

CRYSTAL OSCILLATOR UNIT WITH LVDS OUTPUT IN CERAMIC SEAM SEAL SMD PACKAGE, SIZE 2.5 X 2.0MM WITH 6 PADS.

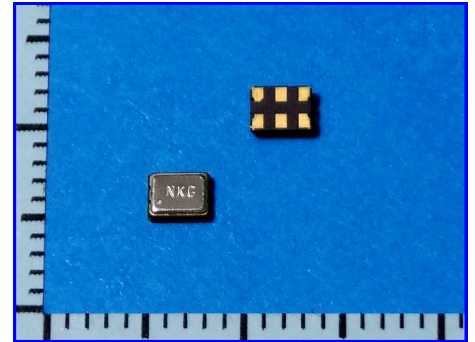
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PRODUCT FEATURES

- SMD PACKAGE SIZE 2.5 X 2.0 X 1.0MM WITH 6 PADS.
- FREQUENCY RANGE 13.5 TO 220MHZ
- ULTRA LOW JITTER TYPICAL 0.2PS AND PHASE NOISE.
- HIGHLY RELIABLE SEAM SEAL PACKAGE AND LOW AGING.

APPLICATIONS

- HIGH SPEED NETWORKING
- HIGH SPEED CLOCKS
- TELECOM EQUIPMENT



PRODUCT SPECIFICATIONS

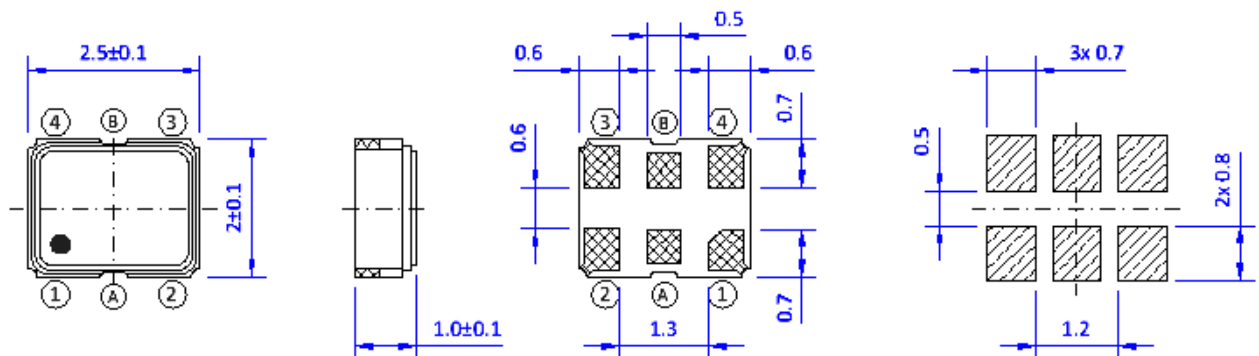
PARAMETER	SYMBOL	PARAMETER VALUES / LIMITS	CONDITIONS / REMARKS
NOMINAL FREQUENCY	F_N	13.5 ~ 220.0MHZ	FUNDAMENTAL OR 3RD OVERTONE DESIGN
SUPPLY VOLTAGE RANGE	V_{DD}	1.8V / 2.5V / 3.3V	—
SUPPLY CURRENT CONSUMPTION	I_{DD}	<30mA	SEE NOTE 1
OVERALL FREQUENCY STABILITY	$\Delta f/F_N$	± 25 PPM, ± 50 PPM, ± 100 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	— / R_L	LVDS / 100Ω	BETWEEN THE TWO OUTPUTS
OUTPUT VOLTAGE LEVELS	V_{OH}/V_{OL}	1.4V TYP / 1.1 TYP	PER TIA/EIA-644
OUTPUT VOLTAGE SWING	ΔV_{OUT}	250mV / 350mV / 450mV	MIN / TYP / MAX
RISE AND FALL TIMES	t_R AND t_F	0.2ns TYP, 0.5ns MAX	20%~80%~20% OF WAVE FORM
OUTPUT SYMMETRY (DUTY CYCLE)	DC	45 / 55%	@50% V_{DD}
PHASE JITTER (12kHz≤FJ≤20MHz)	J_{RMS}	0.2ps TYP / 0.5ps MAX	FOR 156.25MHZ
PHASE NOISE	$\ell(\Delta f)$	-50 / -80 / -115 / -135 / -142dBc	TYPICAL FOR 156.25MHZ @10Hz / 100Hz / 1kHz / 10kHz / 100kHz
STANDBY FUNCTION (E/D ON PIN 1)	E/D	PIN1=HIGH OR OPEN -> OUTPUTS ARE ACTIVE	PIN1=LOW -> OUTPUTS ARE HIGH IMPED.

