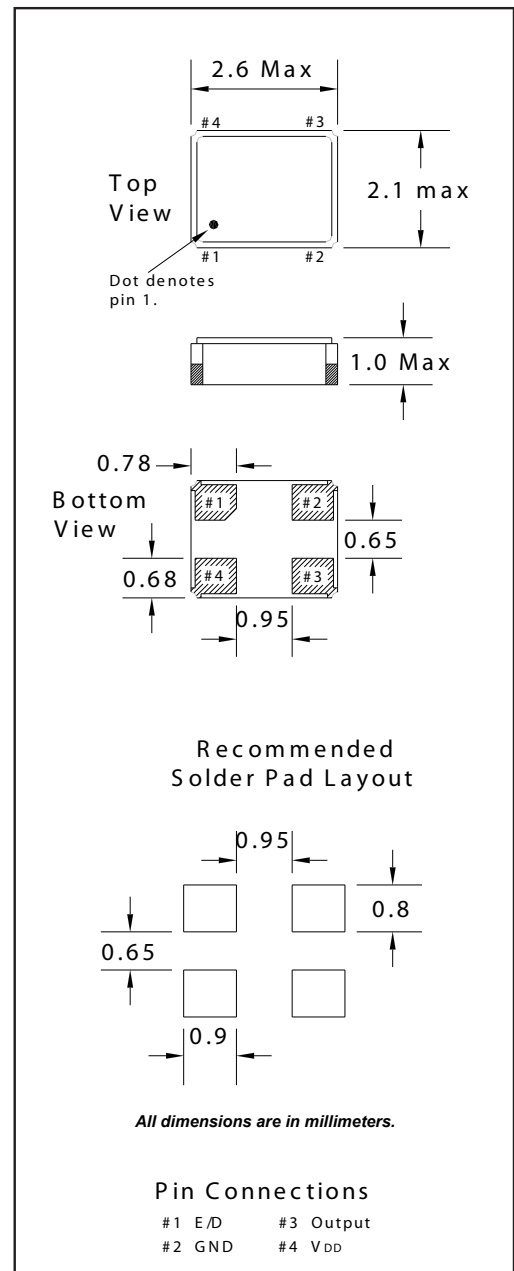
¹ Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, reflow, and one year aging *Excludes Shock/Vibration.

² An internal pullup resistor from pin 1 to pin 4 allows active output if pin 1 is left open.

Note: A 0.01µF capacitor should be placed between VDD (Pin 4) and GND (Pin2) to minimize power supply noise.

~Drawing is for reference to critical specifications defined by size measurements.

Certain non-critical visual attributes, such as side castellations, reference pin shape, etc. may vary. All specifications subject to change without notice.



• ENABLE / DISABLE FUNCTION

Pin 1	OUTPUT (Pin 3)
OPEN ²	ACTIVE
'1' Level VIH ≥ 70% VDD	ACTIVE
'0' Level VIL ≤ 30% VDD	High Z

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• TAPE SPECIFICATIONS (millimeters)

MODEL	A	B	C	D	E	F	STD Reel QTY
F210 Series	Ø1.5	4.0	4.0	3.5	8.0	1.15	3,000

• REEL SPECIFICATIONS (millimeters)

MODEL	G	H	I	J	K	L	M
F210 Series	2.0	Ø13	Ø21	Ø60	Ø180	9.0	2.0

