



● **FEATURES**

- SUITABLE FOR TIME OF DAY CLOCKS
- IDEAL FOR HIGH DENSITY PACKAGING APPLICATION
- SMALL AND COMPACT PACKAGE

● **SPECIFICATIONS**

PARAMETER	VALUE
NOMINAL FREQUENCY	32.768 kHz
MODE OF OSCILLATION	FUNDAMENTAL
FREQUENCY TOLERANCE AT 25°C	±5, ±10, ±20 PPM
FREQUENCY STABILITY OVER TEMPERATURE COEFFICIENT	-0.04 PPM / °C <sup>2</sup>
OPERATING TEMPERATURE RANGE	-40°C TO +85°C
STORAGE TEMPERATURE RANGE	-55°C TO +125°C
AGING	±3 PPM PER YEAR MAX
LOAD CAPACITANCE	6pF, 7pF, 9pF, 12.5 pF*
EQUIVALENT SERIES RESISTANCE	70 kΩ MAX
SHUNT CAPACITANCE	1.1 pF TYP
DRIVE LEVEL	0.5 μW MAX
SHOCK RESISTANCE	±5 PPM MAX 75 cm DROP TEST ONTO A HARD WOOD SURFACE
REFLOW CONDITIONS	260°C ±5°C FOR 10s MAX

\*Note: Other values available

● **PART NUMBERING SYSTEM**

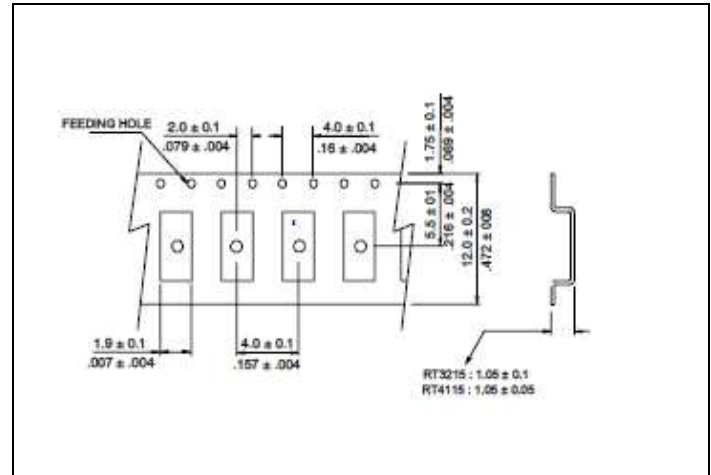
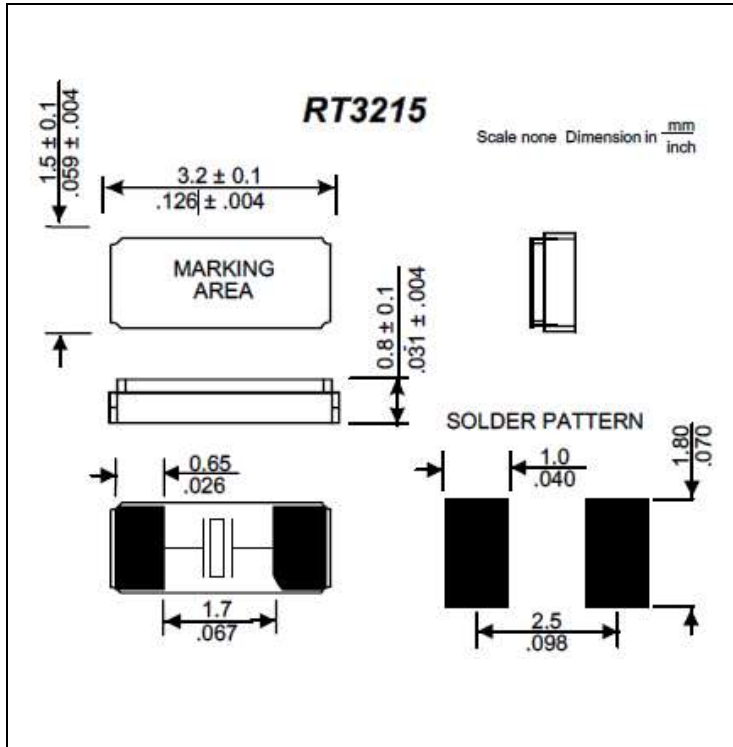
TYPE	-	FREQUENCY kHz	-	LOAD CAPACITANCE pF	-	TOLERANCE PPM	-	TAPE & REEL
RT3215	-	32.768	-	6, 7, 9 or 12.5	-	5, 10 or 20	-	TR

