

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

^{*1} Test Conditions Unless Stated Otherwise: Nominal V_{cc}, 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 ^{*1}	VALUE	UNIT
Operating temperature range	T _a		SEE PART NUMBER TABLE	°C
Storage temperature range	T(stg)		-55...+90	°C

■ PART NUMBERING SYSTEM:

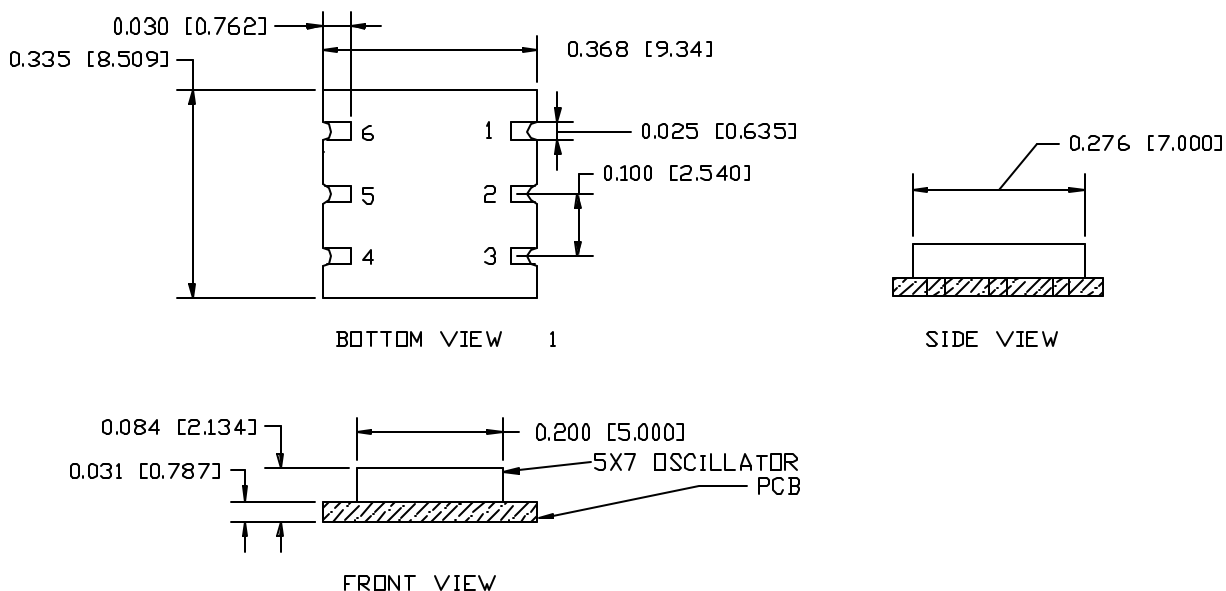
SERIES	SYMMETRY	TEMPERATURE RANGE (°C)	APR (ppm)	FREQUENCY (MHz)
VA2: VCXO with HCMOS Output	A: 40/60 to 60/40% T: 45/55 to 55/45%	R: 0...+50 S: 0...+70 U: -20...+70 W: 0...+85 V: -40...+85	F: ±32 ppm H: ±50 ppm K: ±70PPM G: ±80 ppm J: ±100 ppm L: ±130 ppm	1.000...100.000

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:**



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

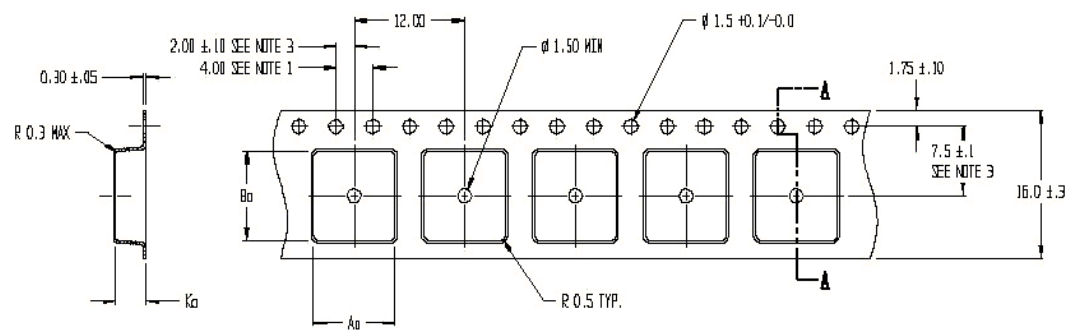
MARKING:

TBD

***0.01mF external by-pass**

filter is recommended as seen on solder pattern.

▪ **TAPE AND REEL**



SECTION A - A

Ao = 8.75
Ba = 9.65
Ka = 3.20

- NOTES:
1. 10 SPROCKET HOLE PITCH CUMULATIVE TOLERANCE ±0.2
 2. CAMBER IN COMPLIANCE WITH EIA 481
 3. POCKET POSITION RELATIVE TO SPROCKET HOLE MEASURED AS TRUE POSITION OF POCKET, NOT POCKET HOLE