

**ECN/PCN No.: 4258**

For Manufacturer			
<b>Product Description:</b> Automotive & Industrial Grade Ceramic SMD Miniature Crystal	<b>Abracon Part Number / Part Series:</b> AAH-438-28.63636MHz-T3	<input type="checkbox"/> Documentation only <input type="checkbox"/> ECN <input checked="" type="checkbox"/> EOL	<input type="checkbox"/> Series <input checked="" type="checkbox"/> Part Number
<b>Affected Revision:</b> I.R.	<b>New Revision:</b> EOL	<b>Application:</b>	<input type="checkbox"/> Safety <input checked="" type="checkbox"/> Non-Safety
<b>Prior to Change:</b>  AAH-438-28.63636MHz-T3 I.R.			
<b>After Change:</b>  EOL			
<b>Cause/Reason for Change:</b> Discontinuation of this older product package type and associated manufacturing capability.			
Change Plan			
<b>Effective Date:</b> 03/17/2022	<b>Additional Remarks:</b>		
<b>Change Declaration:</b>			
<b>Issued Date:</b> 03/17/2022	<b>Issued By:</b>	<b>Issued Department:</b> Engineering	
<b>Approval:</b> Engineering Director	<b>Approval:</b> Quality Director	<b>Approval:</b> Purchasing Director	
For Abracon EOL only			
<b>Last Time Buy (if applicable):</b> None	<b>Alternate Part Number / Part Series:</b> None		
<b>Additional Approval:</b>	<b>Additional Approval:</b>	<b>Additional Approval:</b>	
Customer Approval (If Applicable)			
<b>Qualification Status:</b> <div style="text-align: center;"><input type="checkbox"/> Approved <input type="checkbox"/> Not accepted</div> <i>Note: It is considered approved if there is no feedback from the customer 1 month after ECN/PCN is released.</i>			
<b>Customer Part Number:</b>		<b>Customer Project:</b>	
<b>Company Name:</b>	<b>Company Representative:</b>	<b>Representative Signature:</b>	
<b>Customer Remarks:</b>			



**AAH-438-28.63636MHz-T3**  
**Automotive & Industrial Grade**  
**Ceramic SMD Miniature Crystal**



Date of Issue: Feb. 4<sup>th</sup>, 2017

**3.2 x 2.5 x 0.8mm**

Application

Safety  Non-safety

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**Abracon Drawing # 100666**

Revision #: Initial Release

### 1.0 Key Electrical Specifications

Parameters	Minimum	Typical	Maximum	Units	Notes
Frequency Range	28.63636			MHz	
Operation Mode	Fundamental, AT-cut				
Operating Temperature	-40		+125	°C	
Storage Temperature	-40		+125	°C	
Frequency Tolerance @+25°C	-20		+20	ppm	
Frequency Stability over the Operating Temperature (ref. to +25°C)	-50		+50	ppm	
Equivalent series resistance (R1)			25	Ω	
Shunt capacitance (C0)			7	pF	
Load capacitance (CL)		12		pF	
Drive Level		10	100	μW	
Aging	-3		+3	ppm	@25°C±3°C First year
Insulation Resistance	500			MΩ	@ 100Vdc ± 15V

