3.3Vdc HCMOS SMD Crystal Clock Oscillator

7.0 x 5.08 x 1.8 mm

ASV SERIES

ESD Sensitive

RoHS/RoHS II compliant

Moisture Sensitivity Level (MSL) – This product is Hermetically Sealed and not Moisture Sensitive - MSL = N/A: Not Applicable

FEATURES:

- HCMOS, 3.3Vdc, 2.5Vdc, & 1.8Vdc options
- Suitable for RoHS reflow
- Seam sealed package assures high reliability
- High output drive capability (up to 50pF)

APPLICATIONS:

- Clock signaling for µProcessors, PC Motherboards & Graphic Cards

STANDARD SPECIFICATIONS:

Parameters		Minimum	Typical	Maximum	Units	Notes
Frequency Range		0.312		200	MHz	
Operating Temperature		-10		+70	°C	See options
Storage Temperature		-55		+125	°C	
Overall Frequency Stability		-100		+100	ppm	See options
Supply Voltage (Vdd)		+2.97	3.3	+3.63	V	See options
Supply Current (Idd)			2.0	10.0	mA	0.312 ~ 14.9 MHz
			3.6	15.0		15.0 ~ 29.9 MHz
			5.6	20.0		30.0 ~ 39.9 MHz
			7.2	25.0		40.0 ~ 49.9 MHz
			13.3	30.0		50.0 ~ 59.9 MHz
			19.0	35.0		60.0 ~ 79.9MHz
			20.2	45.0		80.0 ~ 99.9 MHz
			23.7	50.0		100.0 ~ 125.0MHz
			27.2	65.0		125.1 ~ 165 MHz
Symmetry @ 1/2Vdd		40	50	60	%	See options
Rise and Fall Time (Tr/Tf)			3.0	5.0	ns	0.312 ~ 14.9 MHz
			2.8	4.0		15.0 ~ 29.9 MHz
			2.6	4.0		30.0 ~ 39.9 MHz
			2.4	4.0		40.0 ~ 49.9 MHz
			2.2	4.0		50.0 ~ 59.9 MHz
			2.2	4.0		60.0 ~ 79.9MHz
			2.0	4.0		80.0 ~ 99.9 MHz
			1.8	4.0		100.0 ~ 125.0MHz
			1.5	4.0		125.1 ~ 165 MHz
Output Load				15	pF	See options
Output Voltage	V_{OH}	0.9 x Vdd			V	
	V_{OL}			0.4	V	

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(Continued)

Parameters	Minimum	Typical	Maximum	Units	Notes
Start-up Time		0.4	4.0	ms	0.312 ~ 14.9 MHz
		0.4	4.0		15.0 ~ 29.9 MHz
		2.0	4.0		30.0 ~ 39.9 MHz
		1.5	4.0		40.0 ~ 49.9 MHz
		2.9	5.0		50.0 ~ 59.9 MHz
		1.5	5.0		60.0 ~ 79.9MHz
		1.3	5.0		80.0 ~ 99.9 MHz
		1.8	5.0		100.0 ~ 125.0MHz
		2.7	5.0		125.1 ~ 165 MHz
Tri-state function	"1" (VIH≥0.7*Vdd) or Open: Oscillation "0" (VIL<0.3*Vdd) : Hi Z				
Period Jitter One Sigma (RMS):		2.5		ps	0.312 ~ 14.9 MHz
		3.2			15.0 ~ 29.9 MHz
		3.2			30.0 ~ 39.9 MHz
		3.2			40.0 ~ 49.9 MHz
		3.2			50.0 ~ 59.9 MHz
		3.2			60.0 ~ 79.9MHz
		3.0			80.0 ~ 99.9 MHz
		2.9			100.0 ~ 125.0MHz
		2.9			125.1 ~ 165 MHz
Aging at 25°C (first year)	-5		+5	ppm	
Disable Current			10	uA	
Enable Time		3.5	5	ms	
Disable Time			100	ns	

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OPTIONS & PART IDENTIFICATION: (Left blank if standard)

