

To : KII



Engineering Change Notice (T-51750GD065J-LW-BHN)

2022/03/25
KYOCERA Corporation
Corporate Display Group
Display Engineering Division
Product Engineering Department

Approved	Checked	Prepared
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Control No. : EDPM2-2202-A0-1023

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Thank you for your continued support.

For the following reasons, we will apply for a change in the materials used in our products that are currently being mass-produced.

We apologize for the inconvenience, and thank you for your understanding.

1. Applicable Product

T-51750GD065J-LW-BHN

2. Background

The supply of materials used in this product continues to be tight due to extremely strong demand, especially electronic components.

Under such circumstances, we have decided to change those components in order to continue stable supply in the future.

Details will be explained on the following pages.

3. Schedule

Sample shipment	:	April, 2022
Approval request	:	June, 2022
Planned change in	:	Notify applicable lot separately

Comparison of the specifications



For the 6.5inch VGA [T-51750GD065J-LW-BHN] for your company, we will explain the specifications of the Renewal product that we are proposing this time below.

Specification comparison list		T-51750GD065J-LW-BHN [Current product]	C0650VG65200-BT-AA [New product]
TFT	Supplier	Kyocera in-house	Outsourcing
	Location	Japan	Taiwan
Polarizer		A	B
Driver IC		C	D
PCB	Board	E	F
	Assembly	G	Kyocera China factory
	Mounting components	For stable supply in the future, we will downsize capacitors and resistors, and change parts that have an old release time and are uncertain about supply to the latest parts.	
FPC		H	I
Backlight		J	K
Touch panel		L	←

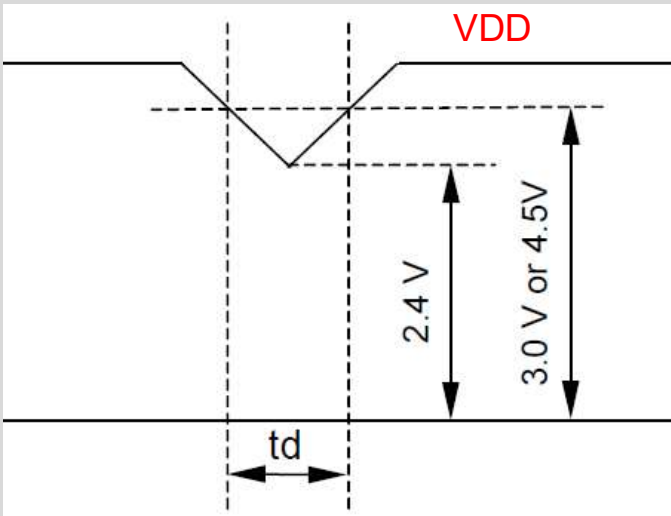
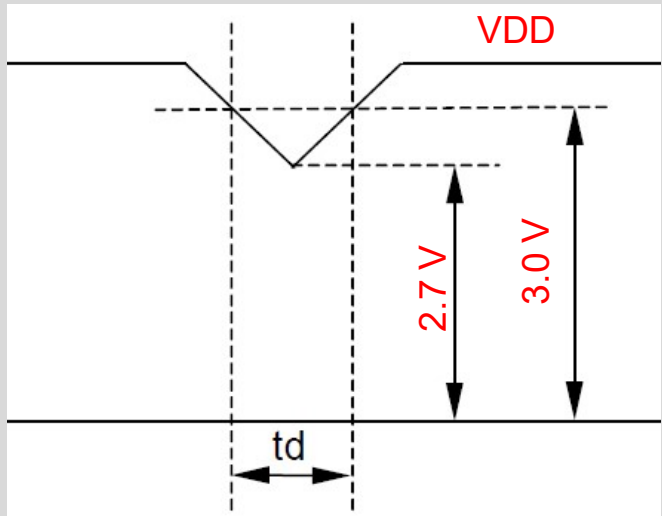
Comparison of the specifications



Specification comparison list		T-51750GD065J-LW-BHN [Current product]	C0650VG65200-BT-AA [New product]
Product Specifications	Polarizer	AG Coating	←
	Interface	CMOS	←
	Outline dimensions	158.0(W)x120.36(H)x12.15(D) mm Projection not included.	←
	Base color	Normally White	←
	Operating temperature	-20~70℃ (Panel Surface)	←
	Storage temperature	-20~70℃ (Panel Surface)	←
	Supply voltage (LCD)	Typ. 3.3V (3.3V system) Typ. 5.0V (5.0V system)	Typ. 3.3V (3.3V system only)
	Current consumption (LCD)	Typ. 240mA (3.3V system) Typ. 180mA (5.0V system)	TBD
	LED Forward current	35mA/Line	←
	LED Forward voltage	Typ. 26.4V/Line (IF=35mA, Ta=25℃)	Typ. 22.4V/Line (IF=35mA, Ta=25℃)
	Operating life time	—	Typ. 70,000hr (IF=35mA, Ta=25℃)

