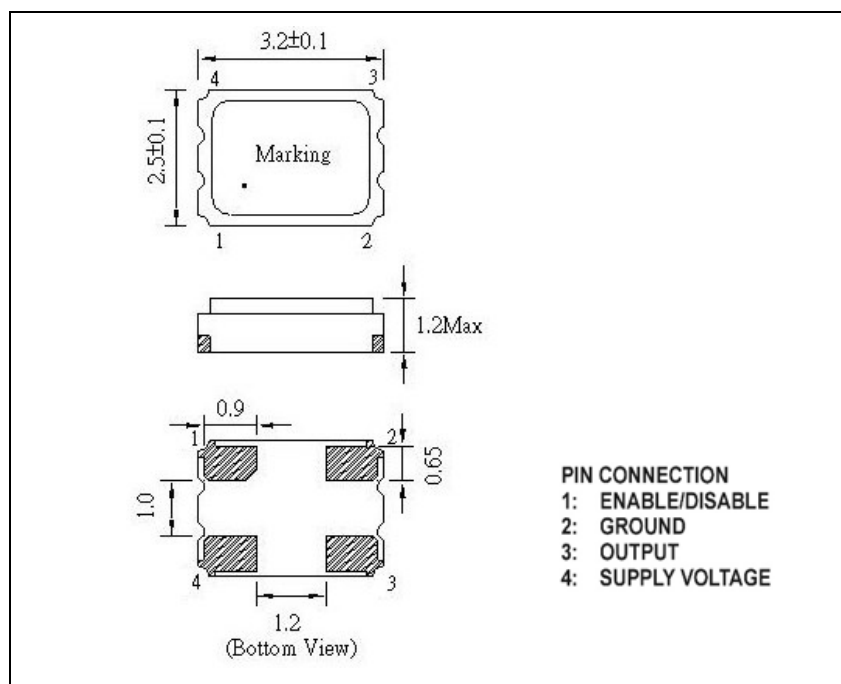


#### ELECTRICAL SPECIFICATION

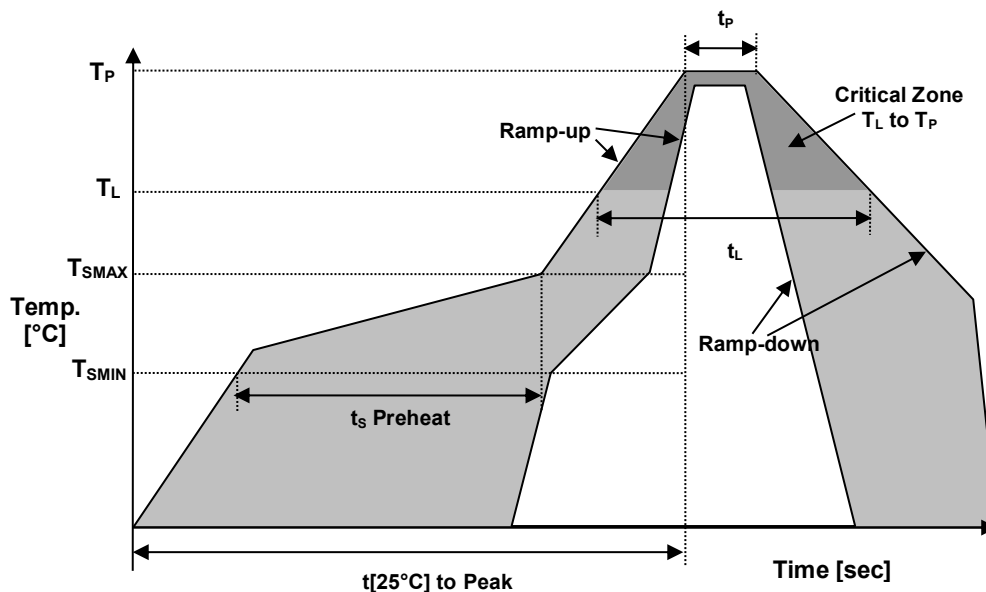
| PARAMETER                 | SYMBOL         | CONDITIONS                                                                                                                    | VALUE                             | UNIT             |
|---------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|------------------|
| Nominal Frequency         | $f_o$          | $T_a = 25^\circ\text{C}$                                                                                                      | 50.000                            | MHz              |
| Supply Voltage            | $V_{CC}$       | $V_{CC} \pm 10\%$                                                                                                             | 3.3                               | VDC              |
| Supply Current, max       | $I_S$          | $T_a = 25^\circ\text{C}$                                                                                                      | 10                                | mA               |
| Operating Temperature     | $T_a$          |                                                                                                                               | -40 ~ +85                         | $^\circ\text{C}$ |
| Storage Temperature       | $T_{(stg)}$    | Absolute max                                                                                                                  | -55 ~ +125                        | $^\circ\text{C}$ |
| Frequency Stability       | $\Delta f/f_o$ | Inclusive of $25^\circ\text{C}$ Tolerance and Changes due to Operating Temperature, Supply Voltage, Load and first year aging | $\pm 50$                          | ppm              |
| Output Voltage            | $V_{OL}$       | Logic "0" Level                                                                                                               | $0.1 \times V_{CC}$               | VDC              |
|                           | $V_{OH}$       | Logic "1" Level                                                                                                               | $0.9 \times V_{CC}$               | VDC              |
| Output Load               |                | CMOS Output                                                                                                                   | 15                                | pF               |
| Enable / Disable Function | E/D            | Pin 1: N.C. (Open) or High                                                                                                    | Pin 3 – Oscillation (Enabled)     |                  |
|                           |                | Pin 1: Low                                                                                                                    | Pin 3 – High Impedance (Disabled) |                  |
| Symmetry (Duty Cycle)     | DC             | @50% Vdd                                                                                                                      | 45 ~ 55                           | %                |
| Rise Time and Fall Time   | $t_r / t_f$    | @10% to 90% Vdd                                                                                                               | 5                                 | ns               |
| Start-up Time, max        | $t_s$          | $V_{OUT} \geq 90\% V_{P-P}$                                                                                                   | 5                                 | ms               |
| Standby Current           | $I_{(std)}$    |                                                                                                                               | 10                                | $\mu\text{A}$    |
| RMS Phase Jitter          | J              | $F_j = 10\text{kHz to } 20\text{MHz}$                                                                                         | 1                                 | ps               |

