

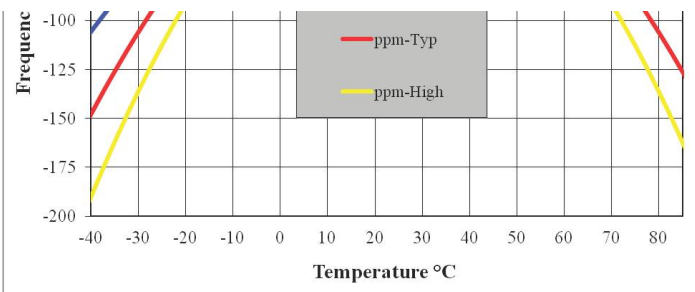
**ECN/PCN No.: 3833**

For Manufacturer			
<b>Product Description:</b> 32.768kHz SMD Crystal	<b>Abrakon Part Number / Part Series:</b> ABS07-120	<input type="checkbox"/> Documentation only <input checked="" type="checkbox"/> ECN <input type="checkbox"/> EOL	<input type="checkbox"/> Series <input checked="" type="checkbox"/> Part Number
<b>Affected Revision:</b> E	<b>New Revision:</b> F	<b>Application:</b>	<input type="checkbox"/> Safety <input checked="" type="checkbox"/> Non-Safety
<b>Prior to Change:</b> Packing quantity options= 1. T=3,000pcs/reel			
<b>After Change:</b> Packing quantity options= 1. T=3,000pcs/reel 2. T9=9,000pcs/reel			
<b>Cause/Reason for Change:</b> Standard product series review and upgrade. Added packing quantity option.			
Change Plan			
<b>Effective Date:</b> 05/20/2021	<b>Additional Remarks:</b> N/A		
<b>Change Declaration:</b> This change affects neither electrical nor mechanical performance of the part.			
<b>Issued Date:</b> 05/20/2021	<b>Issued By:</b> <i>Brooke Cushman</i> Product Engineer	<b>Issued Department:</b> Engineering	
<b>Approval:</b> <i>Thomas Culhane</i> Engineering Director	<b>Approval:</b> <i>Reuben Quintanilla</i> Quality Director	<b>Approval:</b> <i>Ying Huang</i> Purchasing Director	
For Abracon EOL only			
<b>Last Time Buy (if applicable):</b> N/A	<b>Alternate Part Number / Part Series:</b> N/A		
<b>Additional Approval:</b> N/A	<b>Additional Approval:</b> N/A	<b>Additional Approval:</b> N/A	
Customer Approval (If Applicable)			
<b>Qualification Status:</b> <input type="checkbox"/> Approved <input type="checkbox"/> Not accepted <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>			

Affected part number  
ABS07-120-32.768kHz-T

1.60

120



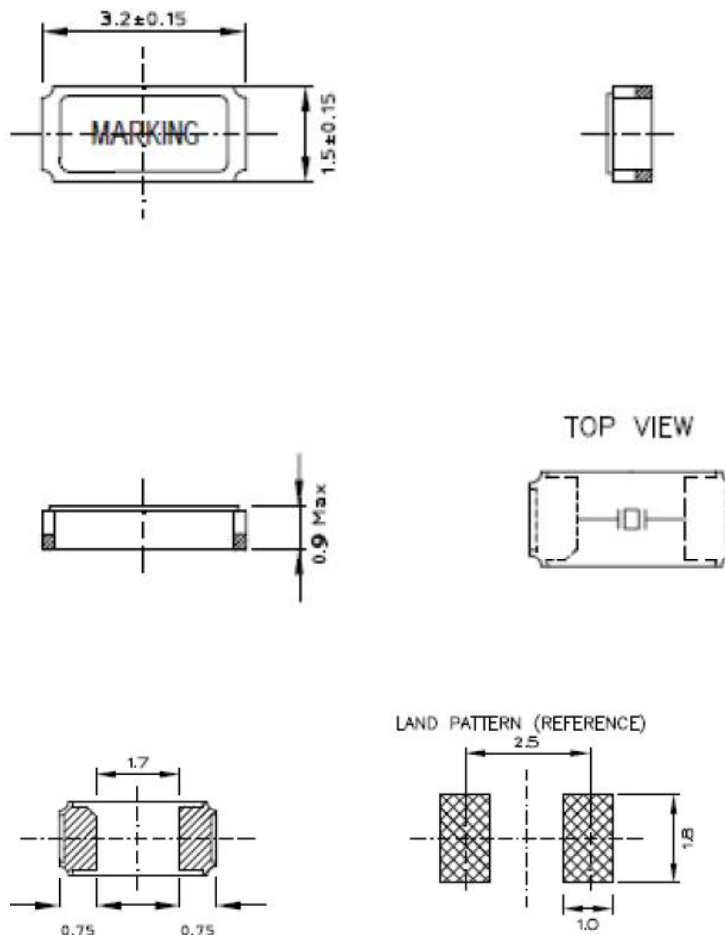
# ABS07-120-32.768kHz-T; TUNING FORK CRYSTAL

