

**CRYSTAL OSCILLATOR UNIT WITH HCMOS SPREAD SPECTRUM OUTPUT IN CERAMIC SMD PACKAGE, SIZE 7.0 X 5.0MM.**

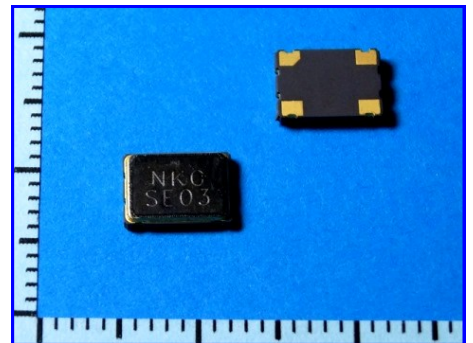
**SEO3**

**PRODUCT FEATURES**

- SPREAD SPECTRUM OUTPUT IDEAL FOR LOW EMI APPLICATIONS.
- SMD PACKAGE SIZE 7.0 X 5.0 X 1.4MM WITH 4 PADS.
- OUTPUT ENABLE/ DISABLE FUNCTION (OUTPUT TRISTATE).
- HIGHLY RELIABLE SEAM SEAL PACKAGE AND LOW AGING.

**APPLICATIONS**

- OFFICE EQUIPMENT
- LAN, WAN, ROUTERS
- STORAGE SYSTEMS (CD, DVD, HDD)
- ELECTRICAL MUSIC INSTRUMENTS



**PRODUCT SPECIFICATIONS**

PARAMETER	SYMBOL	PARAMETER VALUES / LIMITS	CONDITIONS / REMARKS
NOMINAL FREQUENCY	$F_N$	<b>3.5 ~ 165MHz</b>	FUNDAMENTAL OR 3RD OVERTONE DESIGN
SUPPLY VOLTAGE RANGE	$V_{DD}$	1.8V / 2.5V / 3.3V / 5.5V	MORE AVAILABLE, PLEASE CONTACT US
SUPPLY CURRENT CONSUMPTION	$I_{DD}$	<10mA / <20mA / <35mA	1~50MHz / 50~100MHz / 100~160MHz
OVERALL FREQUENCY STABILITY	$\Delta f/F_N$	$\pm 25$ PPM, $\pm 50$ PPM, $\pm 100$ PPM	SEE NOTE 1, OTHERS AVAILABLE
OPERATING TEMPERATURE RANGE	$T_{OP}$	-10°C ~ +70°C OR -40°C ~ +85°C	OTHER OPTIONS AVAILABLE
AGING FIRST YEAR	$(\Delta f/F_N)y1$	$\pm 3$ PPM	@+25°C
OUTPUT FREQUENCY SPREAD	—	0.5% / 1.0% / 1.5% / 3.0%	AS CENTER OR DOWN SPREAD AVAILABLE
EMI REDUCTION (TYPICAL)	—	10 ~ 18dB	WIDER SPREAD GIVES BETTER REDUCTION
OUTPUT WAVEFORM / LOAD	— / $C_L$	HCMOS / 15PF	—
OUTPUT VOLTAGE LEVELS	$V_{OH}/V_{OL}$	$\geq 90\%V_{DD}$ / $\leq 10\%V_{DD}$	—
RISE AND FALL TIMES	$t_R$ AND $t_F$	<5ns	@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 PIN 3 ACTIVE PIN1 = LOW -> OUTPUT PIN 3 HIGH IMPEDANCE	• OUTPUT HIGH IMPEDANCE = TRI-STATE • PIN1 CAN BE LEFT OPEN = FLOATING
STANDBY CURRENT CONSUMPTION	$I_{STB}$	10 $\mu$ A	TYPICAL

NOTE 1: 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] or N.C.
2	GROUND [GND]
3	RF OUTPUT [CLK]
4	SUPPLY VOLTAGE [V <sub>DD</sub> ]

Ceramic seam seal oscillator package 7.0x5.0mm with 4 pads  
**CX075M h15** 2017-10 D  
 No scale Unit: mm

