

## VA2 SERIES: 9.3X8.5mm VCXO OSCILLATOR, HCMOS, +5.0 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
- +5.0 VDC HCMOS
- Frequency Range from 1 to 100 MHz

### ■ ELECTRICAL PARAMETERS:

PARAMETER	SYMBOL	TEST CONDITIONS <sup>*1</sup>	VALUE	UNIT
Nominal Frequency	f <sub>o</sub>		1.000 ~ 100.000	MHz
Supply Voltage	V <sub>cc</sub>		+5.0 ±5%	VDC
Supply Current	I <sub>s</sub>		35.0 MAX	mA
Output Logic Type			HCMOS	
Load		Connected from output to ground	15	pF
Output Voltage Levels	V <sub>oh</sub> V <sub>ol</sub>		0.9 * V <sub>cc</sub> MIN 0.1 * V <sub>cc</sub> MAX	VDC VDC
Duty Cycle	DC	Measured at 50% of V <sub>cc</sub>	40/60 to 60/40 or 45/55 to 55/45	%
Rise / Fall Time	t <sub>r</sub> / t <sub>f</sub>	Measured at 20/80% and 80/20% V <sub>cc</sub> Levels	6.0 MAX <sup>*2</sup>	ns
Jitter	J	RMS, F <sub>j</sub> = 12 kHz...20 MHz	1 TYP	ps
Overall Frequency Stability	Δf/f <sub>c</sub>	Op. Temp., Aging, Load, Supply and Cal. Variations	<sup>*3</sup>	ppm
Control Voltage Range	V <sub>C</sub>	Positive slope; 10% linearity MAX	0 to +5.0	VDC
Settability	V <sub>f<sub>o</sub></sub>		+2.5 ± 0.5	VDC
Absolute Pull Range	APR	Minimum guaranteed freq. pull over Δf/f <sub>c</sub>	See Part Numbering	ppm
Input Impedance	Z <sub>in</sub>		10 MIN	kΩ
Modulation Bandwidth	BW	-3 dB	10 MIN	kHz
Pin 1 Output Enabled	E <sub>n</sub>	High Voltage or No Connect	0.7•V <sub>cc</sub> MIN	VDC
Pin 1 Output Disabled	Dis	Ground	0.3•V <sub>cc</sub> MAX	VDC
Absolute voltage range	V <sub>cc</sub> (abs)	Non-Destructive	-0.5...+7.0	VDC

\*1 Test Conditions Unless Stated Otherwise: Nominal V<sub>cc</sub>, 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	TEST CONDITIONS <sup>*1</sup>	VALUE	UNIT
Operating temperature range	T <sub>a</sub>		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)
VA2: 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: VA2ASH-38.880

VCXO Oscillator, 9.3X8.5mm Package, +5.0 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:**



