



Integrated Device Technology, Inc.
6024 Silver Creek Valley Road, San Jose, CA - 95138

PRODUCT/PROCESS CHANGE NOTICE (PCN)

PCN #: N1101-04 DATE: January 21, 2011 Product Affected: 84021AY 84021AYLF 84021AYT 84021AYLFT Date Effective: April 21, 2011	MEANS OF DISTINGUISHING CHANGED DEVICES: <input checked="" type="checkbox"/> Product Mark <input type="checkbox"/> Back Mark <input type="checkbox"/> Date Code <input type="checkbox"/> Other
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Contact: Peter Jenkins Title: Marketing Phone #: (480) 763-2048 Fax #: (408) 763-2001 E-mail: Peter.Jenkins@idt.com	Attachment: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Samples: Available now
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DESCRIPTION AND PURPOSE OF CHANGE:

<input type="checkbox"/> Die Technology <input type="checkbox"/> Wafer Fabrication Process <input type="checkbox"/> Assembly Process <input type="checkbox"/> Equipment <input type="checkbox"/> Material <input type="checkbox"/> Testing <input type="checkbox"/> Manufacturing Site <input checked="" type="checkbox"/> Data Sheet <input checked="" type="checkbox"/> Other * Die revision	<p>This notification is to advise our customers that IDT has made a die revision on device 84021AY/LF. The die change will fix the feedback divider and PLL instability. The datasheet and test limits will also be updated to reflect the changes. The new orderable part number is 84021BY/LF.</p>
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RELIABILITY/QUALIFICATION SUMMARY:

There is no expected change to the product quality or reliability performance.

CUSTOMER ACKNOWLEDGMENT OF RECEIPT:

IDT records indicate that you require written notification of this change. Please use the acknowledgement below or E-Mail to grant approval or request additional information. If IDT does not receive acknowledgement within 90 days of this notice it will be assumed that this change is acceptable.

IDT reserves the right to ship either version manufactured after the process change effective date until the inventory on the earlier version has been depleted.

Customer: _____	<input type="checkbox"/> <i>Approval for shipments prior to effective date.</i>
Name/Date: _____	E-Mail Address: _____
Title: _____	Phone# /Fax# : _____

CUSTOMER COMMENTS: _____

IDT ACKNOWLEDGMENT OF RECEIPT:

RECD. BY: _____ DATE: _____



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ATTACHMENT I - PCN # : N1101-04

PCN Type: Product Line

Data Sheet Change: Yes

Details Of Change:

Changing orderable part number: From To

84021AY	84021BY
84021AYT	84021BYT
84021AYLF	84021BYLF
84021AYLFT	84021BYLFT

This notification is to advise our customers that IDT made a die change on 84021AY to fix the feedback divider and PLL instability. The part may show VCO runaway and stability problem at -10C with XTAL 16.6 MHz and M divider = 40. The die was redesigned to fix the problem by changing the feedback counter and modifying the PLL filter.

The die change is minimal and the die fix is indicated with a new part#. This new die was fully verified and characterized with functionality and evaluated against datasheet parameters.

The following specifications will be updated on the latest datasheet of the device.

Table 4A. Power Supply DC Characteristics, $V_{DD} = V_{DDA} = 3.3V \pm 5\%$, $V_{DDO} = 3.3V \pm 5\%$, $2.5V \pm 5\%$ or $1.8V \pm 5\%$, $T_A = 0C$ to $70C$

Sym	Parameter	Test Conditions	FROM			TO			Unit
			Min	Typical	Max	Min	Typical	Max	
V_{DDA}	Analog Supply Voltage	-	3.135	3.3	3.465	$V_{DD}-0.36$	3.3	V_{DD}	V
I_{DD}	Power Supply Current	-	-	-	140	-	-	110	mA
I_{DDA}	Analog Supply Current	-	-	-	25	-	-	24	mA

Table 7A. AC Characteristics, $V_{DD} = V_{DDA} = V_{DDO} = 3.3V \pm 5\%$, $T_A = 0^{\circ}C$ to $70^{\circ}C$