Comparison of the specifications



Specification comparison list		T-51750GD065J-LW-BHN [Current product]	C0650VG65200-BT-AA [New product]
Electrical Specifications	LCD		
	Supply voltage Dip Conditions		

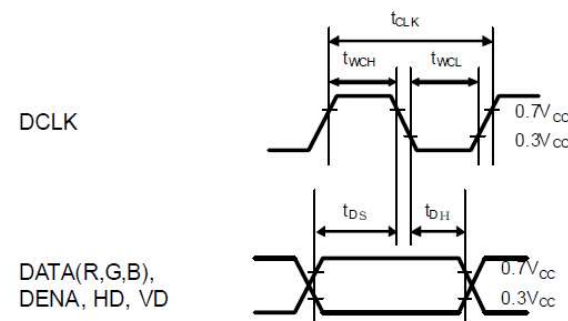
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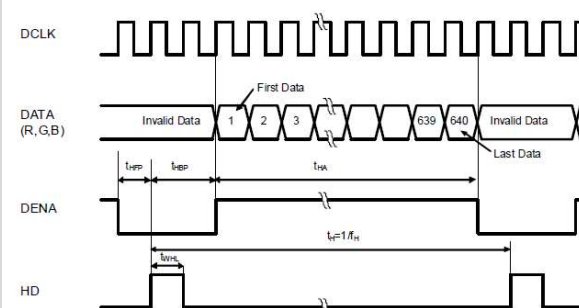
T-51750GD065J-LW-BHN [Current product]

	Parameter (項目)	Symbol (記号)	Min.	Typ.	Max.	Units (単位)
DCLK	Frequency (周波数)	f_{CLK}	20	25	30	MHz
	Period (周期)	t_{CLK}	33.3	40	50	ns
	Low Width (パルス幅(Low))	t_{WCL}	10	--	--	ns
	High Width (パルス幅(High))	t_{WCH}	10	--	--	ns
DATA (R,G,B,DENA, HD, VD)	Set up time (セットアップ時間)	t_{DS}	5	--	--	ns
	Hold time (保持時間)	t_{DH}	5	--	--	ns
DENA	Horizontal Active Time (水平表示時間)	t_{HA}	640	640	640	t_{CLK}
	Horizontal Front Porch (水平フロントポーチ)	t_{HFP}	0	--	--	t_{CLK}
	Horizontal Back Porch (水平バックポーチ)	t_{HBP}	7	--	--	t_{CLK}
	Vertical Active Time (垂直表示時間)	t_{VA}	480	480	480	t_H
	Vertical Front Porch (垂直フロントポーチ)	t_{VFP}	1	20	--	t_H
	Vertical Back Porch (垂直バックポーチ)	t_{VBP}	8	20	--	t_H
HD	Frequency (周波数)	f_H	27	31.5	38	kHz
	Period (周期)	t_H	26.3	31.7	37.0	μs
	Low Width (パルス幅(Low))	t_{WHL}	5	--	--	t_{CLK}
VD	Frequency (周波数)	f_V	55	60	70	Hz
	Period (周期)	t_V	14.3	16.7	18.2	ms
	Low Width (パルス幅(Low))	t_{WVL}	3	--	--	t_H

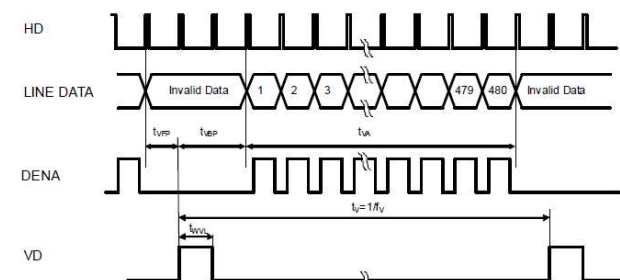
a. Pixel Timing Chart (ピクセルタイミングチャート)



b. Horizontal Timing Chart (水平タイミングチャート)



c. Vertical Timing Chart (垂直タイミングチャート)



Comparison of the specifications

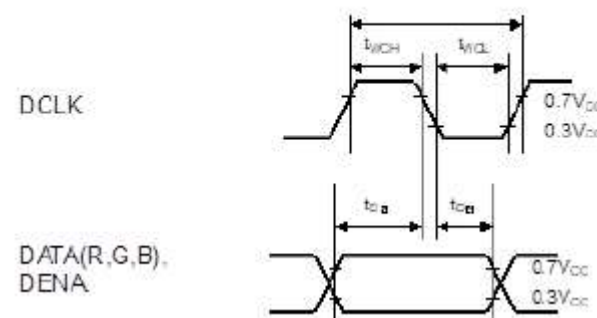
C0650VG65200-BT-AA [New product]

