

**VA4 SERIES: 9.3X8.5mm VCXO OSCILLATOR, HCMOS, +3.3 VDC**

**DESCRIPTION:** A crystal controlled, high frequency, highly stable, voltage controlled oscillator, adhering to HCMOS Standards. The output can be Tri-stated to facilitate testing or combined multiple clocks. This oscillator is ideal for today's automated assembly environments.

**APPLICATIONS AND FEATURES:**

- Common Frequencies: 16.384 MHz; 19.44 MHz; 27 MHz; 38.88 MHz; 51.84 MHz; 77.76 MHz
- +3.3 VDC HCMOS
- Frequency Range from 1 to 100 MHz

**■ ELECTRICAL PARAMETERS:**

PARAMETER	SYMBOL	TEST CONDITIONS <sup>*1</sup>	VALUE	UNIT
Nominal Frequency	fo		1.000 ~ 100.000	MHz
Supply Voltage	Vcc		+3.3 ±5%	VDC
Supply Current	Is		35.0 MAX	mA
Output Logic Type			HCMOS	
Load		Connected from output to ground	15	pF
Output Voltage Levels	Voh Vol		0.9 * Vcc MIN 0.1 * Vcc MAX	VDC VDC
Duty Cycle	DC	Measured at 50% of Vcc	40/60 to 60/40 or 45/55 to 55/45	%
Rise / Fall Time	tr / tf	Measured at 20/80% and 80/20% Vcc Levels	6.0 MAX <sup>*2</sup>	ns
Jitter	J	RMS, Fj = 12 kHz...20 MHz	1 TYP	ps
Overall Frequency Stability	Δf/fc	Op. Temp., Aging, Load, Supply and Cal. Variations	<sup>*3</sup>	ppm
Control Voltage Range	VC	Positive slope; 10% linearity MAX	0 to +3.3	VDC
Settability	Vfo		+1.65 ± 0.25	VDC
Absolute Pull Range	APR	Minimum guaranteed freq. pull over Δf/fc	See Part Numbering	ppm
Input Impedance	Zin		10 MIN	kΩ
Modulation Bandwidth	BW	-3 dB	10 MIN	kHz
Pin 1 Output Enabled	En	High Voltage or No Connect	0.7•Vcc MIN	VDC
Pin 1 Output Disabled	Dis	Ground	0.3•Vcc MAX	VDC
Absolute voltage range	Vcc(abs)	Non-Destructive	-0.5...+7.0	VDC

\*1 Test Conditions Unless Stated Otherwise: Nominal Vcc, Nominal Load, +25 ±3°C

\*2 Frequency Dependent

\*3 Not All APR's Available With All Temperature Ranges—Please Consult Factory For Availability

**■ ENVIRONMENTAL PARAMETERS:**

PARAMETER	SYMBOL	TESTCONDITIONS <sup>*1</sup>	VALUE	UNIT
Operating temperature range	Ta		SEE PART NUMBER TABLE	°C
Storage temperature range	T(stg)		-55...+90	°C

