# **Ultra Miniature SMD Crystal Clock Oscillator**









1.6 x 1.2 x 0.7mm

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

### > FEATURES:

- Ultra miniature package: 1.6 x 1.2 x 0.7mm
- Tri-state function
- Suitable for high density SMT
- Suitable for RoHS compliant reflow process
- Electrical beam sealed package assures extreme accuracy and high reliability

## > APPLICATIONS:

- CCD clock for VTR camera
- Computers and peripherals
- Portable electronics
- Mobile communication, PDA

# STANDARD SPECIFICATIONS:

Parameters		Minimum	Typical	Maximum	Units	Notes
Frequency Range*		7.0		80	MHz	
Operating Temperature		-10		+60	°C	See options
Storage Temperature		-40		+85	°C	
Overall Frequency Stability**		-50		+50	ppm	See options
Supply Voltage (Vdd)		2.97	3.3	3.63	V	Standard
		2.25	2.5	2.75		Option "1"
		1.62	1.8	1.98		Option "2"
Supply Current (I <sub>dd</sub> ) into 15pF Load	Vdd = 3.3 V		3.0	4.5	mA	$1MHz \le F \le 20 MHz$
			4.2	6.0		$20 \text{ MHz} < F \le 50 \text{ MHz}$
			6.0	8.5		50 MHz < F ≤ 80 MHz
	Vdd = 2.5 V		2.5	3.5		$1MHz \le F \le 20 MHz$
			3.0	4.5		20 MHz < F ≤ 50 MHz
			4.0	6.0		50 MHz < F ≤ 80 MHz
	Vdd = 1.8 V		2.0	3.0		$1MHz \le F \le 20 MHz$
			2.5	3.5		20 MHz < F ≤ 50 MHz
			3.5	5.0		50 MHz < F ≤ 80 MHz
Output Load				15	pF	CMOS
Output Voltage	V <sub>OH</sub>	0.9*Vdd			V	
	$V_{ m OL}$			0.1*Vdd		
Tri-state function		"1" (VIH $\geq$ 0.7*Vdd) or Open : Oscillation "0" (VIH $<$ 0.3*Vdd) : Hi Z				
Aging		-3.0		3.0	ppm	@+25°C First year
Symmetry @1/2Vdd		40	50	60	%	Standard
		45	50	55		Option S
Start-up Time				2.0	ms	
Rise/Fall Time (Tr/Tf)				5.0	ns	

<sup>\*</sup> Please contact Abracon for frequency <7MHz.





<sup>\*\*</sup>Overall frequency stability includes initial frequency tolerance @+25°C and stability over the operating temperature.

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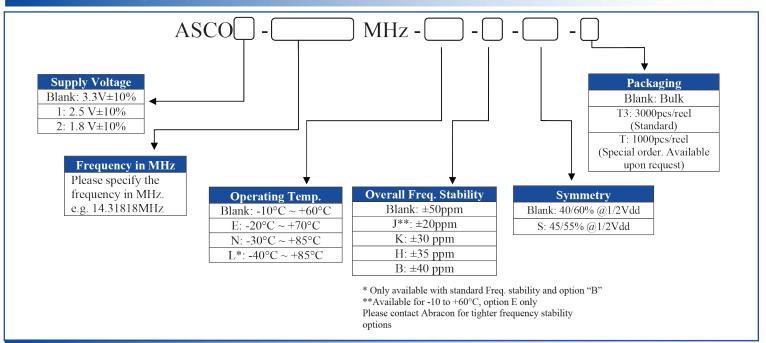




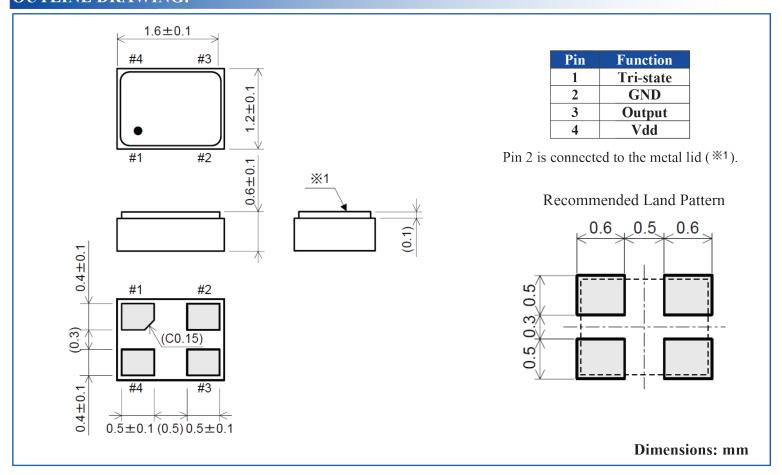


1.6 x 1.2 x 0.7mm

# **PART IDENTIFICATION:**



# **OUTLINE DRAWING:**



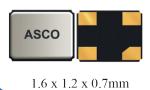




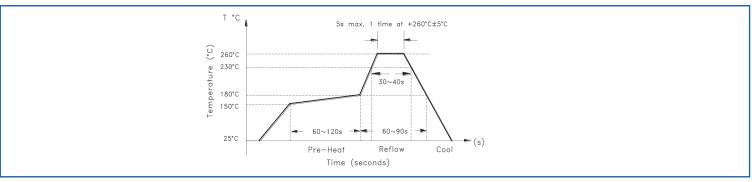
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**ASCO** 





## **REFLOW PROFILE:**



> TAPE & REEL: T3= 3,000pcs/reel (Standard) T = 1,000pcs/reel (Special order. Available upon request)  $\phi$  1.5+0.1/0  $2.0 \pm 0.05$  $0.80 \pm 0.1$  $4.0 \pm 0.1$  $8.0 \pm 0.2$ Ö 3.5±0.05  $4.0 \pm 0.1$  $(\phi 1.05)$ Cover tape 12.4 Max. Carrier tape  $1.45 \pm 0.1$  $2.0 \pm 0.5$  $\phi 13 \pm 0.2$  $\phi 21 \pm 0.8$  $\phi$  180+0/-3.0  $9.0 \pm 0.3$ **Dimensions: mm** 

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