

VOLTAGE CONTROLLED CRYSTAL OSCILLATOR UNIT WITH HCMOS OUTPUT IN CERAMIC SEAM SEAL SMD PACKAGE, SIZE 3.2 X 2.5MM WITH 4 PADS.

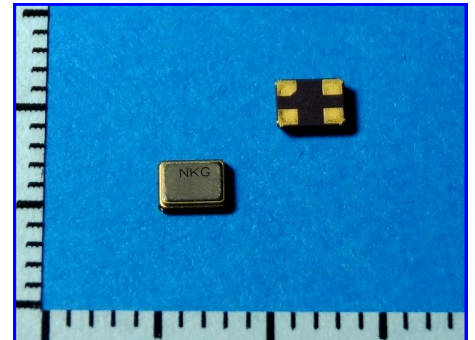
SVCH3

PRODUCT FEATURES

- VCXO IN SMD PACKAGE SIZE 3.2 X 2.5 X 1.0MM WITH 4 PADS.
- FREQUENCY RANGE 1 TO 50MHZ.
- FREQUENCY PULLING RANGES ± 80 MINIMUM.
- LOW JITTER AND PHASE NOISE DESIGNS.

APPLICATIONS

- SONET / ATM
- SET-TOP BOXES
- WIRELESS
- AUDIO & VIDEO EQUIPMENT



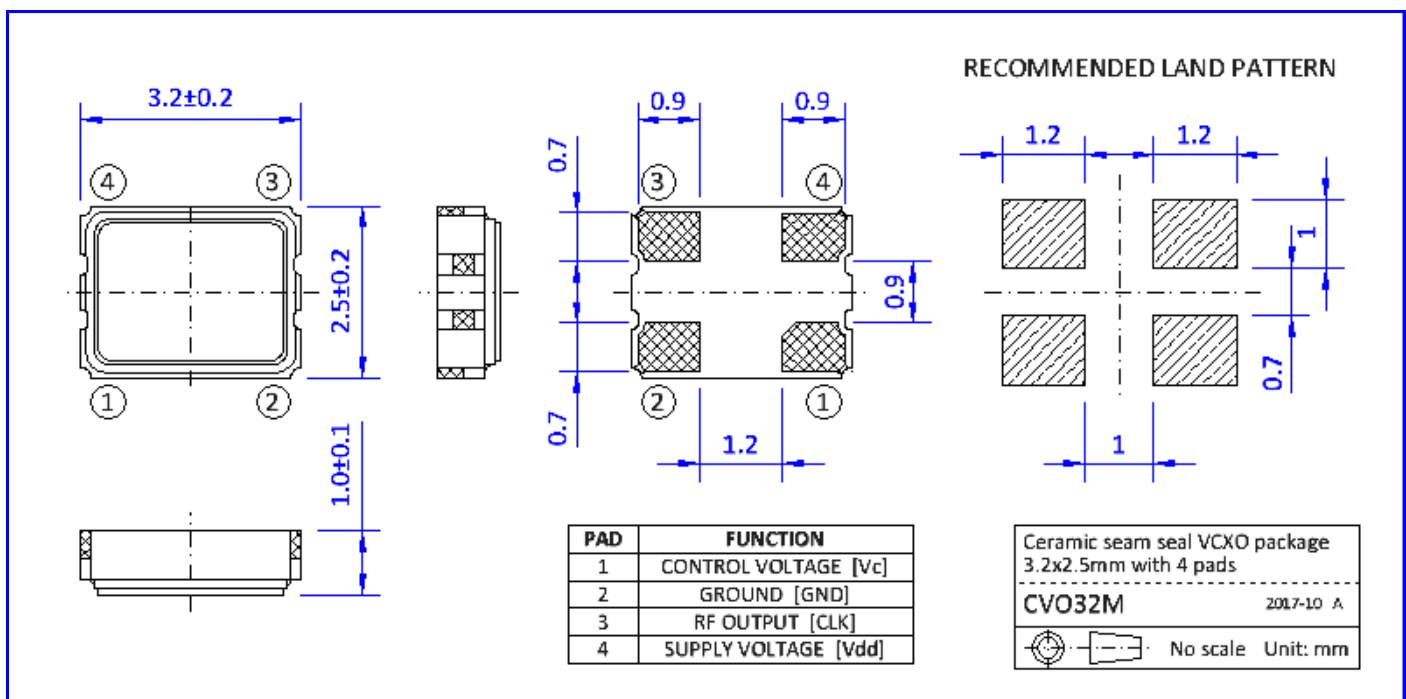
PRODUCT SPECIFICATIONS

PARAMETER	SYMBOL	PARAMETER VALUES / LIMITS	CONDITIONS / REMARKS
NOMINAL FREQUENCY	F_N	1 ~ 50MHZ	FUNDAMENTAL DESIGN
SUPPLY VOLTAGE RANGE	V_{DD}	1.8V _{DC} / 3.3V _{DC} / 5.0V _{DC}	—
SUPPLY CURRENT CONSUMPTION	I_{DD}	<20mA	SEE NOTE 1
OVERALL FREQUENCY STABILITY	$\Delta f/F_N$	± 25 PPM, ± 50 PPM, ± 100 PPM	SEE NOTE 2, OTHERS AVAILABLE
AGING FIRST YEAR	$(\Delta f/F_N)/y1$	± 3 PPM	@+25°C
CONTROL VOLTAGE RANGE	V_C	0~1.8V / 0.3~3.0V / 0.5~4.5V	@ $V_{DD}=1.8V$ / @ $V_{DD}=3.3V$ / @ $V_{DD}=5V$
