

IoT OPTIMIZED LOW PROFILE QUARTZ CRYSTAL



2.5 x 2.0 x 0.5 mm

RoHS/RoHS II Compliant

MSL = N/A: NOT APPLICABLE (See Note #1)

FEATURES

- Optimized for low power consumption, wearables, and IoT applications
- Guaranteed low 125Ω ESR ensures operation in power sensitive solutions
- 0.50mm max height ideally suited for height constrained designs
- Seam sealed for long-term reliability

APPLICATIONS

- Wearables
- Internet of Things (IoT)
- Bluetooth/Bluetooth Low Energy (BLE)
- Wireless modules
- Machine-to-machine (M2M) connectivity
- Ultra-low power MCU/modules
- USB

STANDARD SPECIFICATIONS

PARAMETERS	MINIMUM	TYPICAL	MAXIMUM	UNITS	NOTES
Frequency		12.000		MHz	
Operation Mode		Fundamental			
Operating Temperature	-20		+70	°C	
Storage Temperature	-40		+125	°C	
Frequency Tolerance @ $+25^{\circ}\text{C}$	-10		+10	ppm	See Note #2
Frequency Stability over the Operating Temperature (ref. to $+25^{\circ}\text{C}$)	-10		+10	ppm	See Note #3
Equivalent series resistance (R1)			125	Ω	
Shunt capacitance (C0)			2	pF	
Load capacitance (CL)		8		pF	
Drive Level		10	100	µW	
Aging@ $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$			± 3	ppm	First year
Insulation Resistance	500			MΩ	@ 100Vdc $\pm 15\text{V}$

Note#1: Moisture Sensitivity Level (MSL) – This product is Hermetically Sealed and not Moisture Sensitive

Note#2: Referenced to crystal resonant frequency, into an oscillator loop effective load of 8pF

Note#3: Referenced to the measured frequency at $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$, into an oscillator loop effective load of 8pF

REVISED: 06/21/2016

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ABM10-166-12.00MHz

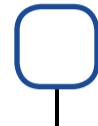
2.5 x 2.0 x 0.5 mm

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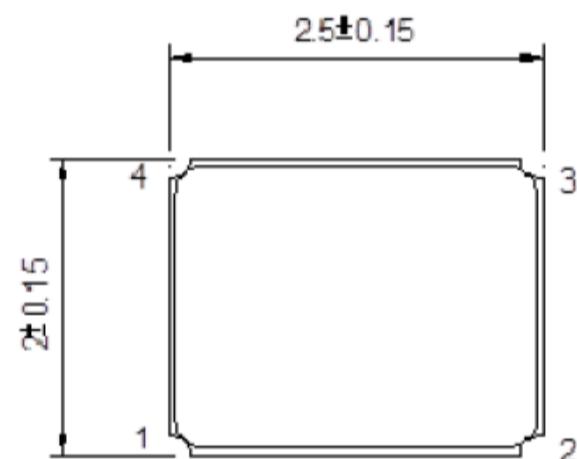
PART IDENTIFICATION AND ORDERING INFORMATION