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

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	N.C.
3	GROUND [GND]
4	OUTPUT [CLK]
5	COMPLEMENTARY OUTPUT [CLK]
6	SUPPLY VOLTAGE [Vdd]

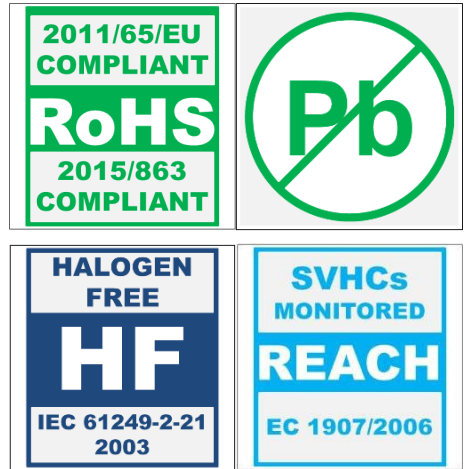
Ceramic seam seal oscillator package 2.5x2.0mm with 6 pads
CXDO22M-P6 2021-04 A
 No scale Unit: mm

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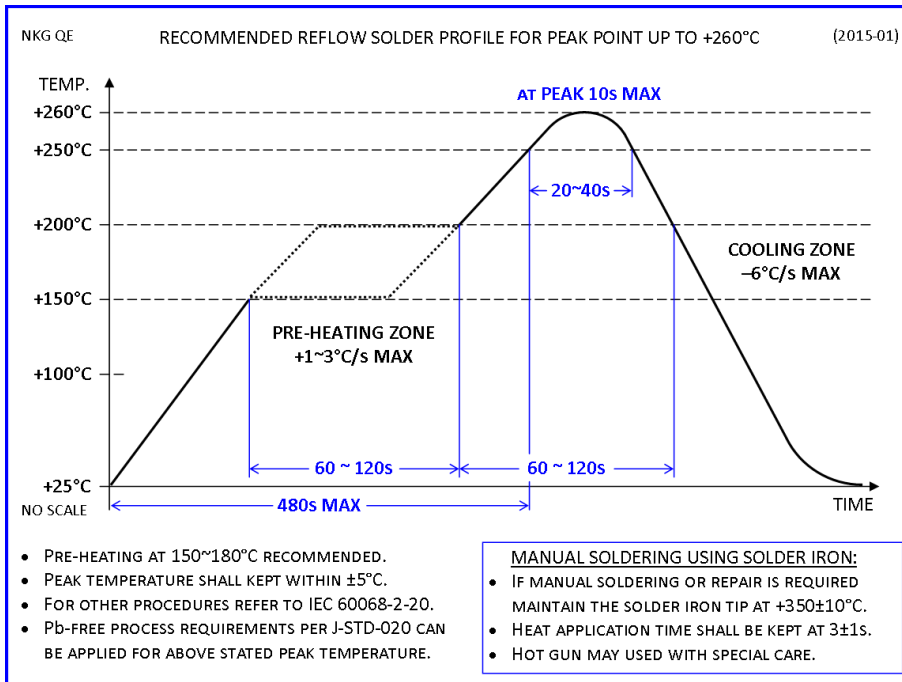
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ENVIRONMENTAL COMPLIANCE INFORMATION

- ROHS 6/6 COMPLIANT (DIRECTIVE 2011/65/EC) AND LEAD-FREE.
- COMPLIANT TO ROHS 2/3 (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.

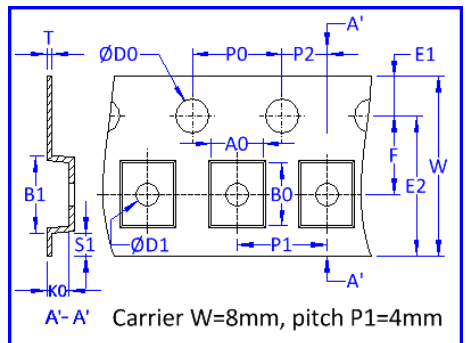


SOLDERING RECOMMENDATIONS



PACKAGING INFORMATION

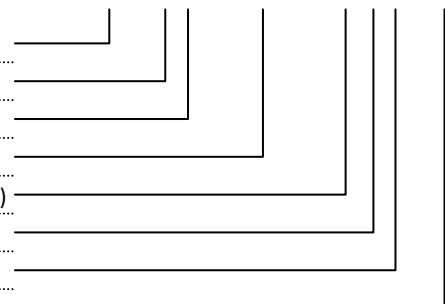
- PACKAGING IN TAPE & REEL IN COMPLIANCE TO EIA-481.
- QTY PER REEL: 3,000PCS
- REEL DIA A=180MM.
- EMBOSSED CARRIER TAPE WIDTH W = 8MM.
- COMPONENT PITCH P1 = 4MM.



PART NUMBER SYNTAX

- PART NUMBER FAMILY (REPRESENTS PRODUCT MODEL W/ LVDS 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 THREE DIGITS AFTER DECIMAL POINT)
- OPERATING TEMPERATURE RANGE CODE (I.E. E= -20~70°C, M= -10~70°C, W= -40~85°C)
- OUTPUT SYMMETRY INDICATOR (N= 40/60%, T= 45/55%)
- OUTPUT LOAD DESIGNATOR (I.E. S= STANDARD 50Ω)
- PART NUMBER EXTENSION (ONLY FOR NON-STANDARD OR CUSTOMIZED PARTS)

SDO7 6 B 120.000 MTS-EXT



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.

HONG KONG:
 NAKAGAWA ELECTRONICS LIMITED
 +852 2389 9201 sales@nkg.com.hk
 +852 2341 0001 www.nkg.com.hk

China Shenzhen office:
 深圳中川晶体电子有限公司
 +86(0)755 2598 2648 sales_sz@nkg.cn
 +86(0)755 2598 2390 www.nkg.com.hk

China Suzhou office:
 中川电子(苏州)有限公司
 +86(0)512 8818 7890 sales_nm@nkg.cn
 www.nkg.com.hk