#### MECHANICAL SPECIFICATION



NOTE: A capacitor of 0.01  $\mu\text{F}$  between  $V_{CC}$  and Ground is recommended

### REFLOW PROFILE



| Reflow profile                                 |                   |              |
|------------------------------------------------|-------------------|--------------|
| Temperature Min Preheat                        | T <sub>SMIN</sub> | 150°C        |
| Temperature Max Preheat                        | T <sub>SMAX</sub> | 200°C        |
| Time (T <sub>SMIN</sub> to T <sub>SMAX</sub> ) | t <sub>s</sub>    | 60-180 sec.  |
| Temperature                                    | T <sub>L</sub>    | 217°C        |
| Peak Temperature                               | T <sub>P</sub>    | 260°C        |
| Ramp-up rate                                   | R <sub>UP</sub>   | 3°C/sec max. |
| Ramp-down rate                                 | R <sub>DOWN</sub> | 6°C/sec max. |
| Time within 5°C of Peak Temperature            | t <sub>p</sub>    | 10 sec.      |
| Time t[25°C] to Peak Temperature               | t[25°C] to Peak   | 480 sec.     |
| Time                                           | t <sub>L</sub>    | 60-150 sec.  |

### ENVIRONMENTAL

| PARAMETER                  | VALUE     |
|----------------------------|-----------|
| MOISTURE SENSITIVITY LEVEL | 1         |
| RoHS                       | Compliant |
| REACH-SVHC                 | Compliant |
| HALOGEN-FREE               | Compliant |
| TERMINATION FINISH         | Au        |



#### MARKING

Rx50.00T

•3BEyww

x – 1 or 2 digits as Internal Production ID code

y – Year code

w – Week code

| YEAR CODE |      |
|-----------|------|
| Year      | Code |
| 2018      | 8    |
| 2019      | 9    |
| 2020      | 0    |
| 2021      | 1    |
| 2022      | 2    |
| 2023      | 3    |
| 2024      | 4    |
| 2025      | 5    |
| 2026      | 6    |
| 2027      | 7    |
| 2028      | 8    |
| 2029      | 9    |

| ALPHA WEEK CODE TABLE |      |      |      |      |      |
|-----------------------|------|------|------|------|------|
| Week                  | Code | Week | Code | Week | Code |
| 1                     | a    | 19   | s    | 37   | K    |
| 2                     | b    | 20   | t    | 38   | L    |
| 3                     | c    | 21   | u    | 39   | M    |
| 4                     | d    | 22   | v    | 40   | N    |
| 5                     | e    | 23   | w    | 41   | O    |
| 6                     | f    | 24   | x    | 42   | P    |
| 7                     | g    | 25   | y    | 43   | Q    |
| 8                     | h    | 26   | z    | 44   | R    |
| 9                     | i    | 27   | A    | 45   | S    |
| 10                    | j    | 28   | B    | 46   | T    |
| 11                    | k    | 29   | C    | 47   | U    |
| 12                    | l    | 30   | D    | 48   | V    |
| 13                    | m    | 31   | E    | 49   | W    |
| 14                    | n    | 32   | F    | 50   | X    |
| 15                    | o    | 33   | G    | 51   | Y    |
| 16                    | p    | 34   | H    | 52   | Z    |
| 17                    | q    | 35   | I    |      |      |
| 18                    | r    | 36   | J    |      |      |

#### APPROVAL

| RALTRON      |                                                                                                                                               |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| DRAWN BY:    | KJackson, March 12, 2014                                                                                                                      |
| APPROVED BY: | KJackson, March 12, 2014                                                                                                                      |
| REVISION:    | A, Initial Release<br>B, CP, October 18, 2018<br>Upgraded to the new spec level<br>C, Updated to current spec levels by<br>XLiu, June 5, 2020 |

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