**■ PART NUMBERING SYSTEM:**

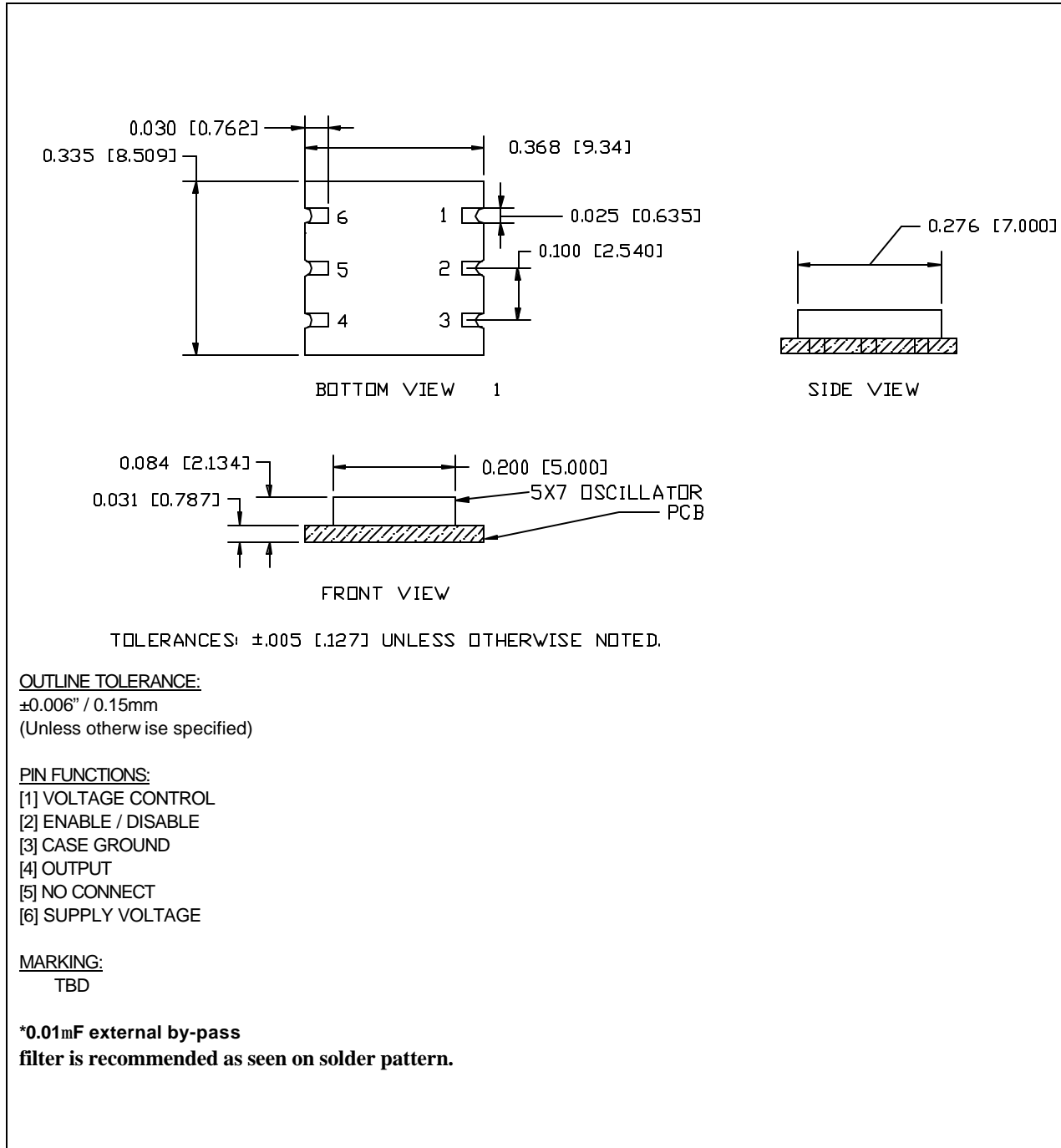
SERIES	SYMMETRY	TEMPERATURE RANGE (°C)	APR (ppm)	FREQUENCY (MHz)
VA4: VCXO with HCMOS Output	A: 40/60 to 60/40% T: 45/55 to 55/45%	R: 0...+50 S: 0...+70 U: -20...+70 W: 0...+85 V: -40...+85	F: ±32 ppm H: ±50 ppm K: ±70PPM G: ±80 ppm J: ±100 ppm L: ±130 ppm	1.000...100.000

**EXAMPLE: VA4ASH-38.880**

VCXO Oscillator, 9.3X8.5mm Package, +3.3 VDC Supply Voltage, HCMOS Output, Standard Symmetry, 0...+70°C Operating Temperature Range, ±50 ppm APR, 38.880 MHz

Please consult the factory for any custom requirements.

■ MECHANICAL PARAMETERS:



TOLERANCES: ±0.005 [0.127] UNLESS OTHERWISE NOTED.

OUTLINE TOLERANCE:

±0.006" / 0.15mm  
(Unless otherwise specified)

PIN FUNCTIONS:

- [1] VOLTAGE CONTROL
- [2] ENABLE / DISABLE
- [3] CASE GROUND
- [4] OUTPUT
- [5] NO CONNECT
- [6] SUPPLY VOLTAGE

MARKING:

TBD

**\*0.01mF external by-pass filter is recommended as seen on solder pattern.**

▪ TAPE AND REEL

