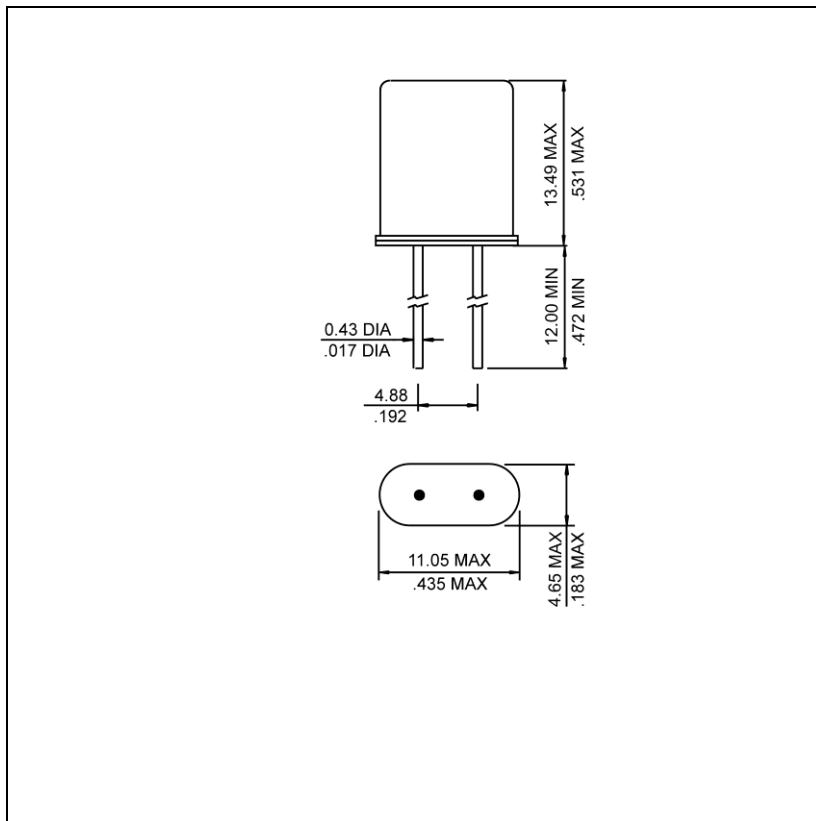


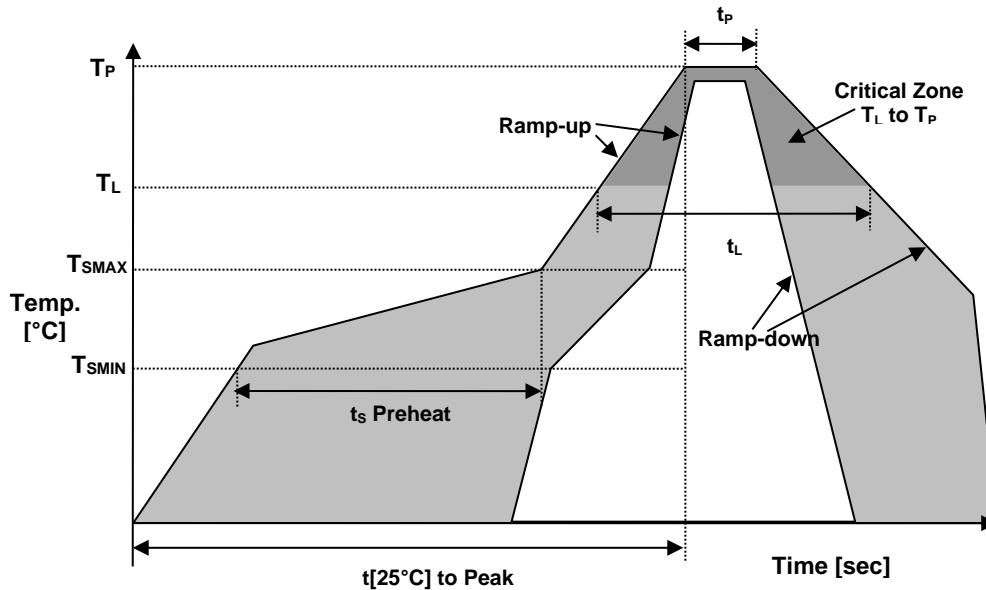
● SPECIFICATIONS

| PARAMETER | VALUE |
|--------------------------------------|-----------------------|
| NOMINAL FREQUENCY | 4.000MHz |
| MODE OF OSCILLATION | Fundamental |
| FREQUENCY TOLERANCE AT 25°C | ±30 ppm max |
| FREQUENCY STABILITY OVER TEMPERATURE | ±50 ppm max |
| OPERATING TEMPERATURE RANGE | -20°C to +70°C |
| STORAGE TEMPERATURE RANGE | -55°C to +125°C |
| AGING, MAXIMUM | ±5 ppm first year max |
| LOAD CAPACITANCE | Series |
| EQUIVALENT SERIES RESISTANCE | 80 Ω max |
| SHUNT CAPACITANCE | 7 pF max |
| DRIVE LEVEL | 1 mW max |
| REFLOW CONDITIONS | 260°C for 10 sec max |

● MECHANICAL SPECIFICATION



● 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°C] to Peak Temperature | t[25°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 | Sn |





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HC-49/U
A-TYPE CRYSTAL

Page 3 of 3

A-4.000-S-TR

MARKING

4.000
SERIES
Ryyxxww

x – Internal Production ID code
y – Year code
w – Week code

| YEAR CODE | |
|-----------|------|
| Year | Code |
| 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

| | |
|--------------|--|
| DRAWN BY: | KJackson, May 23, 2016 |
| APPROVED BY: | KJackson, May 23, 2016 |
| REVISION: | A, Initial Release B, Updated to current spec levels KJ 4/25/23 |

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