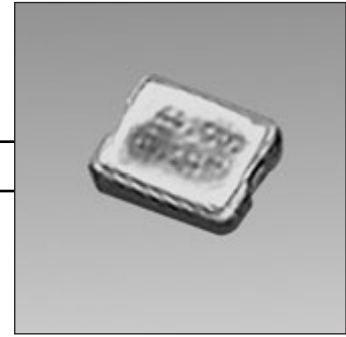


CRYSTAL CLOCK OSCILLATORS

Preliminary

NZ2520 SERIES



Features

- Dimension: The smallest crystal clock oscillators in the world with a size of 2.5×2.0 mm.
- Thickness: The thinnest crystal clock oscillators in the world with a thickness of 0.9 mm.
- Weight: Realizing an ultra-light weight of 0.02 g.
- Achieving low frequency (from 1.5 MHz up) which is difficult to realize in crystal oscillators of such minute dimensions.
- Directly drives the C-MOS IC.
- Products that are lead-free. These can meet the requirements of re-flow profiling using lead-free solder.
- Optimum crystal oscillators for small portable information devices such as DVC, DSC, laptop PC and PDA, etc.

Absolute Maximum Rating

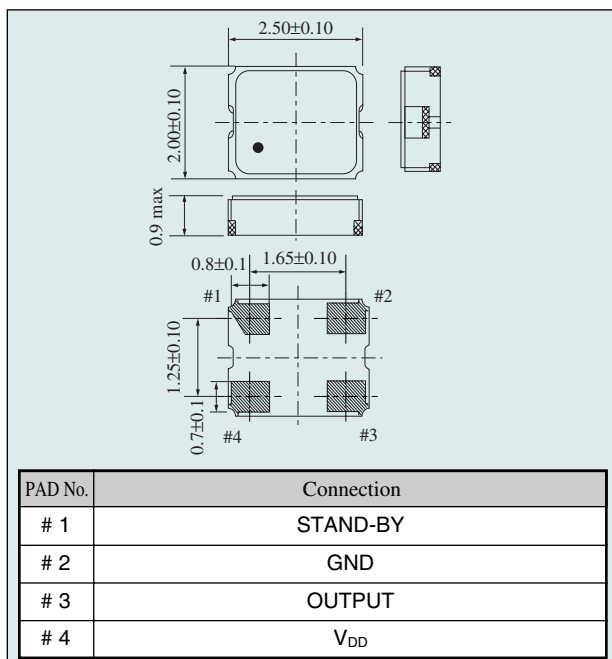
Supply Voltage (V_{DD}) $-0.5 \sim +7.0$ V DC

Storage Temperature Range $-40 \sim +85^\circ\text{C}$

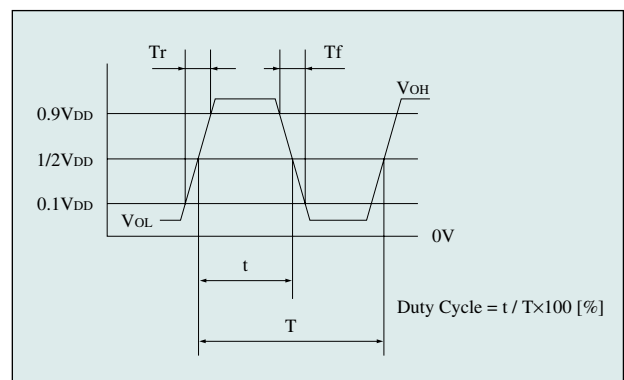
Item		Model	NZ2520						
Output Level			C-MOS						
Frequency	(MHz)		$1.5 \leq F < 10$	$10 \leq F < 20$	$20 \leq F < 30$	$30 \leq F < 40$	$40 \leq F < 50$	$50 \leq F < 60$	$60 \leq F < 67.5$
Frequency Stability / Operating Temp. Range	$(\times 10^{-6}) / (^\circ\text{C})$		$\pm 100 / -20 \sim +70$ $\pm 50 / -10 \sim +70$ $\pm 30 / -10 \sim +60$						
Supply Voltage (V_{DD})	(V)		$+2.5 \pm 0.1$ $+3.0 \pm 0.1$						
Current Consumption		$+2.5\text{V}, 25^\circ\text{C}$	3.5mA max	4.5mA max	6.0mA max	7.0mA max	8.0mA max	9.5mA max	10.5mA max
		$+3.0\text{V}, 25^\circ\text{C}$	5.0mA max	6.0mA max	8.0mA max	9.0mA max	10.5mA max	12.0mA max	13.5mA max
	stand-by	$+2.5\text{V}, 25^\circ\text{C}$	10 μ A max						
		$+3.0\text{V}, 25^\circ\text{C}$	10 μ A max						
V_{OL} max/ V_{OH} min	(V)		$0.1V_{DD} / 0.9V_{DD}$						
T_r max/ T_f max	(ns)		5 / 5 ($0.1V_{DD} \sim 0.9V_{DD}$)						
Duty Cycle	(%)		45~55 (at $1/2V_{DD}$)						
Fanout (gate)	C_L (pF)		15						
Stand-by Function			Yes						

Note: The frequency stability includes frequency deviations due to general variation, temperature change and power supply fluctuation.

NZ2520 Series Outline



Output Wave <C-MOS>



Stand-by Function <Tri-state>

# 1 input	# 3 output
H level ($0.7V_{DD} \leq V_{IH} \leq V_{DD}$) or open	Operating
L level ($V_{IL} \leq 0.3V_{DD}$)	High impedance