32.768kHz SMD; ESR OPTIMIZED CRYSTAL



3.2 x 1.5 x 0.9 mm

## OUTLINE DRAWING:



Dimensions: mm

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3.2 x 1.5 x 0.9 mm

## Reflow Profile [JEDEC J-STD-020]

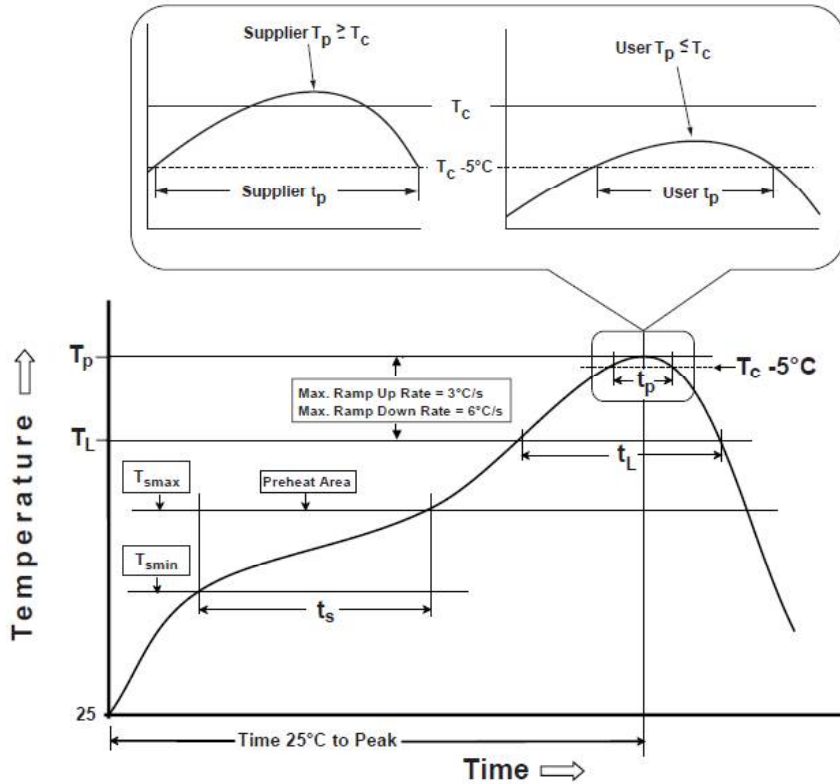


Table 1

SnPb Eutectic Process Classification Temperatures ( $T_c$ )		
Package Thickness	Volume mm <sup>3</sup> <350	Volume mm <sup>3</sup> >350
<2.5 mm	235 °C	220 °C
>2.5 mm	220 °C	220 °C

Table 2

Pb-Free Process Classification Temperatures ( $T_c$ )			
Package Thickness	Volume mm <sup>3</sup> <350	Volume mm <sup>3</sup> 350-2000	Volume mm <sup>3</sup> >2000
<1.6 mm	260 °C	260 °C	260 °C
1.6 mm - 2.5 mm	260 °C	250 °C	245 °C
>2.5 mm	250 °C	245 °C	245 °C

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Preheat / soak		
Temperature minimum ( $T_{smin}$ )	100°C	150°C
Temperature maximum ( $T_{smax}$ )	150°C	200°C
Time ( $T_{smin}$ to $T_{smax}$ ) ( $t_s$ )	60 - 120 sec.	60 - 120 sec.
Average ramp-up rate ( $T_{smax}$ to $T_p$ )	3°C/sec. max	3°C/sec. max
Liquidous temperature ( $T_L$ )	183°C	217°C
Time at liquidous ( $t_L$ )	60 - 150 sec.	60 - 150 sec.
Peak package body temperature ( $T_p$ )*	see Table 1	see Table 2
Time ( $t_p$ )** within 5°C of the specified classification temperature ( $T_c$ )	20 sec.	30 sec.
Ramp-down rate ( $T_p$ to $T_{smax}$ )	6°C/sec. max	6°C/sec. max
Time 25°C to peak temperature	6 min. max	8 min. max
Reflow cycles	2 max	2 max

\*Tolerance for peak profile temperature ( $T_p$ ) is defined as a supplier minimum and a user maximum.

