CMOS/TTL COMPATIBLE VOLTAGE CONTROLLED CRYSTAL OSCILLATOR

7.0 x 5.0 x 1.6 mm

ASVV

RoHS Compliant

FEATURES:

- Low profile (1.6) SMD VCXO
- Tristate functions
- Seam sealed package assures high reliability
- CMOS/TTL output
- Suitable for RoHS compliant reflow process

APPLICATIONS:

- Phase locked loops (PLLs)
- Synthesizers
- Clock Recover, Digital Transmission device
- Digital set-up box
- Computers; Test Equipment

STANDARD SPECIFICATIONS:

Parameters		Minimum	Typical	Maximum	Units	Notes
Frequency Range:		1.0	-----	200	MHz	
Operating Temperature:		0	-----	+70	°C	See options
Storage Temperature:		-45	-----	+90	°C	
Overall Frequency Stability*:		-50	-----	+50	ppm	See options
Supply Voltage (Vdd):		3.135	3.3	3.465	V	3.3V±5%
Control Voltage (Vc):		0.15	1.65	3.15	V	
Supply Current (I_{dd}):		-----	1.1 ~ 2.0	5.0	mA	1.000~11.999 MHz
		-----	1.4 ~ 4.0	8.0		12.000~26.999 MHz
		-----	1.8 ~ 5.0	10.0		27.000~39.999 MHz
		-----	3.4 ~ 8.0	15.0		40.000~57.999 MHz
		-----	5.9 ~ 20.0	35.0		58.000~99.999 MHz
		-----	20.0 ~ 30.0	40.0		100.000~200.000 MHz
Linearity:		-10	-----	10	%	
Output Load		-----	-----	15	pF	
		-----	-----	5	TTL	
Output Voltage:	V_{OH}	0.9*Vdd	-----	-----	V	
	V_{OL}	-----	-----	0.1*Vdd	V	
Pullability:		±80	-----	-----	ppm	See options
Tri-state function (Stand-by) :		"1" (VIH≥2.2V) or Open: Oscillation "0" (VIH<0.8V) : Hi Z				
Aging:		-3.0	-----	+3.0	ppm	@+25°C First year
Symmetry:		40	-----	60	%	
Start-up Time :		-----	1.1 ~ 2.0	5	ms	@1/2Vdd (See options)
Rise/Fall Time (Tr/Tf):		-----	1.6 ~ 4.0	8.0	ns	1.000~11.999 MHz
		-----	1.0 ~ 3.0	6.0		12.000~26.999 MHz
		-----	1.4 ~ 2.5	5.0		27.000~39.999 MHz
		-----	1.1 ~ 2.0	4.0		40.000~57.999 MHz
		-----	0.7 ~ 2.0	3.0		58.000~99.999 MHz
		-----	0.9 ~ 1.5	3.0		100.000~200.000 MHz
Period jitter RMS :		-----	2.0	3.5	ps	1.000~11.999 MHz
		-----	2.0	3.5		12.000~26.999 MHz
		-----	2.0	3.5		27.000~39.999 MHz
		-----	2.0	3.5		40.000~57.999 MHz
		-----	5.0	8.0		58.000~99.999 MHz
		-----	7.0	10.0		100.000~200.000 MHz
Phase jitter RMS (12kHz to 20MHz):		-----	0.5	1.0	ps	1.000~11.999 MHz
		-----	0.5	1.0		12.000~26.999 MHz
		-----	0.5	1.0		27.000~39.999 MHz
		-----	0.5	1.0		40.000~57.999 MHz
		-----	4.5	5.5		58.000~99.999 MHz
		-----	5.0	6.0		100.000~200.000 MHz

30332 Esperanza, Rancho Santa Margarita, California 92688
tel 949-546-8000 | fax 949-546-8001 | www.abracon.com

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STANDARD SPECIFICATIONS - continued:

	Offset	1kHz	10kHz	100kHz		
Phase Noise (Typical value):	10.000MHz Carrier	-137.8	-148.4	-148.3	dBc	
	12.288MHz Carrier	-130.0	-145.0	-148.0		
	16.384 MHz Carrier	-136.1	-147.9	-152.2		
	19.440 MHz Carrier	-133.4	-147.3	-151.6		
	25.000 MHz Carrier	-134.3	-149.4	-152.1		
	32.768 MHz Carrier	-130.6	-144.6	-149.7		
	35.328 MHz Carrier	-120.0	-143.0	-150.0		
	44.736 MHz Carrier	-125.8	-142.4	-151.4		
	55.296 MHz Carrier	-130.4	-146.0	-149.0		
	57.142 MHz Carrier	-105.0	-130.0	-117.0		
	60.000 MHz Carrier	-123.4	-134.3	-147.4		
	100.000 MHz Carrier	-115.0	-125.0	-117.0		
	120.000 MHz Carrier	-108.0	-123.0	-116.0		
	125.000 MHz Carrier	-112.6	-127.1	-122.3		
	155.250 MHz Carrier	-108.0	-120.0	-113.0		

OPTIONS & PART IDENTIFICATION:

(Left blank if standard)

ASVV - [ ] MHz - [ ] - [ ] - [ ] - [ ]

Frequency in MHz
Please specify the frequency in MHz.
e.g. 14.31818MHz

Packaging
Blank: Bulk
T: Tape & Reel

Pullability
Blank: ±80ppm
N102: ±100ppm
N122: ±120ppm
N152: ±150ppm

Symmetry
Blank: 40/60% @1/2Vdd
S: 45/55% @1/2Vdd

Operating Temperature	Frequency stability (ppm)			
	±20 ppm	±25 ppm	±30 ppm	±50 ppm
0°C to 50°C	**I20**	**I25**	**I30**	**I50**
0°C to 60°C	**B20**	**B25**	**B30**	**B50**
-10°C to 60°C	**D20**	**D25**	**D30**	**D50**
0°C to 70°C	**C20**	**C25**	**C30**	**STD (Left blank)**
-10°C to 70°C	**F20**	**F25**	**F30**	**F50**
-20°C to 70°C	**E20**	**E25**	**E30**	**E50**
-40°C to 85°C	-----	**L25**	**L30**	**L50**

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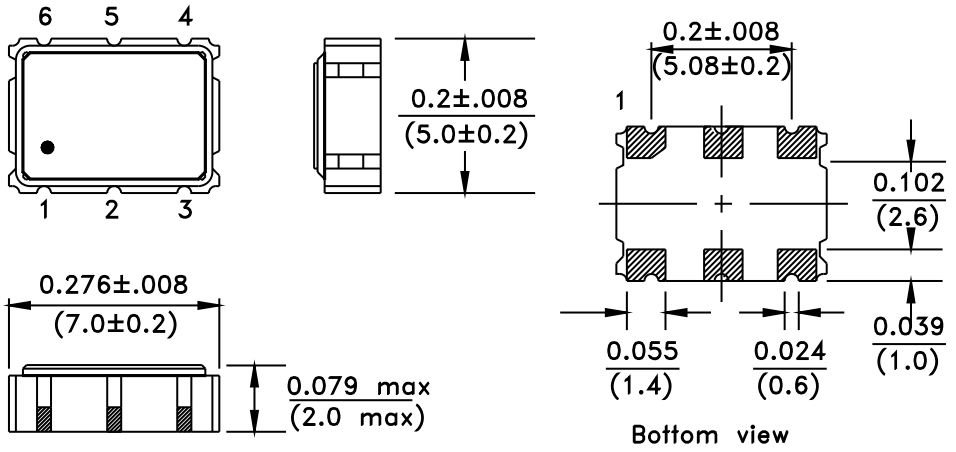
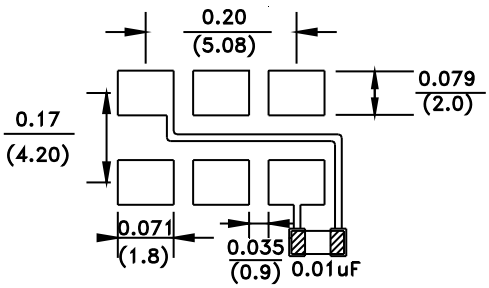
OUTLINE DRAWING:



Recommended land pattern



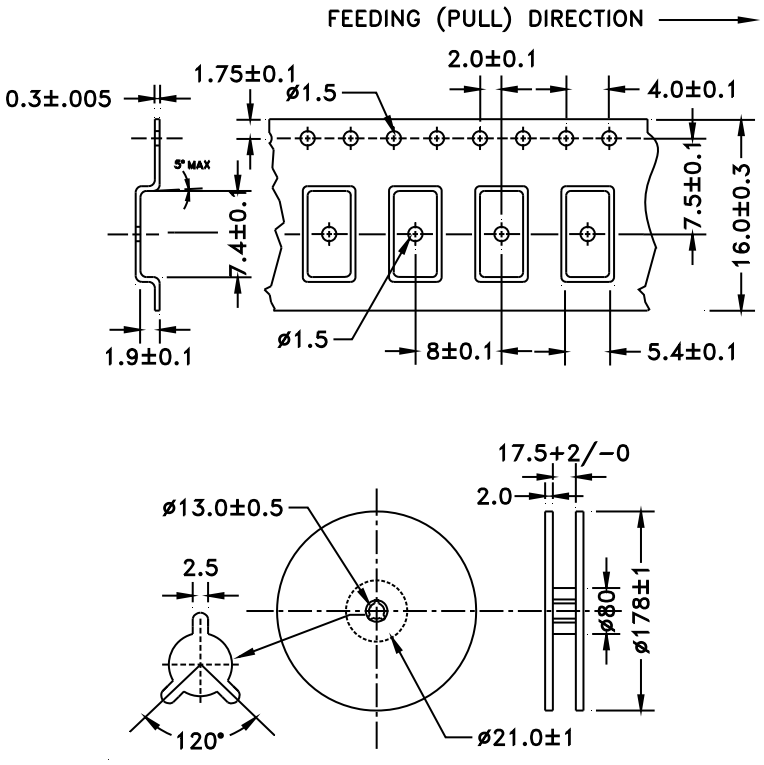
PIN #	Name
1	Vc
2	Tri-state
3	GND
4	Output
5	NC
6	V_{dd}

Note 1: Due to the material availability, the chamfer on pin 1 may have different outline.

Note 2: Recommend using an approximately 0.01uF bypass capacitor between PIN 3 and 6.

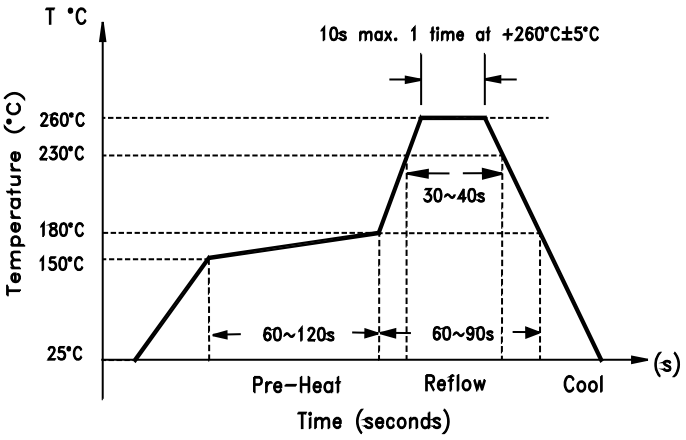
Dimensions: inches (mm)

TAPE & REEL: T= Tape and reel (1,000pcs/reel)



Dimensions: mm

REFLOW PROFILE:



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