**2.0 AAH-438-28.63636MHz-T3 series is RoHS/RoHS II Compliant and Pb free.**

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

**4.0 Part Identification and ordering information**

AAH-438-28.63636MHz -

Packaging
Blank: Bulk
T3: 3kpcs/reel

Date of Issue: Feb. 4<sup>th</sup>, 2017

**3.2 x 2.5 x 0.8mm**

Application

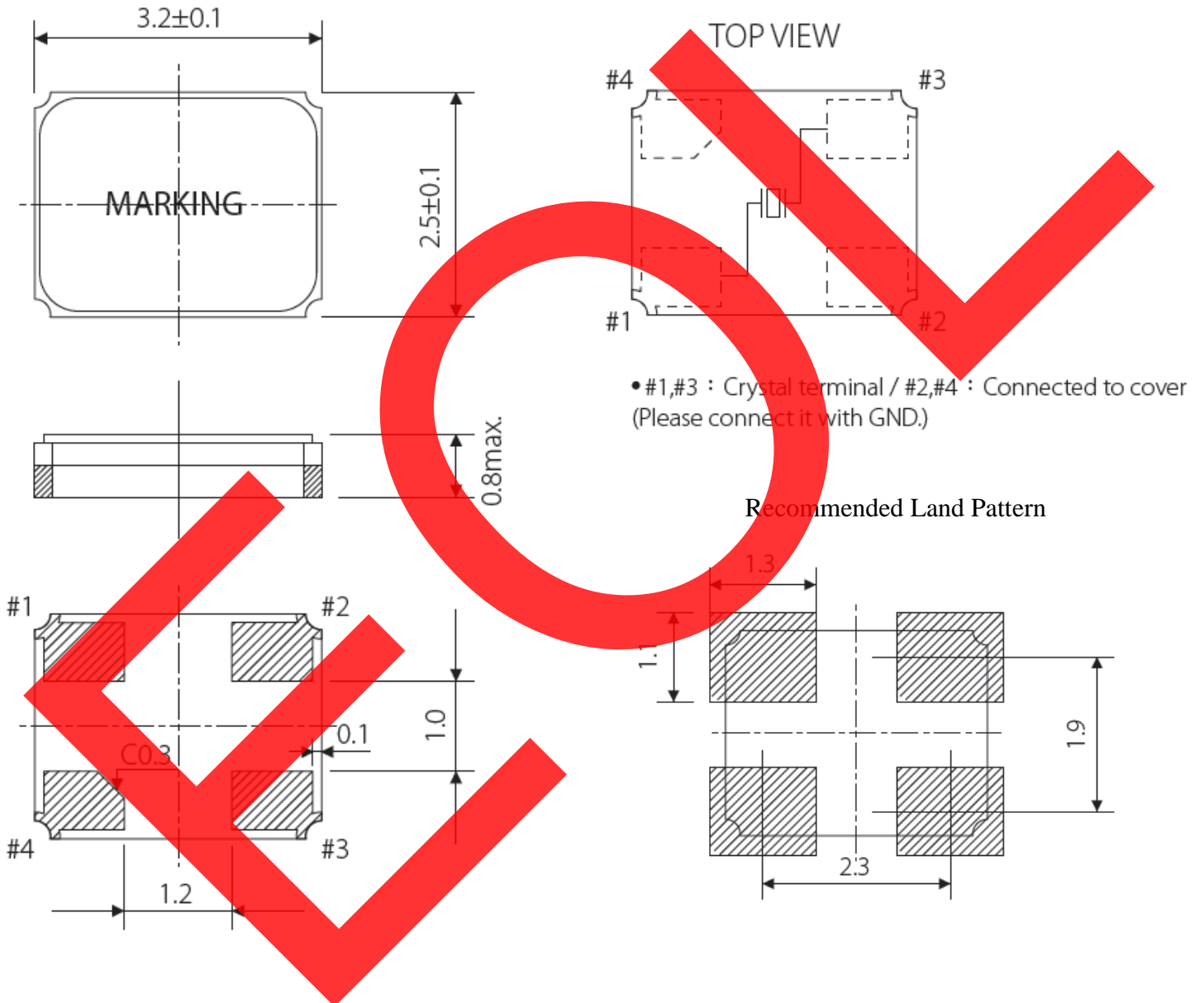
Safety     Non-safety

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**Abracon Drawing # 100666**

Revision #: Initial Release

**5.0 Mechanical Dimensions**



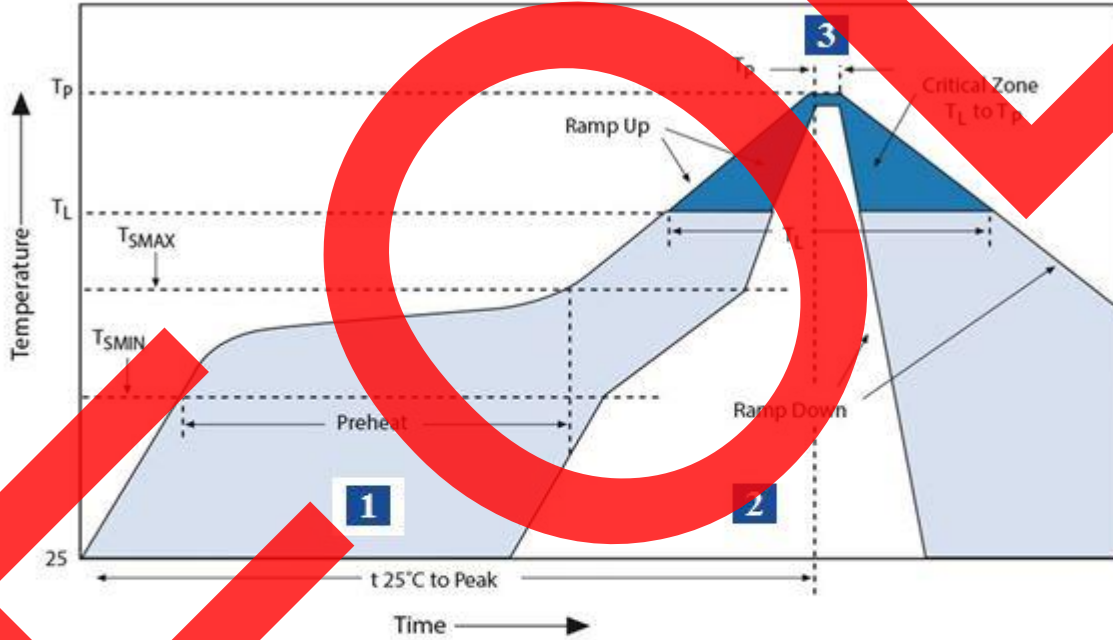
**Dimensions: mm**

**5.1 Sealing Method = Seam Sealing**

## 6.0 Reliability Tests Conditions

Parts shall meet or exceed Reliability requirements for Automotive Grade crystals set by Automotive Electronics Council document AEC-Q200 Rev D.