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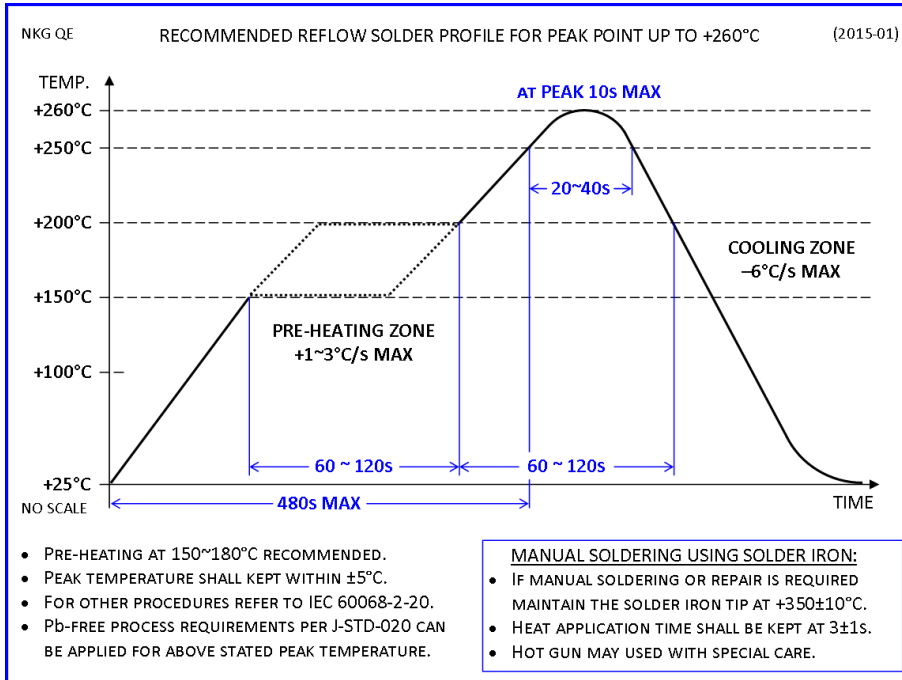
# SEO3

#### 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).

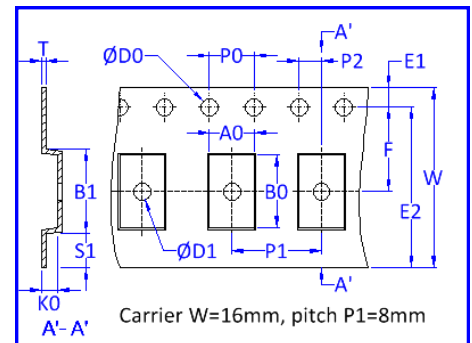


#### SOLDERING RECOMMENDATIONS



#### PACKAGING INFORMATION

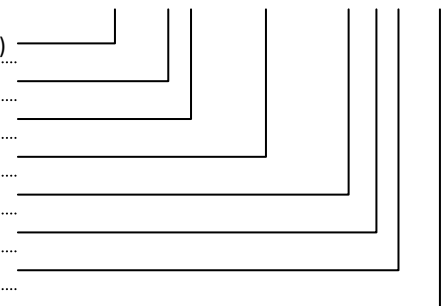
- PACKAGING IN TAPE & REEL IN COMPLIANCE TO EIA-481.
- QTY PER REEL: 1,000PCS
- REEL DIA A=180MM.
- EMBOSSED CARRIER TAPE WIDTH W = 16MM.
- COMPONENT PITCH P1 = 8MM.



#### PART NUMBER SYNTAX

- PART NUMBER FAMILY (REPRESENTS PRODUCT MODEL W/ CMOS OUTPUT AND PACKAGE SIZE)
- SUPPLY VOLTAGE NOMINATOR (I.E. 3= 5.0V, 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%)
- FREQUENCY SPREAD TYPE (I.E. C= CENTER SPREAD, D= DOWN SPREAD)
- FREQUENCY SPREAD PERCENTAGE (I.E. 0.5= 0.5%, 1.0= 1.0%, 1.5= 1.5%)

### SEO3 6 B 25.0000 MTC1.0



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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