

## SPECIFICATIONS

| PARAMETER                    | VALUE                           |
|------------------------------|---------------------------------|
| NOMINAL FREQUENCY            | 32.768 kHz                      |
| MODE OF OSCILLATION          | Fundamental                     |
| FREQUENCY TOLERANCE AT 25°C  | ±20 ppm max                     |
| TURNOVER TEMPERATURE         | +25 ± 5°C                       |
| TEMPERATURE COEFFICIENT      | -0.04 ppm / °C <sup>2</sup> max |
| OPERATING TEMPERATURE RANGE  | -40°C to +85°C                  |
| STORAGE TEMPERATURE RANGE    | -55°C to +125°C                 |
| AGING                        | ±3 ppm first year max           |
| LOAD CAPACITANCE             | 7 pF                            |
| EQUIVALENT SERIES RESISTANCE | 50 kΩ typ , 70 kΩ max           |
| SHUNT CAPACITANCE            | 1.1 pF typ, 1.8 pF max          |
| MOTIONAL CAPACITANCE         | 3.5 fF typ, 7.0 fF max          |
| DRIVE LEVEL                  | 0.5 μW max                      |
| INSULATION RESISTANCE        | 500 MΩ min @ DC 100V            |

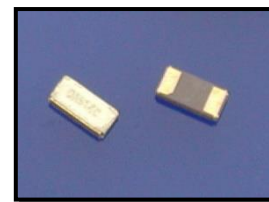
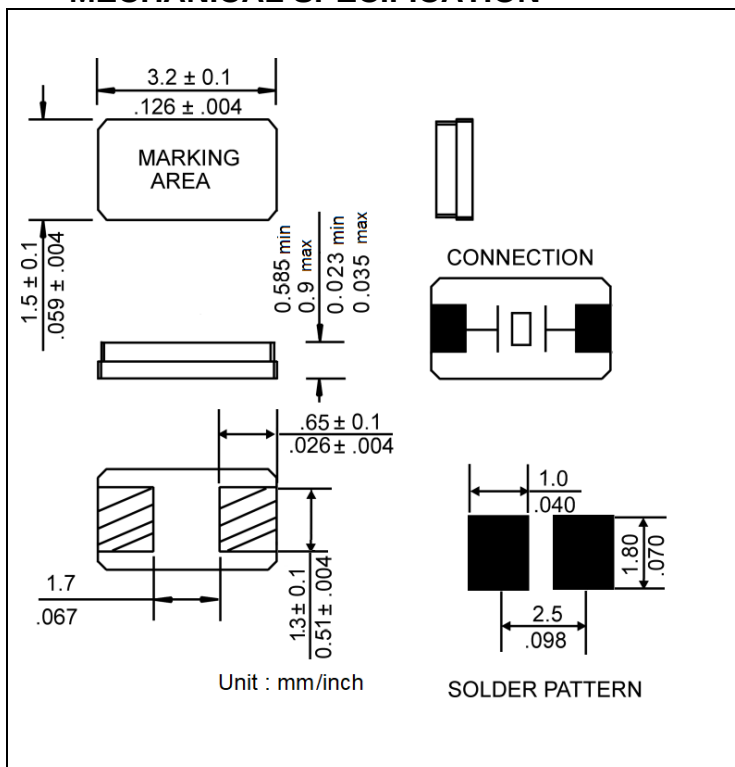
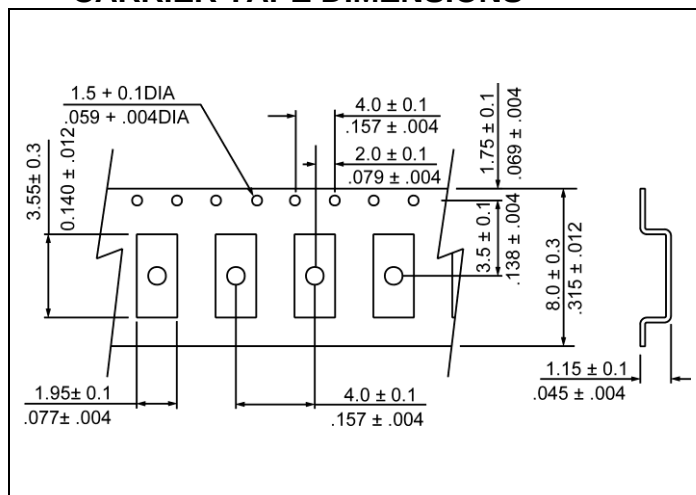


