



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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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