FREQUENCY PULLING RANGE	$\Delta f/V_C$	± 80 PPM MIN	—
OPERATING TEMPERATURE RANGE	T_{OP}	-10°C ~ +70°C / -40°C ~ +85°C	TYPICALLY USED, OTHERS REQUEST
OUTPUT WAVEFORM / LOAD	— / C_L	HCMOS & LVC MOS / 15PF	@ HIGHER SUPPLY VOLTAGES HIGHER LOADS
OUTPUT VOLTAGE LEVELS	V_{OH}/V_{OL}	$\geq 90\%V_{DD}$ / $\leq 10\%V_{DD}$	—
RISE AND FALL TIMES	t_R AND t_F	6ns MAX	@20%~80% OF WAVEFORM
OUTPUT SYMMETRY (DUTY CYCLE)	DC	50 \pm 10% OR 50 \pm 5%	@50% V_{DD}
PHASE JITTER (12KHZ \leq F \leq 20MHZ)	J_{RMS}	1.0ps MAX	FOR 27MHZ
PHASE NOISE (TYPICAL)	$\ell(\Delta f)$	-75 / -104 / -132 / -146 / -148dBc	27MHZ @10Hz,100Hz,1kHz,10kHz,100kHz

NOTE 1: CURRENT CONSUMPTION IS TYPICAL FOR 3.3V, AT LOWER SUPPLY VOLTAGES LESS CONSUMPTION APPLIES., PLL DESIGNS REQUIRE SLIGHTLY HIGHER POWER.

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



VOLTAGE CONTROLLED CRYSTAL OSCILLATOR UNIT WITH HCMOS OUTPUT IN CERAMIC SEAM SEAL SMD PACKAGE, SIZE 3.2 X 2.5MM WITH 4 PADS.

