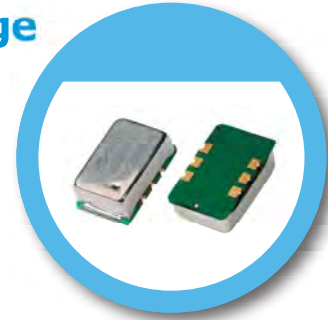


# VK Type

## 14.2 x 9.3 mm SMD LVPECL/LVDS Voltage Controlled Crystal Oscillator

### FEATURE

- Typical 14.2 X 9.3 x 5.4 mm 6 pads ceramic SMD package.
- Tight symmetry (45 to 55%) available.
- Wide frequency control range.
- Low phase jitter (Max: 0.5 pSec).
- Complementary Output.

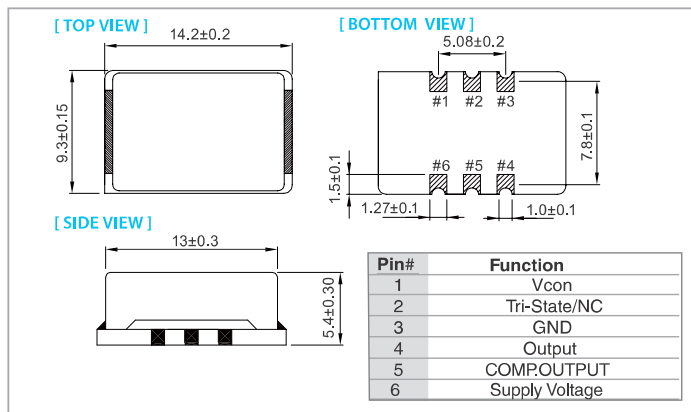


RoHS Compliant

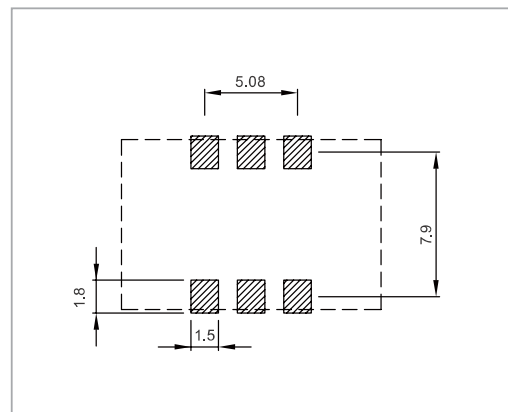
### TYPICAL APPLICATION

- Set-top Box, HDTV
- WiMAX/WLAN
- xDSL/ VoIP, Cable modem

### DIMENSION (mm)



### SOLDER PAD LAYOUT (mm)



### ELECTRICAL SPECIFICATION

Parameter	LVPECL				LVDS				Unit
	3.3 V		2.5V		3.3 V		2.5V		
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
<b>Supply Voltage Variation (VDD)</b>	VDD-5%	VDD+5%	VDD-5%	VDD+5%	VDD-5%	VDD+5%	VDD-5%	VDD+5%	V
<b>Frequency Range</b>	30	250	30	250	30	250	30	250	MHz
<b>Standard Frequency</b>	77.76, 106.25, 122.88, 125, 155.52, 156.25, 200								
<b>Absolute Pulling Range (APR)</b>	±50	-	±50	-	±50	-	±50	-	ppm
<b>Control Voltage Range</b>	0.3	3.0	0	2.5	0.3	3.0	0	2.5	V
<b>Supply Current</b>	30 MHz ≤ Fo < 65 MHz		65 MHz ≤ Fo ≤ 250 MHz		30 MHz ≤ Fo < 65 MHz		65 MHz ≤ Fo ≤ 250 MHz		mA
<b>Output Level</b>	Output High (Logic"1")		Output Low (Logic"0")		Output High (Logic"1")		Output Low (Logic"0")		V
<b>Transition Time: Rise/Fall Time+</b>	-		1.0		-		1.0		nSec
<b>Start Time</b>	-		3		-		3		mSec
<b>Tri-State (input to Pin 2, Enable Low)</b>									
Enable (Low voltage or GND or floating)	-		0.99		-		0.75		V
Disable (Low voltage or GND)	2.31		-		2.31		-		
<b>Linearity</b>	-		10		-		10		%
<b>Modulation Bandwidth (BW)</b>	-		15		-		15		kHz
<b>Input Impedance</b>	10000		-		10000		-		kΩ
<b>RMS Phase Jitter (Integrated 12 kHz-20 MHz)</b>									
Fo < 100 MHz	-		1		-		1		pSec
100 MHz ≤ Fo < 125 MHz	-		0.7		-		0.7		
125 MHz ≤ Fo < 150 MHz	-		0.5		-		0.5		
150 MHz ≤ Fo	-		0.3		-		0.3		
<b>Phase Noise@155.52 MHz</b>	100 Hz		1 kHz		100 Hz		1 kHz		dBc/Hz
	-85		-85		-85		-85		
	-110		-110		-110		-110		
	10 kHz		-		10 kHz		-		
	-130		-130		-130		-130		
<b>Aging ( @ 25°C 1st year)</b>	-		±3		-		±3		ppm
<b>Storage Temp. Range</b>	-55		125		-55		125		°C

Standard frequencies are frequencies which the crystal has been designed and does not imply a stock position.

+ Transition times are measured between 20% and 80% of VDD.

### FREQ. STABILITY vs. TEMP. RANGE

Temp. (°C)	ppm	±25	±50
-10 ~ +60		△	○
-20 ~ +70		△	○
-40 ~ +85		×	○

\* ○ : Available △:Conditional X: Not available

\* Inclusive of calibration @ 25 °C, operating temperature range, input voltage variation, load variation, aging (1<sup>st</sup> year), shock, and vibration

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