

### TUNING FORK QUARTZ CRYSTAL UNIT IN CERAMIC SEAM SEAL SMD PACKAGE, SIZE 4.1 X 1.5MM.

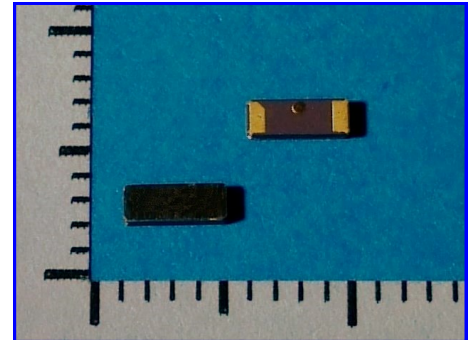
## 01-CR3-09

#### PRODUCT FEATURES

- SMALL SIZE PACKAGE SIZE 4.1 X 1.5 X 0.8MM WITH 2 PADS.
- HIGHLY RELIABLE AND LOW AGING CRYSTAL IN HERMETICALLY SEALED PACKAGE.
- EXCELLENT HEAT AND SHOCK RESISTANCE.
- PERFECT FOR SMT AND LEAD-FREE REFLOW PROCESS.

#### APPLICATIONS

- REAL TIME CLOCKS
- PORTABLE DEVICES
- TIMING DEVICES



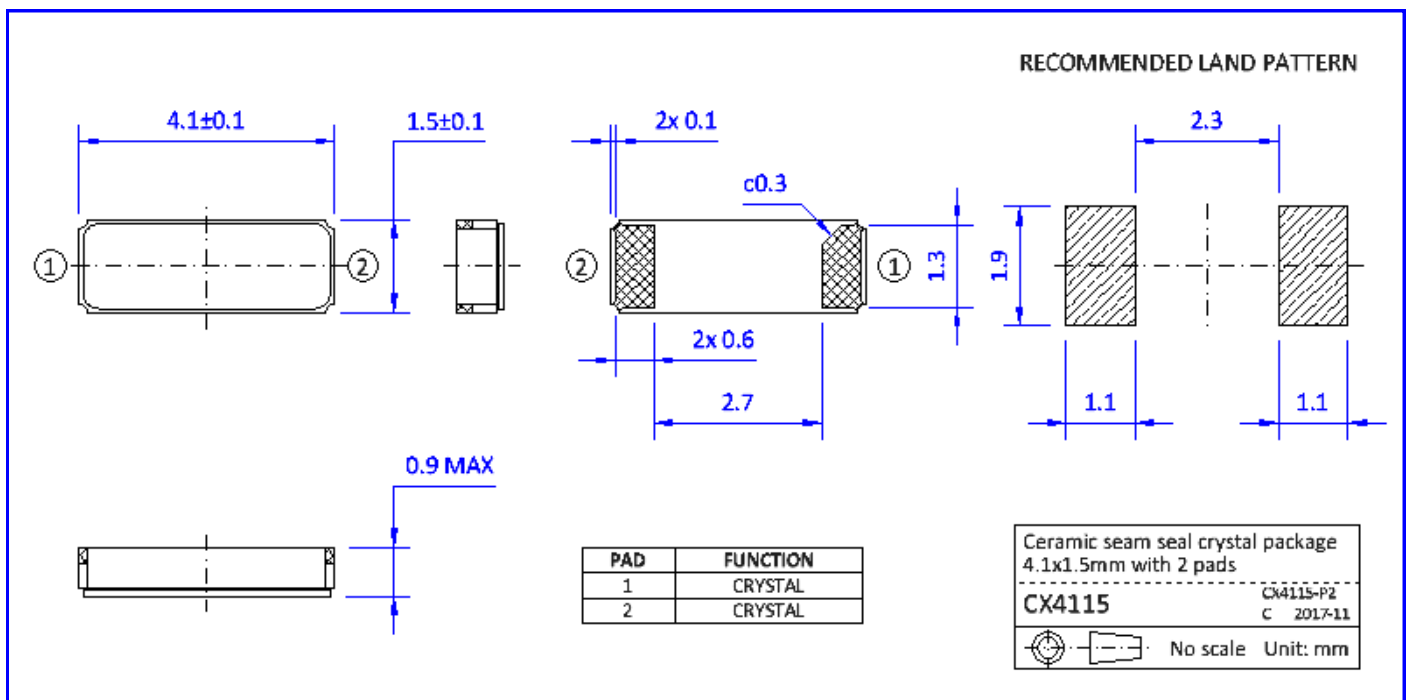
#### PRODUCT SPECIFICATIONS

PARAMETER	SYMBOL	SPECIFICATIONS	REMARKS
FREQUENCY	$F_N$	<b>32.768kHz</b>	—
OPERATION MODE	—	FUNDAMENTAL	—
FREQUENCY TOLERANCE	$\Delta f/f$	$\pm 10\text{PPM}, \pm 20\text{PPM}, \pm 30\text{PPM}, \pm 50\text{PPM}$	OTHER OPTIONS AVAILABLE
TEMPERATURE COEFFICIENT	K	$-0.03\text{PPM}/\Delta^\circ\text{C}^2$	SEE NOTE 1
TURNOVER POINT TEMPERATURE	$T_{TP}$	$+25\pm 5^\circ\text{C}$	SEE NOTE 2
