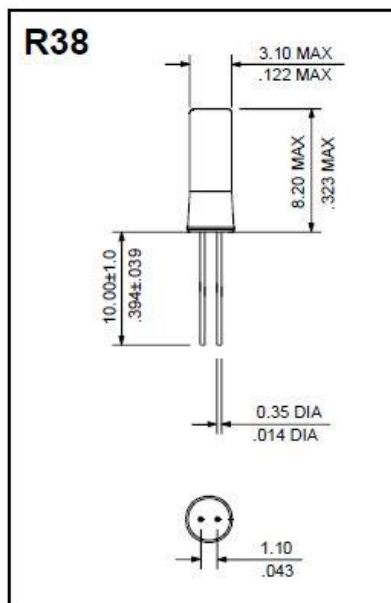


● ELECTRICAL SPECIFICATIONS

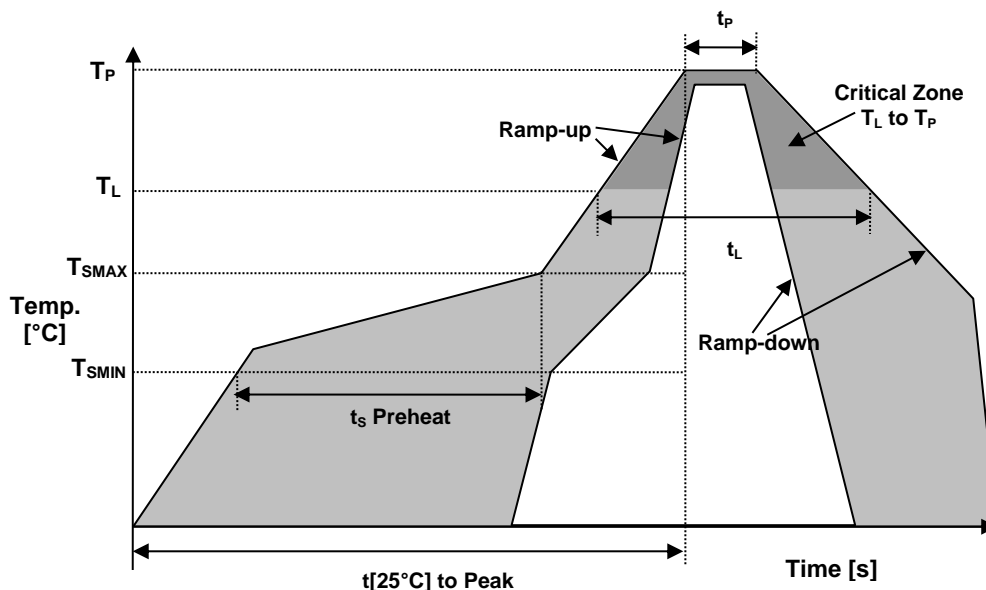
PARAMETER	VALUE
NOMINAL FREQUENCY	32.768 kHz
FREQUENCY TOLERANCE AT 25°C, max	±20 ppm
TURNOVER TEMPERATURE	25°C ± 5°C
PARABOLIC CURVATURE CONSTANT	-0.034 ppm/Δ°C <sup>2</sup>
LOAD CAPACITANCE	12.5 pF
EQUIVALENT SERIES RESISTANCE, max	35 kΩ
DRIVE LEVEL, typ	1.0 μW
MOTIONAL CAPACITANCE, typ	0.0035 pF
SHUNT CAPACITANCE	1.6 pF
CAPACITANCE RATIO	460
AGING (FIRST YEAR)	±3 ppm
QUALITY FACTOR, typ	90000
INSULATION RESISTANCE, min	500 MΩ
OPERATING TEMPERATURE RANGE	-20°C to +60°C
STORAGE TEMPERATURE RANGE	-40°C to +85°C
SHOCK RESISTANCE	±5ppm max 75 cm drop test in 3 axes onto a hard surface or 3000gx0.3msx1/2 sinewave in 3 axes

● MECHANICAL SPECIFICATION



NOTE: Through hole device, can withstand 245°C soldering by terminals only

● 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	$T_P$	245°C
Ramp-up rate	$R_{UP}$	3°C/s max.
Ramp-down rate	$R_{DOWN}$	6°C/s max.
Time within 5°C of Peak Temperature	$t_p$	10 s
Time $t[25^\circ\text{C}]$ to Peak Temperature	$t[25^\circ\text{C}]$ to Peak	480 s
Time	$t_L$	60-150 s

● ENVIRONMENTAL

PARAMETER	VALUE
MOISTURE SENSITIVITY LEVEL	1
RoHS-2	5/6 COMPLIANT, EXEMPTION 7a
REACH SVHC	COMPLIANT
HALOGEN-FREE	COMPLIANT
ESD CLASSIFICATION LEVEL	N/A
TERMINATION FINISH	Sn





A **RAMI TECHNOLOGY** Company

TUNING FORK CRYSTAL

Page 3 of 3

**R38-32.768-12.5**

- **APPROVAL**

DRAWN BY:	CP, June 04, 2015
APPROVED BY:	CP, June 04, 2015
REVISION:	A, Initial Release