

Specification of Simple Packaged Crystal Oscillators

- 1. **NDK Part Number** NZ2520SB-33M-RNA3047A
- 2. **Chipset Maker** Renesas
- 3. **Chipset Name** R-Car H3
- 4. **NDK Specification Number** RNA3047A
- 5. **Type** NZ2520SB
- 6. **Absolute Maximum ratings**

	Item	Ratings			Notes
		Min.	Max.	Units	
1	Supply voltage	-0.5	+4.0	V	-
2	Storage temp. rage	-55	+125	°C	-

7. Electrical Specification

	Parameters	SYM.	Electrical Spec.				Notes
			Min.	Typ.	Max.	Units	
1	Nominal frequency	f _{nom}		33		MHz	-
2	Supply voltage	V _{CC}	1.62	1.8	1.98	V	-
3	Current consumption (Operating)	I _{CC}	-	-	4.5	mA	at 1.8V, 25°C
4	Current consumption (Stand-by)	I _{ST}	-	-	10	µA	at 1.8V, 25°C
5	Output level	-	CMOS				-
6	Load capacitance	CL			15	pF	-
7	Operating temp. rage	T _{opr}	-40	-	+85	°C	-
8	Overall frequency tolerance	Δf/f _{nom}	-50	-	+50	ppm	*1
9	Long-term frequency stability	Δf _{lt}	-5	-	+5	ppm	at 25°C, 1 year
10	Output voltage	V _{OL}	-	-	0.1 V _{CC}	V	-
		V _{OH}	0.9 V _{CC}	-	-	V	-
11	Rise time (T _r), Fall time (T _f)	T _r /T _f	-	-	5	ns	0.1V _{CC} to 0.9V _{CC}
12	Symmetry	SYM	45	-	55	%	at 1/2 V _{CC}
13	Start-up time	T _{su}	-	-	4	ms	
14	Output wave form	-	Rectangular				-
15	Stand-by function						
	#1 PAD input		# 3 PAD output				
	H level (0.7 V _{CC} to V _{CC}) or Open		Operating				
	L level (0.3 V _{CC} max.)		High impedance				

*1 'Inclusive of frequency. tolerance (at 25 °C), requency/temperature characteristics, frequency/voltage coefficient.

8. Dimension