ASV - ☐ - ☐☐☐☐☐ MHz - ☐☐☐ - ☐ - ☐

P/N and Vdd (V)
Blank: 3.3 ± 10%
25: 2.5 ± 10%
18: 1.8 ± 10%

Frequency in MHz
e.g. 0.312MHz
14.31818MHz
26.000MHz
200.000MHz

Operating Temp.
I: 0°C ~ +50°C
D: -10°C ~ +60°C
E: -20°C ~ +70°C
F: -30°C ~ +70°C
N: -30°C ~ +85°C
L: -40°C ~ +85°C

Overall Freq. Stability
J: ±20ppm
R: ±25ppm
K: ±30ppm
H: ±35ppm
C: ±50ppm

Output Load *
Blank: 15pF
50: 50pF

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

Packaging
Blank: Bulk
T: 1000pcs/Reel
T5: 500pcs/Reel

Note *: See Table below for the Output Load option availability

Output Load	Supply Voltage		
	Vdd=3.3V	Vdd=2.5V	Vdd=1.8V
15pF max	√	√	√
50pF max	√	Available for Freq. ≤ 70MHz	Not Available

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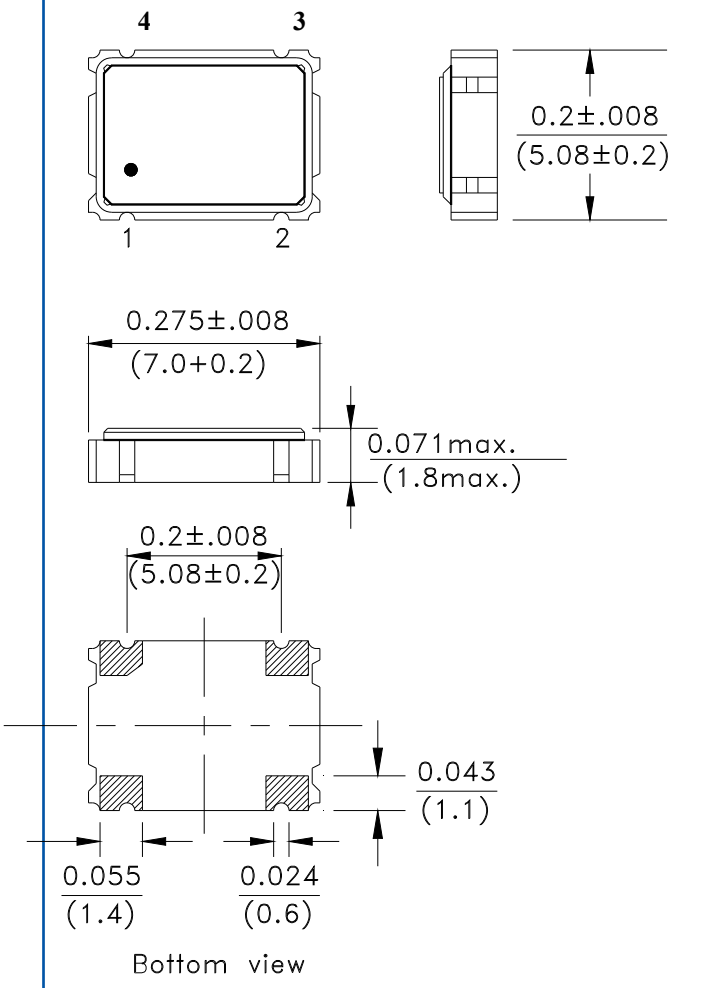
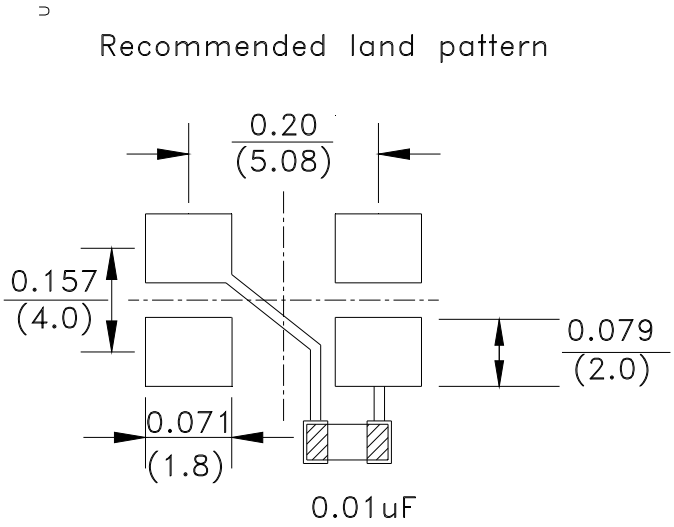
OUTLINE DIMENSION:





Pin	Function
1	Tri-State Enable/Disable
2	GND/Case
3	Output
4	Vdd

Dimension: Inches (mm)

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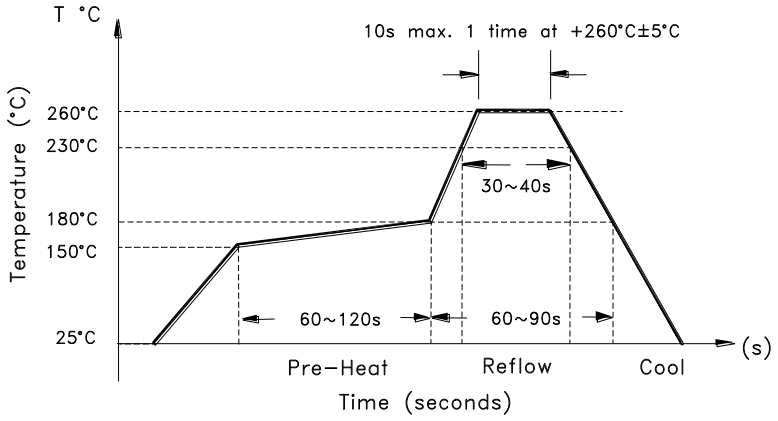
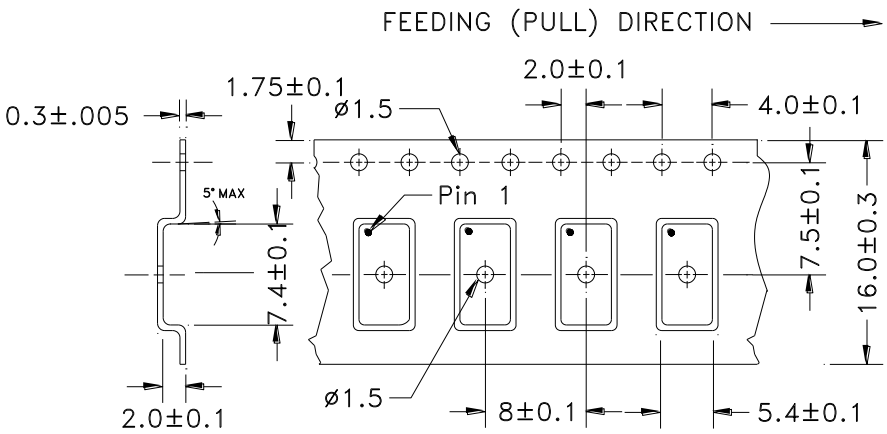
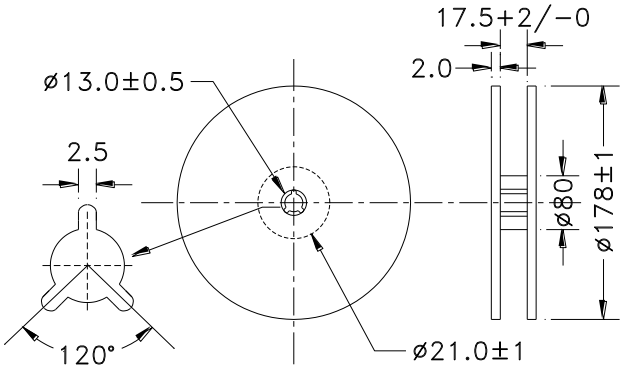
REFLOW PROFILE:



TAPE & REEL:

T: 1000pcs/reel
T5: 500pcs/reel





Dimension: mm

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