

CRYSTAL OSCILLATOR UNIT WITH HCMOS OUTPUT IN CERAMIC SEAM SEAL SMD PACKAGE, SIZE 2.0 X 1.6MM.

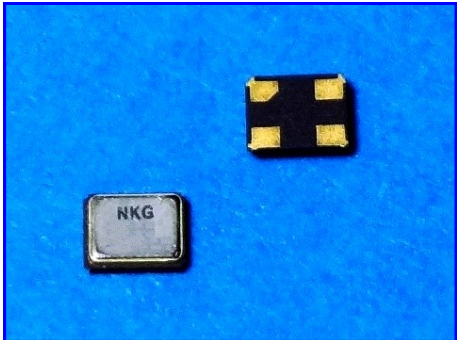
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PRODUCT FEATURES

- ULTRA SMALL SMD PACKAGE SIZE 2.0 X 1.6 X 0.8MM WITH 4 PADS.
- HIGHLY RELIABLE SEAM SEAL PACKAGE AND LOW AGING.
- EXCELLENT HEAT AND SHOCK RESISTANCE.
- AUTOMOTIVE GRADE COMPLIANT TO AEC-Q200 IS AVAILABLE.

APPLICATIONS

- MOBIL COMMUNICATION
- LAN, WLAN, MODEMS
- PDA, SMARTPHONE
- USB AND HANDHELD DEVICES



PRODUCT SPECIFICATIONS

PARAMETER	SYMBOL	PARAMETER VALUES / LIMITS	CONDITIONS / REMARKS
NOMINAL FREQUENCY	F_N	1 ~ 50MHZ	FUNDAMENTAL DESIGN
SUPPLY VOLTAGE RANGE	V_{DD}	1.8V / 2.5V / 3.3V	MORE AVAILABLE, PLEASE CONTACT US
SUPPLY CURRENT CONSUMPTION	I_{DD}	<15mA	TYPICAL, SEE NOTE 1
OVERALL FREQUENCY STABILITY	$\Delta f/F_N$	± 20 PPM, ± 25 PPM, ± 50 PPM	SEE NOTE 2, OTHERS AVAILABLE
OPERATING TEMPERATURE RANGE	T_{OP}	-10°C ~ +70°C OR -40°C ~ +85°C	OTHER OPTIONS AVAILABLE
AGING FIRST YEAR	$(\Delta f/F_N)y1$	± 3 PPM	@+25°C
OUTPUT WAVEFORM / LOAD	— / C_L	HCMOS / 15PF	TYPICAL MOST COMMON, OTHERS AVAILABLE
OUTPUT VOLTAGE LEVELS	V_{OH}/V_{OL}	$\geq 90\%V_{DD}$ / $\leq 10\%V_{DD}$	—
RISE AND FALL TIMES	t_R AND t_F	≤ 6 ns below 16MHz, ≤ 4 ns 30~50MHz ≤ 5 ns 16~30MHz	@10%~90%~10% V_{DD} , $V_{DD}=3.3V$
OUTPUT SYMMETRY (DUTY CYCLE)	DC	40/60% OR 45/55%	@50% V_{DD}
STANDBY FUNCTION (ENABLE/DISABLE ON PIN 1)	E/D	PIN1 = HIGH OR OPEN -> OUTPUT PIN3 ACTIVE PIN1 = LOW -> OUTPUT PIN3 HIGH IMPEDANCE	• OUTPUT HIGH IMPEDANCE = TRI-STATE • PIN1 CAN BE LEFT OPEN = FLOATING
STANDBY CURRENT CONSUMPTION	I_{STB}	10 μ A	TYPICAL

NOTE 1: CURRENT CONSUMPTION IS TYPICAL FOR 3.3V, AT LOWER SUPPLY VOLTAGES LESS CONSUMPTION.

NOTE 2: OVERALL FREQUENCY STABILITY INCLUDES TOLERANCE @+25°C, DEVIATIONS OVER OPERATING TEMPERATURE RANGE, DEVIATIONS DUE TO OUTPUT LOAD VARIATIONS AND SUPPLY VOLTAGE FLUCTUATIONS.

MECHANICAL DIMENSIONS

RECOMMENDED LAND PATTERN

PAD	FUNCTION
1	ENABLE / DISABLE [E/D]
2	GROUND [GND]
3	RF OUTPUT [CLK]
4	SUPPLY VOLTAGE [Vdd]
A	SIDE PADS
B	shall not be connected!