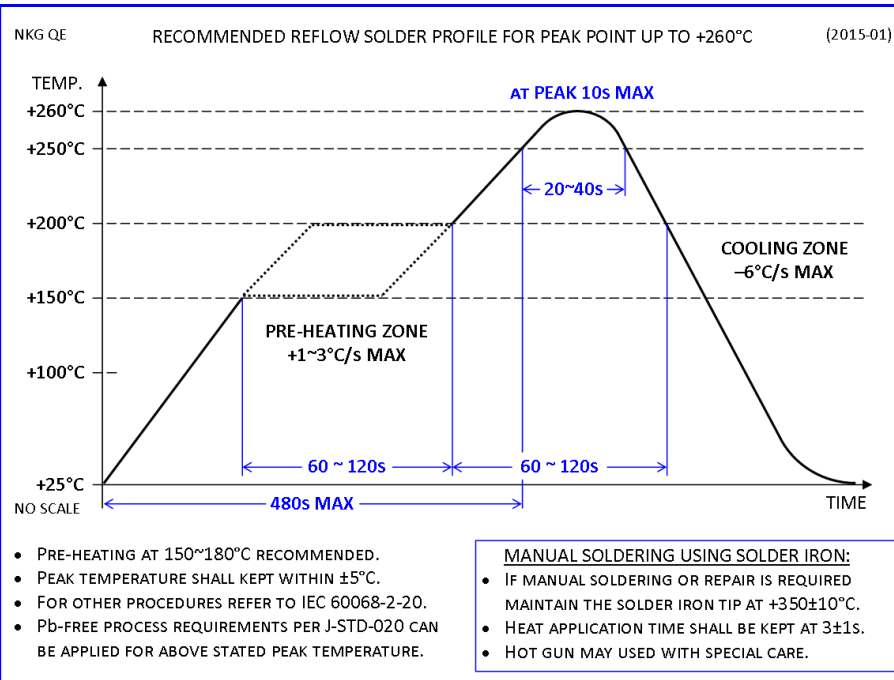
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ENVIRONMENTAL COMPLIANCE INFORMATION

- ROHS 6/6 COMPLIANT (DIRECTIVE 2011/65/EC) AND LEAD-FREE.
- COMPLIANT TO ROHS 2 (DIRECTIVE 2015/863) (ALSO CALLED ROHS10).
- 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.

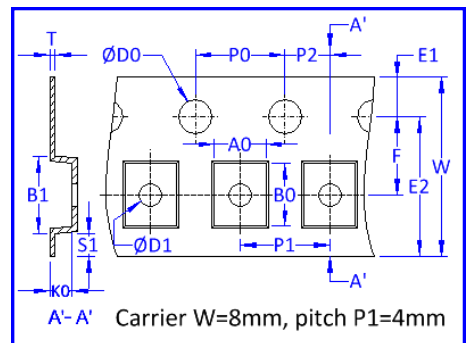
6 / 6 RoHS 2011/65/EC COMPLIANT	
HALOGEN FREE HF IEC 61249-2-21 2003	191 SVHCs REACH EC 1907/2006 COMPLIANT

SOLDERING RECOMMENDATIONS



PACKAGING INFORMATION

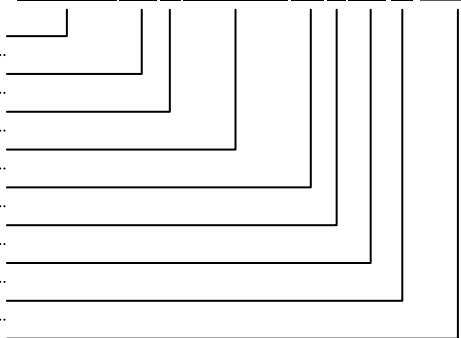
- PACKAGING IN TAPE & REEL IN COMPLIANCE TO EIA-481.
- QTY PER REEL: 3,000PCS
- REEL DIA A=180MM.
- EMBOSSED CARRIER TAPE WIDTH W = 8MM.
- COMPONENT PITCH P1 = 4MM.



PART NUMBER SYNTAX

- PART NUMBER FAMILY (REPRESENTS MODEL WITH HCMOS OUTPUT AND PACKAGE SIZE)
- SUPPLY VOLTAGE DESIGNATOR (I.E. 50= 5.0V, 33= 3.3V, 25= 2.5V, 18= 1.8V)
- 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. M= -10~70°C, W= -40~85°C)
- OUTPUT SYMMETRY INDICATOR (N= 50±10%, T= 50±5%)
- FREQUENCY PULLING RANGE (VALUE IN PPM I.E. 50= ±50PPM, 100= ±100PPM)
- FREQUENCY PULLING MODE (BLANK FOR STANDARD, A= ABSOLUTE PULLING RANGE APR)
- PART NUMBER EXTENSION (ONLY FOR NON-STANDARD OR CUSTOMIZED PARTS)

SVCH333 B50.000 MT50 A -EXT



FOR MORE INFORMATION PLEASE CONTACT US.

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