OPERATING TEMPERATURE RANGE	$T_{OP}$	$-20^\circ\text{C} \sim +70^\circ\text{C}$ OR $-40^\circ\text{C} \sim +85^\circ\text{C}$	OTHER OPTIONS AVAILABLE
LOAD CAPACITANCE	CL	9pF or 12.5pF	PLEASE SPECIFY LOAD CAPACITANCE
SERIES RESONANCE RESISTANCE	$R_S$	60k $\Omega$ MAX	@+25 $^\circ\text{C}$
SHUNT CAPACITANCE	$C_0$	1.8pF TYP	—
DRIVE LEVEL	DL	0.1 $\mu\text{W}$ TYP, 1.0 $\mu\text{W}$ MAX	—
AGING FIRST YEAR	$\Delta f/y_1$	$\pm 5\text{PPM}$	@+25 $^\circ\text{C}$
STORAGE TEMPERATURE RANGE	$T_{ST}$	$-55^\circ\text{C} \sim +125^\circ\text{C}$	—

NOTE 1: THE TEMPERATURE COEFFICIENT IS THE CONSTANT OF THE PARABOLIC CURVATURE WHICH THE FREQUENCY DESCRIBES OVER OPERATING TEMPERATURE RANGE.

NOTE 2: THE TURNOVER TEMPERATURE DESCRIBES THE LOCATION OF THE TURNING POINT OF THE PARABOLIC FUNCTION.

#### MECHANICAL DIMENSIONS



### TUNING FORK QUARTZ CRYSTAL UNIT IN CERAMIC SEAM SEAL SMD PACKAGE, SIZE 4.1 X 1.5MM.

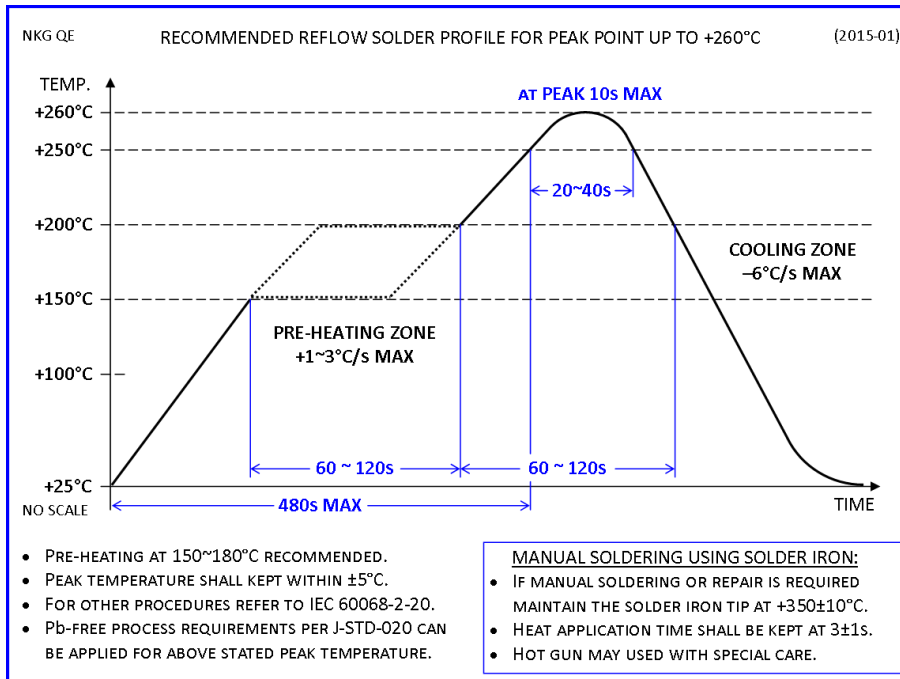
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#### ENVIRONMENTAL COMPLIANCE INFORMATION