Ceramic seam seal oscillator package 2.0x1.6mm with 4 pads

CXO21M 2015-11 B

No scale Unit: mm

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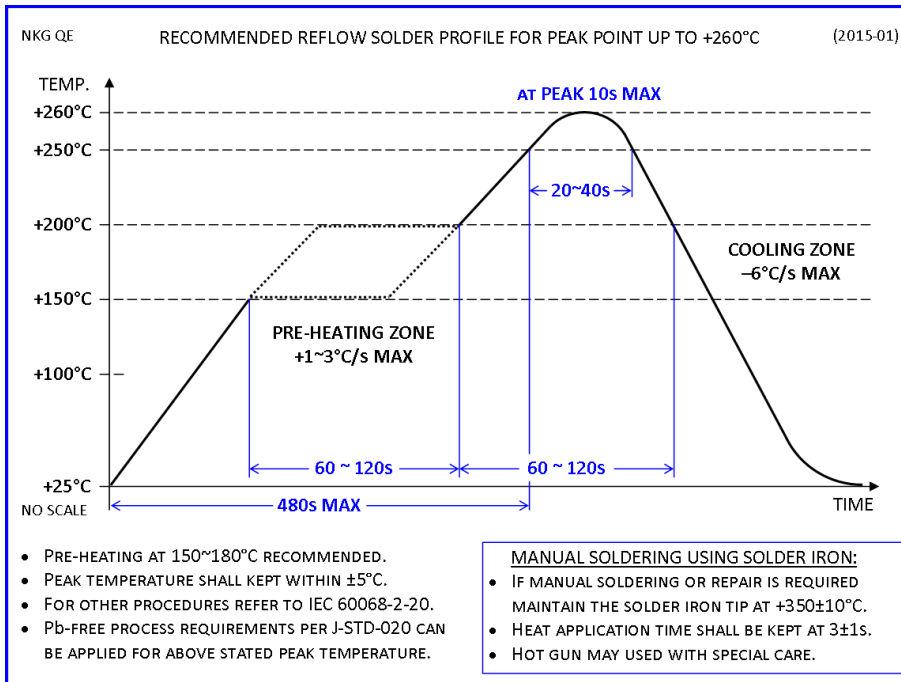
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ENVIRONMENTAL COMPLIANCE INFORMATION

- ROHS 6/6 COMPLIANT (DIRECTIVE 2011/65/EC) AND LEAD-FREE.
- COMPLIANT TO ROHS 2 (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.

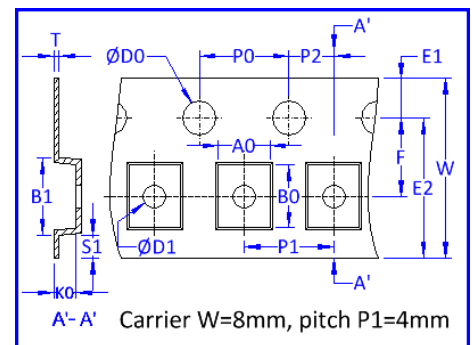


SOLDERING RECOMMENDATIONS



PACKAGING INFORMATION

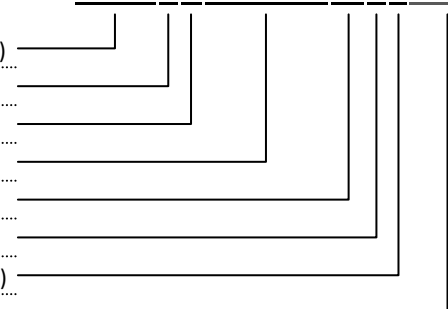
- PACKAGING IN TAPE & REEL IN COMPLIANCE TO EIA-481.
- QTY PER REEL: 3,000PCS
- REEL DIA A=180MM.
- EMBOSSED CARRIER TAPE WIDTH W = 8MM.
- COMPONENT PITCH P1 = 4MM.



PART NUMBER SYNTAX

- PART NUMBER FAMILY (REPRESENTS PRODUCT MODEL W/ CMOS OUTPUT AND PACKAGE SIZE)
- SUPPLY VOLTAGE NOMINATOR (I.E. 6= 3.3V, 7= 1.8V, 8= 2.8V, 9= 2.5V)
- FREQUENCY STABILITY CODE (I.E. A= ±25PPM, B= ±50PPM, C= ±100PPM, D= ±30PPM)
- NOMINAL FREQUENCY (IN MHZ WITH AT LEAST FOUR DIGITS AFTER DECIMAL POINT)
- OPERATING TEMPERATURE RANGE CODE (I.E. M= -10~70°C, W= -40~85°C)
- OUTPUT SYMMETRY INDICATOR (N= 40/60%, T= 45/55%)
- OUTPUT LOAD DESIGNATOR (I.E. S= STANDARD 15PF, C= 20PF, D= 25PF, E= 30PF, G= 50PF)
- PART NUMBER EXTENSION (ONLY FOR NON-STANDARD OR CUSTOMIZED PARTS)

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IF THERE IS A LARGE NUMBER OF CODES IN USE THE TABLE ABOVE MAY ONLY SHOW A FEW EXAMPLES.

FOR MORE INFORMATION PLEASE CONTACT US.

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