Electrical Specifications

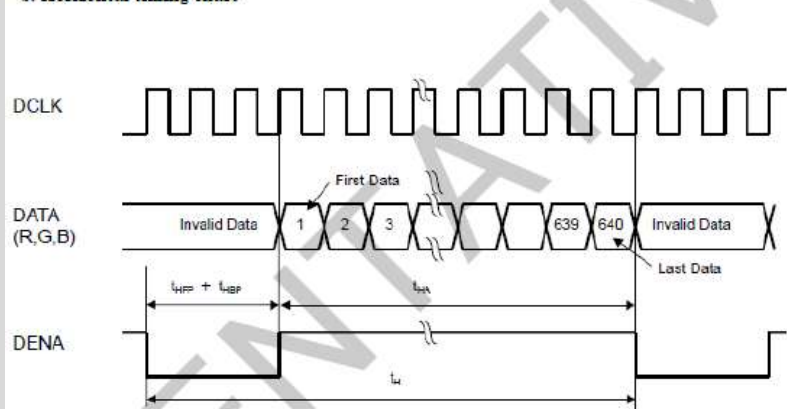
AC Characteristic

Item		Symbol	Min.	Typ.	Max.	Unit
DCLK	Frequency	f _{CLK}	23.3	(25)	TBD	MHz
	Period	t _{CLK}	TBD	(40)	42.9	ns
	Low Width	tw _{CL}	TBD	TBD	TBD	ns
	High Width	tw _{CH}	TBD	TBD	TBD	ns
DATA (R,G,B,DENA)	Set up time	t _{DS}	TBD	-	-	ns
	Hold time	t _{DH}	TBD	-	-	ns
DENA	Horizontal display area	t _{HA}	640	640	640	t _{CLK}
	Horizontal blanking time	t _{HBP} + t _{HFP}	120	(154)	640	t _{CLK}
	Horizontal period	t _H	760	(794)	1280	t _{CLK}
	Vertical display area	t _{VA}	480	480	480	t _H
	Vertical blanking time	t _{VBP} + t _{VFP}	30	(45)	170	t _H
	Vertical period	t _V	510	(525)	650	t _H

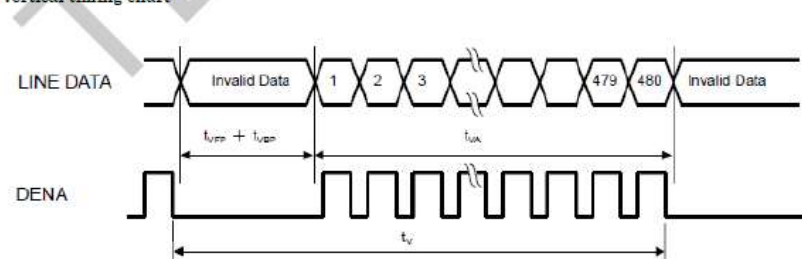
a. Pixel timing chart



b. Horizontal timing chart



c. Vertical timing chart



Comparison of the specifications



Specification comparison list			T-51750GD065J-LW-BHN [Current product]	C0650VG65200-BT-AA [New product]
Optical specifications (Typ.)	Response time	Rise	15ms	TBD
		Down	16ms	TBD
	Brightness (Center of display)		800cd/m ²	←
	Contrast ratio		800	←
	Viewing angle range CR>10	Upper	50deg	←
		Lower	70deg	←
		Left	80deg	←
		Right	80deg	←
	Optimal viewing angle		6 o'clock	←
	Chromaticity coordinates	Red	0.600, 0.350	TBD
		Green	0.330, 0.590	TBD
		Blue	0.160, 0.130	TBD
		White	0.320, 0.350	TBD

Comparison of the specifications



LCD Interface

Specification comparison list		T-51750GD065J-LW-BHN [Current product]	C0650VG65200-BT-AA [New product]																																																																																															
	Connector	DF9B-31P-1V (HIROSE)	←																																																																																															
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LED Interface	Connector	CN2 : SHLP-06V-S-B (JST) CN3 : SHLP-06V-S-B (JST)	←																																										
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Touch panel	Pin assignment	CN4 <table border="1"><thead><tr><th>No.</th><th>Symbol</th><th>Functional Description</th></tr></thead><tbody><tr><td>1</td><td>XL</td><td>X left side</td></tr><tr><td>2</td><td>YD</td><td>Y 6o'clock side</td></tr><tr><td>3</td><td>XR</td><td>X right side</td></tr><tr><td>4</td><td>YU</td><td>Y 12o'clock side</td></tr></tbody></table>	No.	Symbol	Functional Description	1	XL	X left side	2	YD	Y 6o'clock side	3	XR	X right side	4	YU	Y 12o'clock side	←																											
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Revision History



Rev	Mark	Name	Date	Contents
00	None	I. Kawajiri	2022/2/19	Initial release
01	△1			
02	△2			
03	△3			

THE NEW VALUE FRONTIER



KYOCERA Corporation