



● **FEATURES**

- SUITABLE FOR TIME OF DAY CLOCKS
- IDEAL FOR HIGH DENSITY PACKAGING APPLICATION
- SMALL AND COMPACT PACKAGE
- WIDE OPERATING TEMPERATURE RANGE (-40°C to +125°C) AVAILABLE

● **SPECIFICATIONS**

PARAMETER	VALUE
NOMINAL FREQUENCY	32.768 kHz
MODE OF OSCILLATION	Fundamental
FREQUENCY TOLERANCE AT 25°C	±20 ppm Standard ±5, ±10 ppm Available
FREQUENCY STABILITY OVER TEMPERATURE COEFFICIENT	-0.04 ppm / °C <sup>2</sup>
OPERATING TEMPERATURE RANGE	-40°C to +85°C Standard -40°C to +125°C Wide**
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 For 10s max

Note:\* Other values available

\*\* Available only with 20 ppm frequency tolerance

● **PART NUMBERING SYSTEM**

TYPE	-	FREQUENCY kHz	-	LOAD CAPACITANCE pF	-	TOLERANCE PPM	-	OPERATING TEMPERATURE	-	TAPE & REEL
RT3215	-	32.768	-	6, 7, 9 or 12.5	-	Blank: 20 10: 10 5: 5	-	Blank: -40 to +85°C EXT1: -40 to +125°C	-	TR

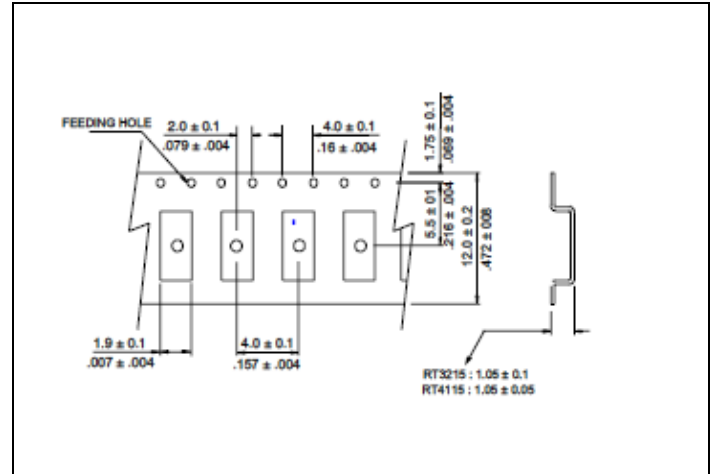
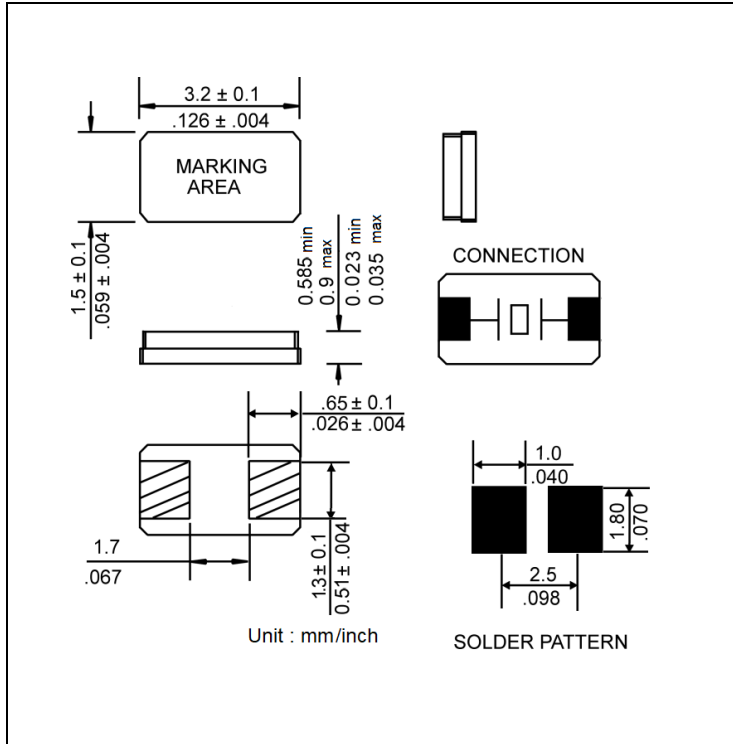
Note:\* Other values available.

\*\* Available only with 20 ppm frequency tolerance

**EXAMPLE: RT3215-32.768-12.5-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

● **MECHANICAL SPECIFICATION**

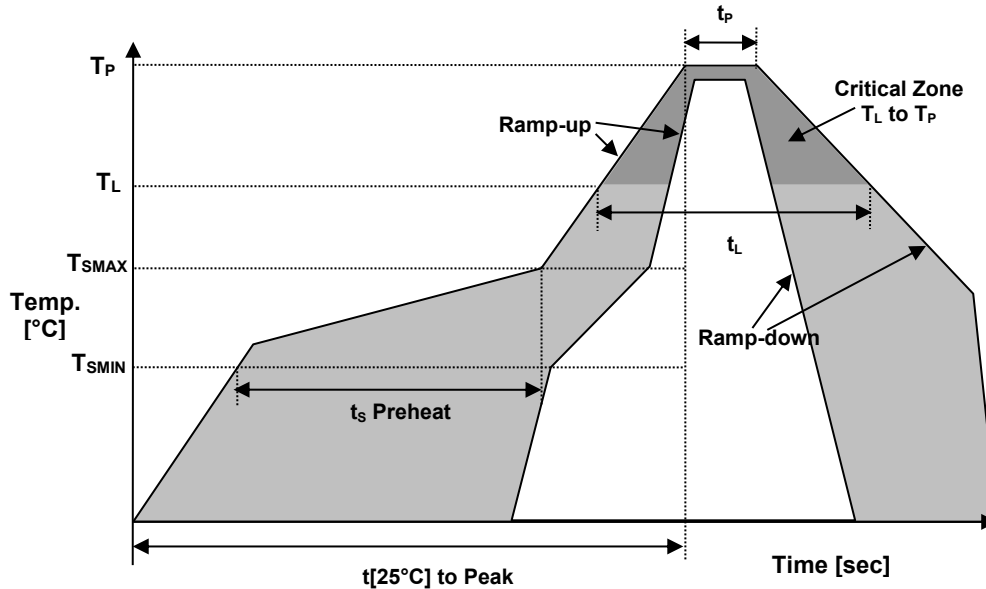


NOTE: REFER TO EIA-481 FOR DIMENSIONS

● **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	COMPLIANT
REACH SVHC	COMPLIANT
HALOGEN-FREE	COMPLIANT
ESD CLASSIFICATION LEVEL	N/A
TERMINATION FINISH	Au



August 2019