ZARLINK SEMICONDUCTOR™

MT9041A and MT9041B Differences

Application Sheet

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Introduction

This application sheet compares the MT9041B functionality with that of the MT9041A.

The MT9041B is an enhanced version of the MT9041A. Most systems currently using the MT9041A will be able to accept the MT9041B with little or no modifications to their existing hardware and software. Consult the table below to determine the consequences of substituting devices in your application.

Table 1 below illustrates the functional differences between the two devices. For full details on the MT9041B functionality, refer to the MT9041B data sheet.

willie_bob

Item	Description	MT9041A	MT9041B
1	Capture range, lock range, output frequency range.	±12,600ppm	±230ppm
2	Phase change slope.	Function of input phase step.	Maximum of 5ns/125us (53ns/ 1.326ms)
3	$\overline{RST}$ pin	TTL type input. All outputs may be at logic high or logic low or active when $\overline{RST}$ at logic low.	Schmitt type input. All outputs fixed at logic high when $\overline{RST}$ at logic low.
4	Pin 8. FP8-GCI frame pulse.	FP8-GCI. This is a 122ns wide positive frame pulse with the falling edge aligned with the center or $\overline{F0o}$.	$\overline{F16o}$. This is a 61ns wide negative frame pulse with center aligned with the center or $\overline{F0o}$.
5	Input to output phase alignment after a reset ($\overline{TRST}$ or $\overline{RST}$).	A function of the reference input and master clock frequency.	Always aligned. Independent of the reference input and master clock frequency.
6	Lock time	3s maximum	30s maximum
7	Loop filter	2.5Hz for E1 and 1.9Hz for T1	1.9Hz for both E1 and T1.
8	C16 duty cycle	Dependant on duty cycle of the 20 MHz clock signal at MCLKi.	45 - 55 % duty cycle independant of the master clock duty cycle.
9	Jitter tolerance	Exceeds requirements by over 100%.	Exceeds requirements by about 30%.
10	C16o - 16.384Mhz output clock	The clock has a rising edge on the frame boundary delineated by the rising edge of F8o.	The clock has a falling edge on the frame boundary delineated by the rising edge of F8o.

Table 1 - Functional Differences between the MT9041A and MT9041B

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