ABM10-166-12.000MHz-



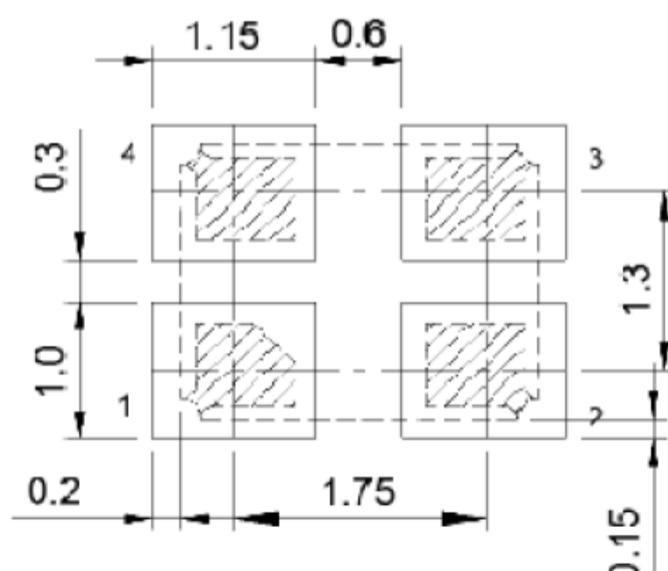
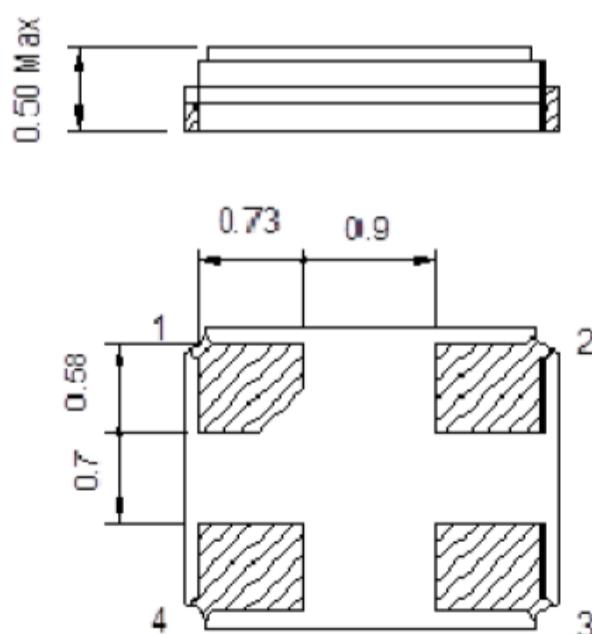
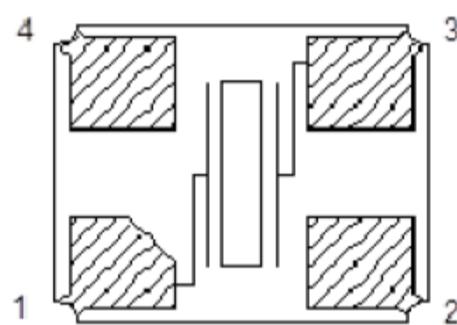
PACKAGING
Blank: Bulk
T3: 3K/Reel

MECHANICAL DIMENSIONS (ALL DIMENSIONS ARE IN mm)