**EXAMPLE: RT3215-32.768-12.5-20-TR**

Surface Mount Tuning Fork Crystal, 3.2 mm x 1.5 mm package, 32.768 kHz, 12.5 pF load, ±20 ppm Tolerance, Operating Temperature from -40°C to +85°C, Tape and Reel packaging

## SERIES RT3215

### MECHANICAL SPECIFICATION



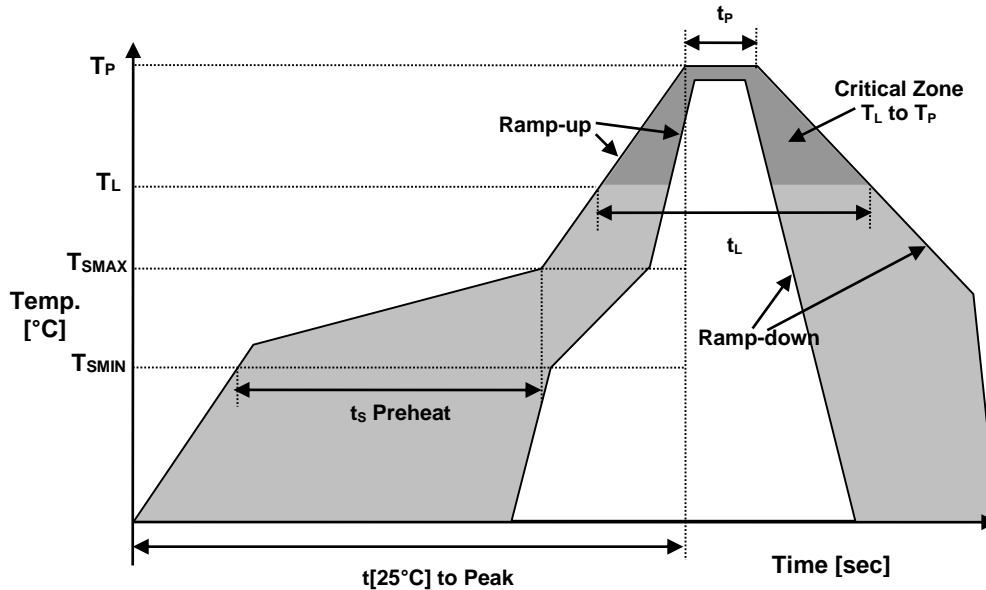
NOTE: REFER TO EIA-481 FOR DIMENSIONS

### PACKAGING

180 mm REEL DIAMETER  
12 mm TAPE WIDTH, 4mm PITCH  
QUANTITY: 3000 PIECES PER REEL

IN ACCORDANCE WITH EIA-481

● REFLOW PROFILE



Reflow profile (Reference IPC/JEDEC J-STD-020)		
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 $t[25^\circ\text{C}]$ to Peak Temperature	$t[25^\circ\text{C}]$ to Peak	480 sec.
Time	$t_L$	60-150 sec.

● ENVIRONMENTAL

PARAMETER	VALUE
MOISTURE SENSITIVITY LEVEL	1
RoHS	6/6 COMPLIANT & LEAD FREE
REACH SVHC	COMPLIANT
HALOGEN-FREE	COMPLIANT
ESD CLASSIFICATION LEVEL	N/A
TERMINATION FINISH	Au
UNIT WEIGHT (GRAMS)	0.051



**Declaration of Conformity with Recast Directive 2011/65/EU  
Certificate of Compliance**


**Reference: RT family of SMD Crystal**

**Raltron / RAMI Technology** hereby certifies that the part(s)/product(s) listed above are compliant with the Recast Directive 2011/65/EU for the Restriction of the use of certain Hazardous Substances in electrical equipment as passed on July 21<sup>st</sup>, 2011. Any trace impurities of the RoHS substances in the part(s)/product(s) listed above are below the Recast specified levels.

The following table lists the restricted materials and their respective allowable limits:

<b>Recast Restricted Substance</b>	<b>Threshold Level (at homogenous material level)</b>
Cadmium (Cd)	0.01% or 100ppm
Hexavalent Chromium (Cr+6 )	0.1% or 1000ppm
Lead (Pb)	0.1% or 1000ppm
Mercury (Hg)	0.1% or 1000ppm
Polybrominated Biphenyl (PBB)	0.1% or 1000ppm
Polybrominated Diphenyl Ether (PBDE)	0.1% or 1000ppm

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