Sym	Parameter	Test Conditions	FROM			TO			Unit
			Min	Typical	Max	Min	Typical	Max	
$t_{jit(per)}$	Period Jitter, RMS	$N \div 3 \Rightarrow N=3$	-	7.5	10	-	13.5	26.4	ps
		$N \div 4 \Rightarrow N=4$	-	4.3	7	-	14.7	32.2	ps
		$N \div 5 \Rightarrow N=5$	-	4.1	6	-	16.7	42.4	ps
		$N \div 6 \Rightarrow N=6$	-	12.9	16	-	24.7	40.8	ps
		$M=40, N=4, 16.667MHz$ XTAL $f_{out}=166.67MHz$	-	-	-	-	4.5	6.9	ps
		$M=40, N=5, 16.667MHz$ XTAL $f_{out}=133.33MHz$	-	-	-	-	4.6	7.8	ps
t_r/t_f	Output Rise/Fall Time	20% to 80%	300	-	800	100	-	800	ps
odc	Output Duty Cycle	$\Rightarrow N \neq 3$	45	-	55	44	-	56	%
		$M=40, N=4, 16.667MHz$ XTAL $f_{out}=166.67MHz$	-	-	-	45	-	55	%
		$M=40, N=5, 16.667MHz$ XTAL $f_{out}=133.33MHz$	-	-	-	47	-	53	%



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Table 7B. AC Characteristics, $V_{DD} = V_{DDA} = 3.3V \pm 5\%$, $V_{DDO} = 2.5V \pm 5\%$, $T_A = 0^\circ C$ to $70^\circ C$

Sym	Parameter	Test Conditions	FROM			TO			Unit
			Min	Typical	Max	Min	Typical	Max	
$t_{jit(per)}$	Period Jitter, RMS	$N \div 3 \Rightarrow N=3$	-	6.4	8	-	11.4	18.8	ps
		$N \div 4 \Rightarrow N=4$	-	4.3	8	-	13.3	28.3	ps
		$N \div 5 \Rightarrow N=5$	-	4.2	7	-	16	39.8	ps
		$N \div 6 \Rightarrow N=6$	-	9	12	-	19.2	32.4	ps
		M=40,N=4,16.667MHz XTAL f _{out} =166.67MHz	-	-	-	-	4.3	6.2	ps
		M=40,N=5,16.667MHz XTAL f _{out} =133.33MHz	-	-	-	-	4.5	7.7	ps
t_r/t_f	Output Rise/Fall Time	20% to 80%	300	-	800	100	-	800	ps
odc	Output Duty Cycle	$\Rightarrow N \neq 3$	45	-	55	44	-	56	%
		M=40,N=4,16.667MHz XTAL f _{out} =166.67MHz	-	-	-	45	-	55	%
		M=40,N=5,16.667MHz XTAL f _{out} =133.33MHz	-	-	-	47	-	53	%

Table 7C. AC Characteristics, $V_{DD} = V_{DDA} = 3.3V \pm 5\%$, $V_{DDO} = 1.8V \pm 5\%$, $T_A = 0^\circ C$ to $70^\circ C$

Sym	Parameter	Test Conditions	FROM			TO			Unit
			Min	Typical	Max	Min	Typical	Max	
$t_{jit(per)}$	Period Jitter, RMS	$N \div 3 \Rightarrow N=3$	-	6.8	8	-	9.4	13.2	ps
		$N \div 4 \Rightarrow N=4$	-	4.5	8	-	10.8	19.6	ps
		$N \div 5 \Rightarrow N=5$	-	4.2	6	-	12.7	32.5	ps
		$N \div 6 \Rightarrow N=6$	-	8.5	10	-	13.4	25.4	ps
		M=40,N=4,16.667MHz XTAL f _{out} =166.67MHz	-	-	-	-	5.4	8.3	ps
		M=40,N=5,16.667MHz XTAL f _{out} =133.33MHz	-	-	-	-	5.1	8.8	ps
t_r/t_f	Output Rise/Fall Time	20% to 80%	300	-	800	100	-	800	ps
odc	Output Duty Cycle	$\Rightarrow N \neq 3$	45	-	55	40	-	60	%
		M=40,N=4,16.667MHz XTAL f _{out} =166.67MHz	-	-	-	44	-	56	%
		M=40,N=5,16.667MHz XTAL f _{out} =133.33MHz	-	-	-	48	-	52	%

Sample Availability: Samples are now available for all affected devices. Please contact your local IDT sales representative for your sample request.