## 6.1 Reflow Profile



Zone	Description	Temperature	Times
1	Preheat	T <sub>S</sub> MIN ~ T <sub>S</sub> MAX 150°C ~ 180°C	60 ~ 120 sec.
2	Reflow	T <sub>L</sub> 230°C	30 ~ 40 sec.
3	Peak heat	T <sub>P</sub> 260±5°C	10 sec. MAX

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3.2 x 2.5 x 0.8mm

Application

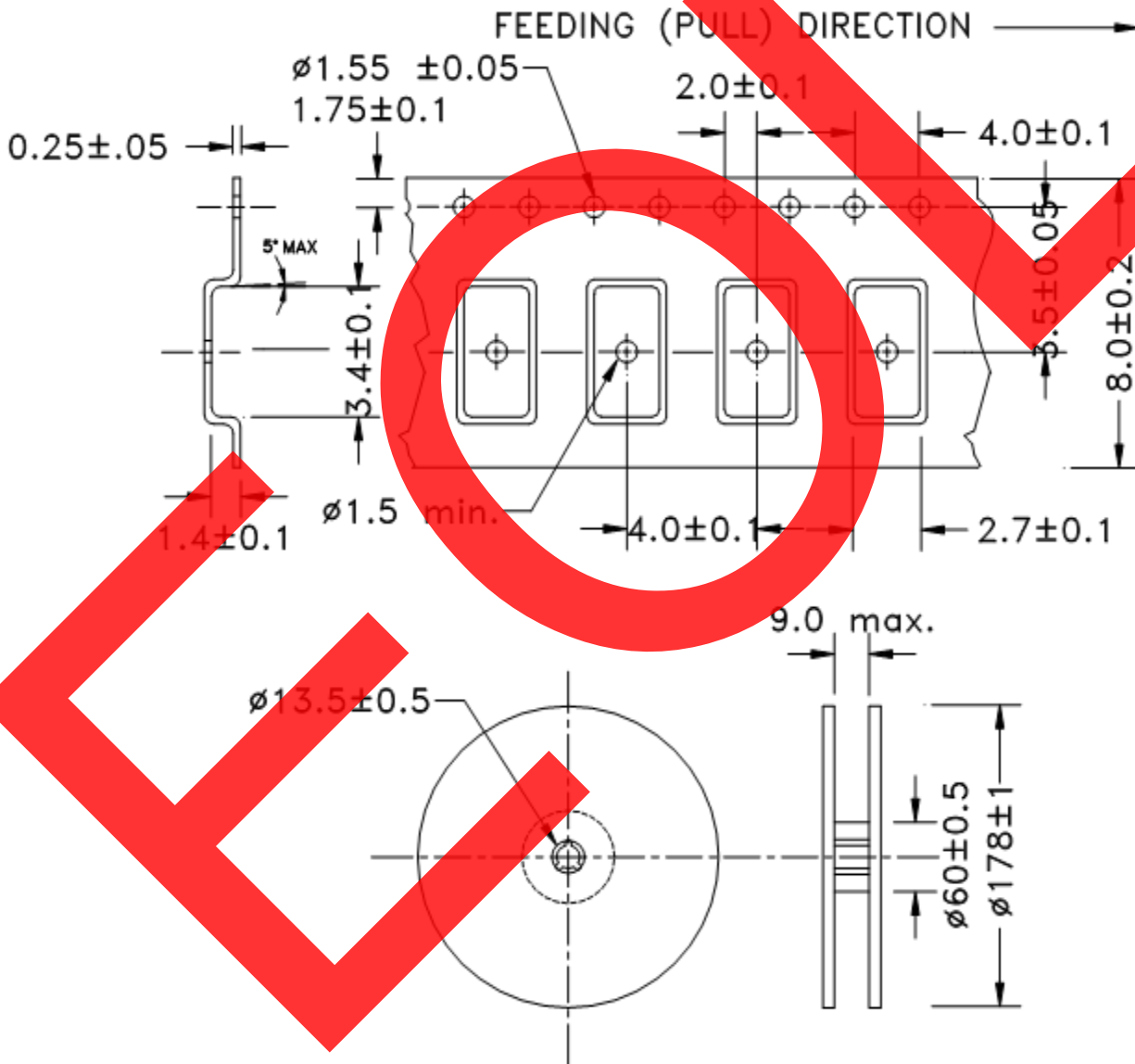
Safety  Non-safety

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Abracon Drawing # 100666

Revision #: Initial Release

**7.0 Packaging:**  
**T3: 3,000pcs/reel**



Dimensions: mm