- ROHS 6/6 COMPLIANT (DIRECTIVE 2011/65/EC) AND LEAD-FREE.
- COMPLIANT TO ROHS 2/3 (DIRECTIVE 2015/863) (ALSO CALLED ROHS 10).
- HALOGEN-FREE PER DEFINITION OF IEC 61249-2-21 2033.
- NONE-USE OF SVHCs PER REACH IS CURRENTLY GIVEN, CONTINUOUSLY MONITORED AND UPDATED AS THE COMMISSION ISSUES NEW RELEASES.
- PRODUCT DOES NOT CONTAIN ANY PHTHALATES (PHS).
- PRODUCT DOES NOT CONTAIN PVC (POLYVINYL CHLORIDE).
- PRODUCT DOES NOT CONTAIN PFOS/PFOA NOR BEING SAME USED TO MANUFACTURE THE COMPONENTS OF THIS PRODUCT.
- MOISTURE SENSITIVITY LEVEL (MSL) 1 PER J-STD-020C.

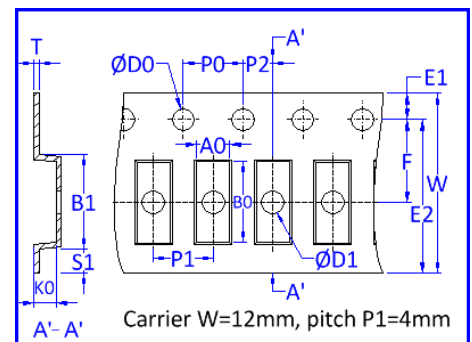


#### SOLDERING RECOMMENDATIONS



#### PACKAGING INFORMATION

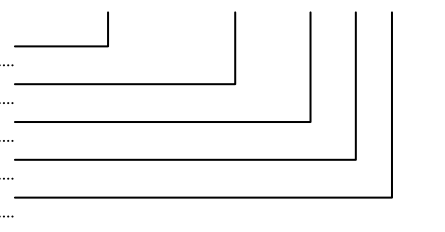
- PACKAGING IN TAPE & REEL IN COMPLIANCE TO EIA-481.
- QTY PER REEL: 3,000PCS
- REEL DIA A=180MM.
- EMBOSSED CARRIER TAPE WIDTH W = 12MM.
- COMPONENT PITCH P1 = 4MM.



#### PART NUMBER SYNTAX

- PART NUMBER FAMILY (REPRESENTS PRODUCT MODEL AND PACKAGE SIZE / TYPE)
- NOMINAL FREQUENCY (IN KHZ WITH AT LEAST THREE DIGITS AFTER DECIMAL POINT "k")
- LOAD CAPACITANCE (ACTUAL VALUE IN PF, I.E. 09= 9PF, 12.5= 12.5PF)
- FREQUENCY TOLERANCE DESIGNATOR (ACTUAL VALUE IN PPM OR CODE FOR SPECIAL REQ.)
- OPERATING TEMPERATURE RANGE CODE (I.E. C= -10~60°C, E= -20~70°C, M= -40~85°C)
- INTERNAL CODE FOR PRODUCTION LINE AND DEVIATING SPEC PARAMETERS

01-CR3-09-32k768-09-20M-CMC



FOR MORE INFORMATION PLEASE CONTACT US.

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