RECOMMENDED LAND PATTERN

<TOP VIEW>



UNIT: mm
TOLERANCE: ±0.1

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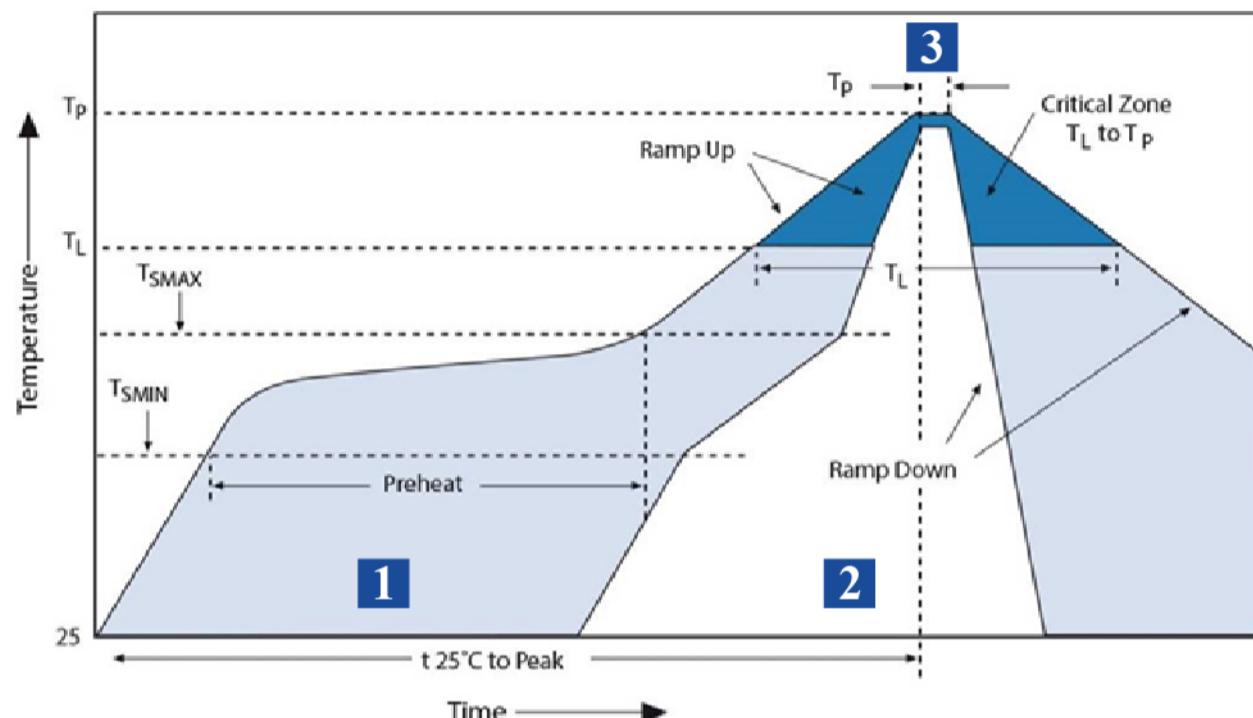
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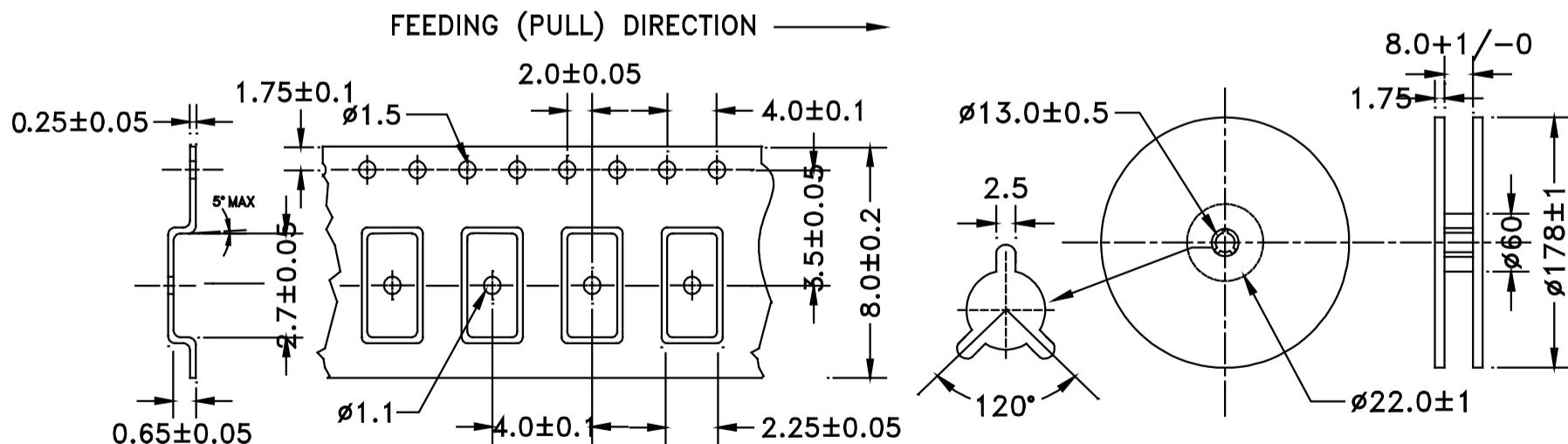
REFLOW PROFILE



Zone	Description	Temperature	Time
1	Preheat	$T_{S MIN} - T_{S MAX}$ 160°C~180°C	120 sec.
2	Reflow	T_L 60°C	60 sec.
3	Peak Heat	T_p 260°C	10 sec. MAX

PACKAGING

T3:3000PCS/REEL



REVISED: 06/21/2016

Mouser Electronics

Authorized Distributor

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[ABM10-166-12.000MHz-T3](#)