

MINIATURE CERAMIC SMD OSCILLATOR (2.5 x 2.0mm)

FEATURES:

- Available output frequency from 15MHz to 2.1GHz
- Ultra low phase RMS jitter 150fs typ
- Available LVDS, LVPECL, CML, HCSL outputs
- 3.3V, 2.5V and 1.8V supply options



FREQUENCY STABILITY

Parameter	Min.	Max.	Unit	Notes
Frequency Stability	±25	±100	ppm	Inclusive of calibration @ 25 °C, operating temperature range, input voltage variation, load variation, aging (1st year). Please select from Part Numbering Guide
Operating Temperature	-40°	+85°	C	Please select from Part Numbering Guide

ELECTRICAL SPECIFICATION

LVPECL						
Parameter	3.3V		2.5V		Unit	
	Min.	Max.	Min.	Max.		
Supply Voltage Variation (VDD)	3.63	2.97	2.25	2.75	V	
Frequency Range	15	2100	15	2100	MHz	
Supply Current		110		95	mA	
Output Level	Output High	VDD-1.165	VDD-0.8	VDD-1.165	VDD-0.8	V
	Output Low	VDD-2.0	VDD-1.55	VDD-2.0	VDD-1.55	
Rise Time / Fall Time (20%-80%)		0.35		0.35	nSec	
Duty Cycle	45	55	45	55	%	
Startup Time		8		8	mSec	
Tri-State Mode	Enable	0.7 x VDD		0.7 x VDD	V	
	Disable		0.3 x VDD	0.3 x VDD		
Standby Current		120		95	mA	
Output Load	50 ohms into VDD-2V					

Phase Noise	3.3V		2.5V		
	Typ.	Max.	Typ.	Max.	
At VDD=3.3V , Fout=873.515MHz	1kHz offset	-106		-106	dBc/Hz
	10kHz offset	-115		-115	
	100kHz offset	-123		-123	
	1MHz offset	-133		-133	
	20MHz offset	-150		-150	
RMS Phase Jitter (12kHz to 20MHz)	150	250	150	250	fs
Period Jitter		50		50	ps

LVDS							
Parameter	3.3V		2.5V		1.8V		Unit
	Min.	Max.	Min.	Max.	Min.	Max.	
Supply Voltage Variation (VDD)	3.63	2.97	2.25	2.75	1.71	1.89	V
Frequency Range	15	2100	15	2100	15	2100	MHz
Supply Current		90		80		70	mA
Output Level	Output High	1.6		1.6		1.6	V
	Output Low	0.9	0.9		0.9		
Rise Time / Fall Time (20%-80%)		0.35		0.35		0.35	nSec
Duty Cycle	45	55	45	55	45	55	%
Startup Time		8		8		8	mSec
Tri-State Mode	Enable	0.7 x VDD	0.7 x VDD		0.7 x VDD		V
	Disable		0.3 x VDD	0.3 x VDD		0.3 x VDD	
Standby Current		90		80		70	mA
Output Load	100 ohms between OUT and OUTN						

Phase Noise		3.3V		2.5V		1.8V		Unit
		Typ.	Max.	Typ.	Max.	Typ.	Max.	
At VDD=3.3V, Fout=873.515MHz	1kHz offset	-106		-106		-106		dBc/Hz
	10kHz offset	-115		-115		-115		
	100kHz offset	-123		-123		-123		
	1MHz offset	-133		-133		-133		
	20MHz offset	-150		-150		-150		
RMS Phase Jitter (12kHz to 20MHz)		150	250	150	250	150	250	fs
Period Jitter			50		50		50	ps

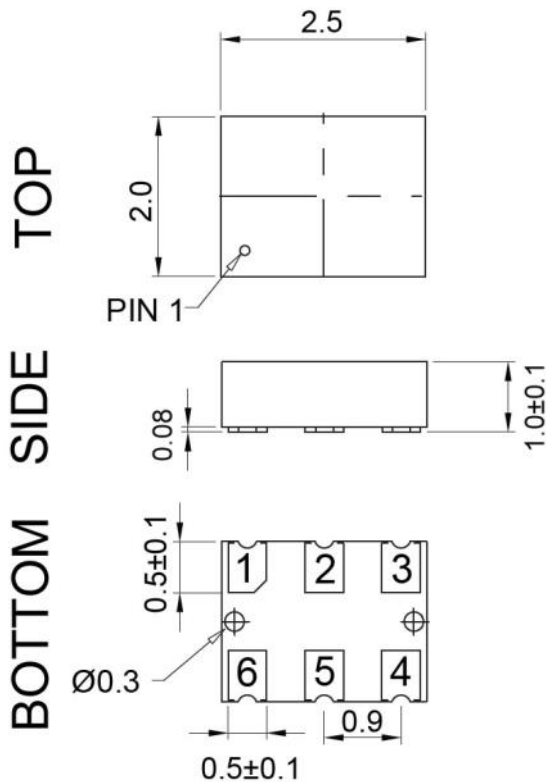
CML								
Parameter	3.3V		2.5V		1.8V		unit	
	Min.	Max.	Min.	Max.	Min.	Max.		
Supply Voltage Variation (VDD)	3.63	2.97	2.25	2.75	1.71	1.89	V	
Frequency Range	15	2100	15	2100	15	2100	MHz	
Supply Current		90		80		70	mA	
Output Level	Output High	VDD-0.085	VDD	VDD-0.085	VDD	VDD-0.085	VDD	V
	Output Low	VDD-0.6	VDD-0.32	VDD-0.6	VDD-0.32	VDD-0.6	VDD-0.32	
Rise Time / Fall Time (20%-80%)		0.35		0.35		0.35	nSec	
Duty Cycle	45	55	45	55	45	55	%	
Startup Time		8		8		8	mSec	
Tri-State Mode	Enable	0.7 x VDD	0.7 x VDD		0.7 x VDD		V	
	Disable		0.3 x VDD	0.3 x VDD		0.3 x VDD		
Standby Current		90		80		70	mA	
Output Load	50 ohms to VDD							

