

## Specification of Simple Packaged Crystal Oscillators

- 1. **NDK Part Number** NZ2520SB-32.768K-RNA3045A
- 2. **Chipset Maker** Renesas
- 3. **Chipset Name** R-Car H3
- 4. **NDK Specification Number** RNA3045A
- 5. **Type** NZ2520SB
- 6. **Absolute Maximum ratings**

	Item	Ratings			Notes
		Min.	Max.	Units	
1	Supply voltage	-0.3	+7.0	V	-
2	Storage temp. rage	-55	+125	°C	-

### 7. Electrical Specification

	Parameters	SYM.	Electrical Spec.				Notes
			Min.	Typ.	Max.	Units	
1	Nominal frequency	f <sub>nom</sub>		32.768		kHz	-
2	Supply voltage	V <sub>CC</sub>	1.62	1.8	1.98	V	-
3	Current consumption (Operating)	I <sub>CC</sub>	-	-	0.22	mA	at 1.8V, 25°C
4	Current consumption (Stand-by)	I <sub>ST</sub>	-	-	10	µA	at 1.8V, 25°C
5	Output level	-	CMOS				-
6	Load capacitance	CL			15	pF	-
7	Operating temp. rage	T <sub>opr</sub>	-40	-	+85	°C	-
8	Overall frequency tolerance	Δf/f <sub>nom</sub>	-50	-	+50	ppm	*1
9	Long-term frequency stability	Δf <sub>lt</sub>	-5	-	+5	ppm	at 25°C, 1 year
10	Output voltage	V <sub>OL</sub>	-	-	0.1 V <sub>CC</sub>	V	-
		V <sub>OH</sub>	0.9 V <sub>CC</sub>	-	-	V	-
11	Rise time (T <sub>r</sub> ), Fall time (T <sub>f</sub> )	T <sub>r</sub> /T <sub>f</sub>	-	-	200	ns	0.1V <sub>CC</sub> to 0.9V <sub>CC</sub>
12	Symmetry	SYM	45	-	55	%	at 1/2 V <sub>CC</sub>
13	Start-up time	T <sub>su</sub>	-	-	5	ms	
14	Output wave form	-	Rectangular				-
15	Stand-by function						
	#1 PAD input		# 3 PAD output				
	H level (0.7 V <sub>CC</sub> to V <sub>CC</sub> ) or Open		Operating				
	L level (0.3 V <sub>CC</sub> max.)		High impedance				

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

### 8. Dimension