Photo not actual part

## MECHANICAL SPECIFICATION



## CARRIER TAPE DIMENSIONS



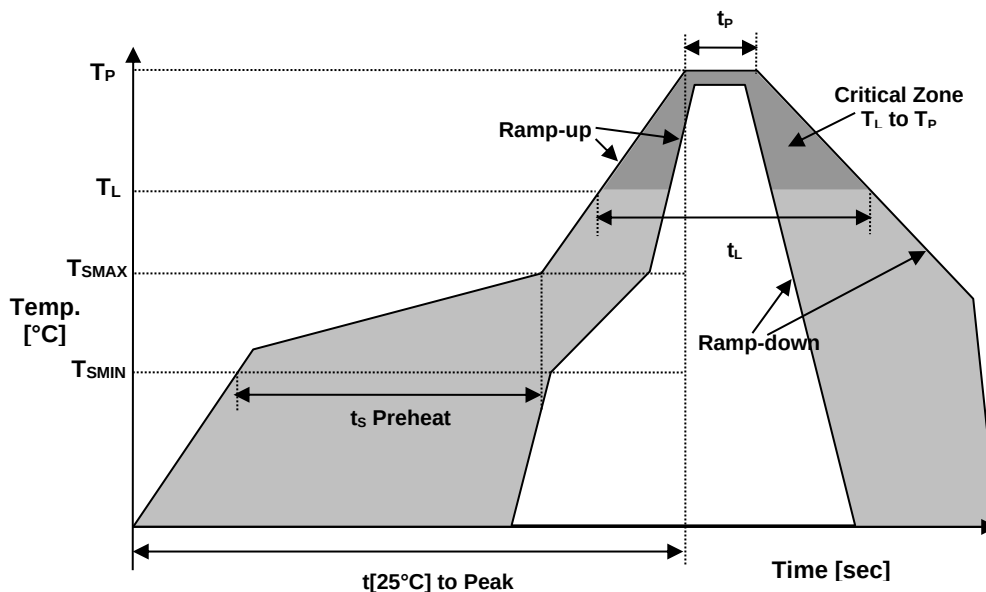
NOTE: REFER TO EIA-481 FOR DIMENSIONS

## PACKAGING

330 mm REEL DIAMETER  
8 mm TAPE WIDTH, 4 mm PITCH  
QUANTITY: 3000 PIECES PER REEL

IN ACCORDANCE WITH EIA-481

## REFLOW PROFILE



| Reflow profile                                            |                                          |              |
|-----------------------------------------------------------|------------------------------------------|--------------|
| Temperature Min Preheat                                   | $T_{SMIN}$                               | 150°C        |
| Temperature Max Preheat                                   | $T_{SMAX}$                               | 200°C        |
| Time ( $T_{SMIN}$ to $T_{SMAX}$ )                         | $t_s$                                    | 60-180 sec.  |
| Temperature                                               | $T_L$                                    | 217°C        |
| Peak Temperature                                          | $T_P$                                    | 260°C        |
| Ramp-up rate                                              | $R_{UP}$                                 | 3°C/sec max. |
| Ramp-down rate                                            | $R_{DOWN}$                               | 6°C/sec max. |
| Time within 5°C of Peak Temperature                       | $t_p$                                    | 10 sec.      |
| Time $t_{[25^\circ\text{C}] \text{ to Peak Temperature}}$ | $t_{[25^\circ\text{C}] \text{ to Peak}}$ | 480 sec.     |
| Time                                                      | $t_L$                                    | 60-150 sec.  |

## ENVIRONMENTAL

| PARAMETER                  | VALUE     |
|----------------------------|-----------|
| MOISTURE SENSITIVITY LEVEL | 1         |
| RoHS                       | Compliant |
| REACH SVHC                 | Compliant |
| HALOGEN-FREE               | Compliant |
| ESD CLASSIFICATION LEVEL   | N/A       |
| TERMINATION FINISH         | Au        |



## ● MARKING

Xywwx

X – Internal Production ID code (J, R, T, Y, M, R, N)  
y – Year code  
ww – Week code  
x – 1 or 2 digits as Lot code

ymxxx

y – Year code  
m – Month code, Jan ~ Sep: 1 ~ 9, Oct: X Nov: Y Dec: Z  
xxx – Lot code

XLzymbd

X – Internal Production ID code (J, R, T, Y, M, R, N)  
L – Load capacitance code (A: 12.5pF B: 9pF C: 7pF Z: others )  
z – Lot code  
y – Year code  
m – Month code, Jan ~ Sep: 1 ~ 9, Oct: X Nov: Y Dec: Z  
d – Day code

XzymF<sub>xx</sub><sup>xx</sup>

X – Internal Production ID code (J, R, T, Y, M, R, N)  
z – Frequency code  
y – Year code  
m – Month code, Jan ~ Sep: 1 ~ 9, Oct: X Nov: Y Dec: Z  
<sub>xx</sub><sup>xx</sup> – Lot code



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## SURFACE MOUNT MICROPROCESSOR CRYSTAL

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**RT3215-32.768-7-TR**

### ● APPROVAL

|              |                                                                                                                                                                                                                                                                          |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drawn By:    | KJackson, August 15, 2014                                                                                                                                                                                                                                                |
| Approved By: | KJackson, August 15, 2014                                                                                                                                                                                                                                                |
| Revision:    | A, Initial Release<br>B, Updated to current spec levels KJ 8/10/17<br>C, Updated to current spec levels AG 5/21/18<br>D, Updated to current spec levels XL 7/19/2019<br>E, Updated the drawing, CP 4/2/2020<br>F, Updated to current spec levels by XLiu, August 5, 2020 |

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