Phase Noise		3.3V		2.5V		1.8V		Unit
		Typ.	Max.	Typ.	Max.	Typ.	Max.	
At VDD=3.3V, Fout=805.664MHz	1kHz offset	-107		-107		-107		dBc/Hz
	10kHz offset	-117		-117		-117		
	100kHz offset	-125		-125		-125		
	1MHz offset	-135		-135		-135		
	20MHz offset	-150		-150		-150		
RMS Phase Jitter (12kHz to 20MHz)		150	250	150	250	150	250	fs
Period Jitter			50		50		50	ps

HCSL								
Parameter	3.3V		2.5V		1.8V		Unit	
	Min.	Max.	Min.	Max.	Min.	Max.		
Supply Voltage Variation (VDD)	3.63	2.97	2.25	2.75	1.71	1.89	V	
Frequency Range	15	700	15	700	15	700	MHz	
Supply Current		90		80		70	mA	
Output Level	Output High	0.66	1.15	0.66	1.15	0.66	1.15	V
	Output Low	0	0.15	0	0.15	0	0.15	
Rise Time / Fall Time (20%-80%)		0.4		0.4		0.4	nSec	
Duty Cycle	45	55	45	55	45	55	%	
Startup Time		8		8		8	mSec	
Tri-State Mode	Enable	0.7 x VDD		0.7 x VDD		0.7 x VDD	V	
	Disable		0.3 x VDD		0.3 x VDD			0.3 x VDD
Standby Current		90		80		70	mA	
Output Load	50 ohms to GND							

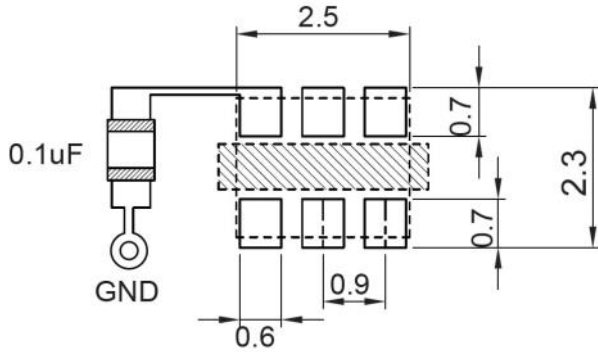
Phase Noise		3.3V		2.5V		1.8V		Unit
		Typ.	Max.	Typ.	Max.	Typ.	Max.	
At VDD=3.3V, Fout=805.664MHz	1kHz offset	-107		-107		-107		dBc/Hz
	10kHz offset	-117		-117		-117		
	100kHz offset	-125		-125		-125		
	1MHz offset	-135		-135		-135		
	20MHz offset	-150		-150		-150		
RMS Phase Jitter (12kHz to 20MHz)		150	250	150	250	150	250	fs
Period Jitter			50		50		50	ps

DIMENSIONS (mm)



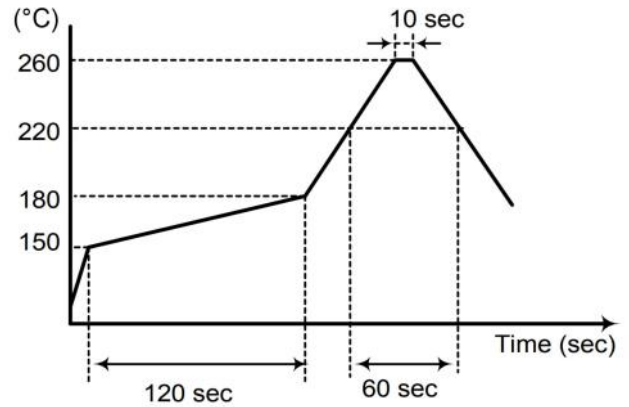
Pin Configuration	
1	OE
2	NC
3	GND
4	OUTPUT
5	C. OUTPUT
6	VDD

SOLDER PATTERN



Please keep the middle shaded area blank.
Do not layout any lines in this space.

REFLOW PROFILE



PART NUMBERING GUIDE