\*\*Tolerance for time at peak profile temperature ( $t_p$ ) is defined as supplier minimum and a user maximum.

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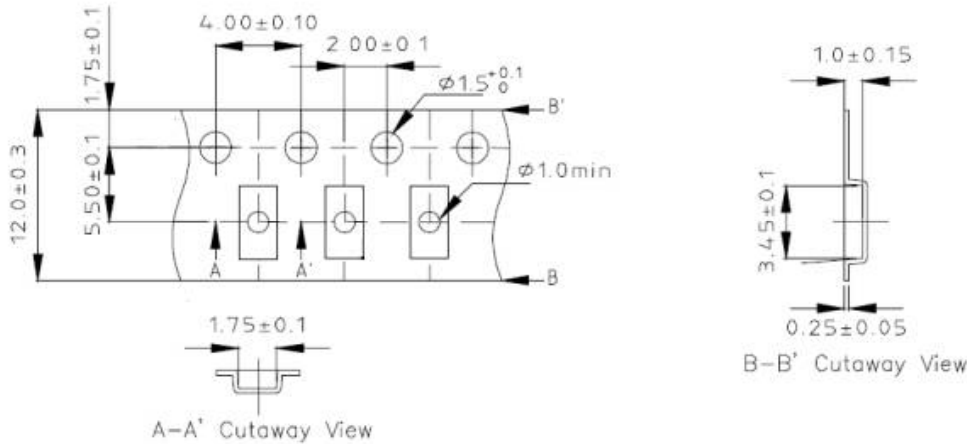
32.768kHz SMD; ESR OPTIMIZED CRYSTAL



3.2 x 1.5 x 0.9 mm

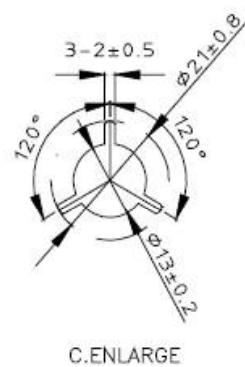
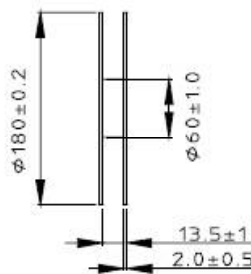
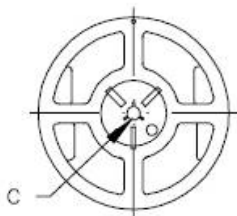
## TAPE & REEL:

T=Tape and reel (3,000pcs/reel)  
T9=Tape and reel (9,000pcs/reel)

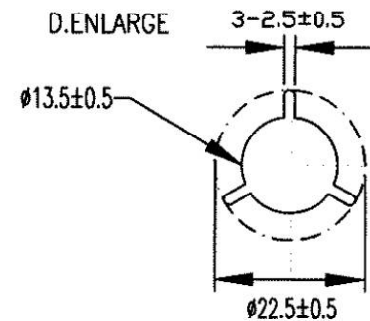
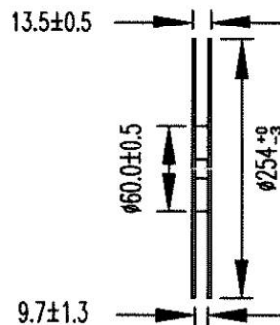
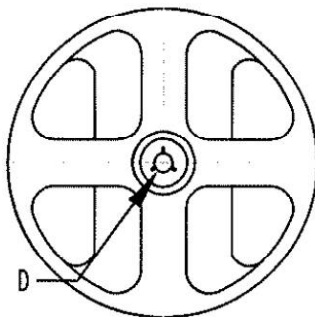


Reel=3,000pcs

REEL : 3000PCS



Reel=9,000pcs



Dimensions: mm

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