

Product Transition Guide

TN (OLD): NHD-10.1-1024600AF-ASXV# | IPS (NEW): NHD-10.1-1024600BF-ASXP

TN (OLD): NHD-10.1-1024600AF-LSXV# | IPS (NEW): NHD-10.1-1024600BF-LSXP

The new 10.1" IPS TFT has been designed with the same mechanical footprint and pinout as the old TN display. This makes the IPS display compatible with controller boards, brackets, enclosures, and other assembly components that are presently used with the TN display.

The new IPS display uses the same display driver IC as the old TN display, which makes it compatible with existing software.

The purpose of this document is to highlight and explain the key differences that need to be accounted for when transitioning from our 10.1" TN TFT display to our new 10.1" IPS TFT display.

Design Improvements

- EMI filter on input power supply line
- Wider operating and storage temperatures
- Better color reproduction throughout the color gamut
- Better color and image consistency when viewed from various angles
- Better optical characteristics (higher contrast, wider viewing angles)

Display Models

	NHD-10.1-1024600AF-ASXV#	NHD-10.1-1024600BF-ASXP	NHD-10.1-1024600AF-LSXV#	NHD-10.1-1024600BF-LSXP
Display Type	TN + Premium	IPS + Sunlight Readable	TN + Premium	IPS + Sunlight Readable
Display Mode	Normally White	Normally Black*	Normally White	Normally Black*
Resolution	1024 x 600	1024 x 600	1024 x 600	1024 x 600
Outer Dimensions	235 x 143 x 5.2 mm	235 x 143 x 5.2 mm	235 x 143 x 5.2 mm	235 x 143 x 5.2 mm
Viewing Area	226.42 x 128.98 mm	226.42 x 128.98 mm	226.42 x 128.98 mm	226.42 x 128.98 mm
Active Area	222.72 x 125.28 mm	222.72 x 125.28 mm	222.72 x 125.28 mm	222.72 x 125.28 mm
EMI Filter	No	Yes	No	Yes
Driver IC	HX8282	HX8282	HX8282	HX8282
Interface	Parallel RGB (TTL)	Parallel RGB (TTL)	LVDS	LVDS
LCD Voltage	3.3V	3.3V	3.3V	3.3V
Backlight	360mA @ 12V	360mA @ 12V	360mA @ 12V	360mA @ 12V
Contrast	350	800	350	800
Optimal View	MVA	Full View	MVA	Full View
Operating Temp.	0°C ~ 50°C	-20°C ~ 70°C	0°C ~ 50°C	-20°C ~ 70°C
Storage Temp.	-20°C ~ 60°C	-30°C ~ 80°C	-20°C ~ 60°C	-30°C ~ 80°C
Touchscreen Options	No-touch Capacitive Touch	No-touch Capacitive Touch	No-touch Capacitive Touch	No-touch Capacitive Touch

*A normally black display shows a black screen when backlight is ON, but LCD is OFF. Both components must be powered ON to view the screen.



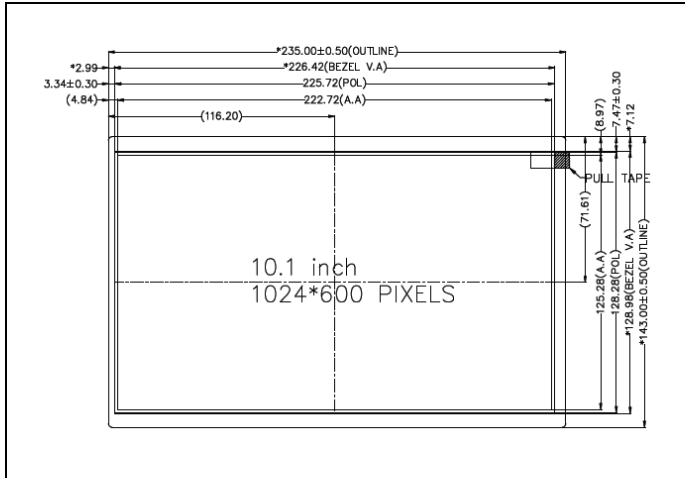
Pinout Comparison

	NHD-10.1-1024600AF- ASXV#	NHD-10.1-1024600BF- ASXP	NHD-10.1-1024600AF- LSXV#	NHD-10.1-1024600BF- LSXP
Pin #	Signal	Signal	Signal	Signal
1	LED_GND	LED_GND	GND	GND
2	LED_VDD	LED_VDD	VDD	VDD
3	LED_VDD	LED_VDD	VDD	VDD
4	LED_VDD	LED_VDD	V_EDID	V_EDID
5	LED_PWM	LED_PWM	GND	GND
6	LED_EN	LED_EN	SCL	SCL
7	GND	GND	SDA	SDA
8	VDD	VDD	Rin0-	Rin0-
9	R0	R0	Rin0+	Rin0+
10	R1	R1	GND	GND
11	R2	R2	Rin1-	Rin1-
12	R3	R3	Rin1+	Rin1+
13	R4	R4	GND	GND
14	R5	R5	Rin2-	Rin2-
15	R6	R6	Rin2+	Rin2+
16	R7	R7	GND	GND
17	G0	G0	CLKIN-	CLKIN-
18	G1	G1	CLKIN+	CLKIN+
19	G2	G2	GND	GND
20	G3	G3	Rin3-	Rin3-
21	G4	G4	Rin3+	Rin3+
22	G5	G5	GND	GND
23	G6	G6	INSEL (HSD)	INSEL (HSD)
24	G7	G7	GND	GND
25	B0	B0	GND	GND
26	B1	B1	UPDN	UPDN
27	B2	B2	SHLR	SHLR
28	B3	B3	GND	GND
29	B4	B4	RESET	RESET
30	B5	B5	STBYB	STBYB
31	B6	B6	LED_GND	LED_GND
32	B7	B7	LED_GND	LED_GND
33	GND	GND	LED_GND	LED_GND
34	DCLK	DCLK	GND	GND
35	HSYNC	HSYNC	LED_PWM	LED_PWM
36	VSYNC	VSYNC	LED_EN	LED_EN
37	DEN	DEN	BIST	BIST
38	MODE	MODE	LED_VDD	LED_VDD
39	RESET	RESET	LED_VDD	LED_VDD
40	STBYB	STBYB	LED_VDD	LED_VDD

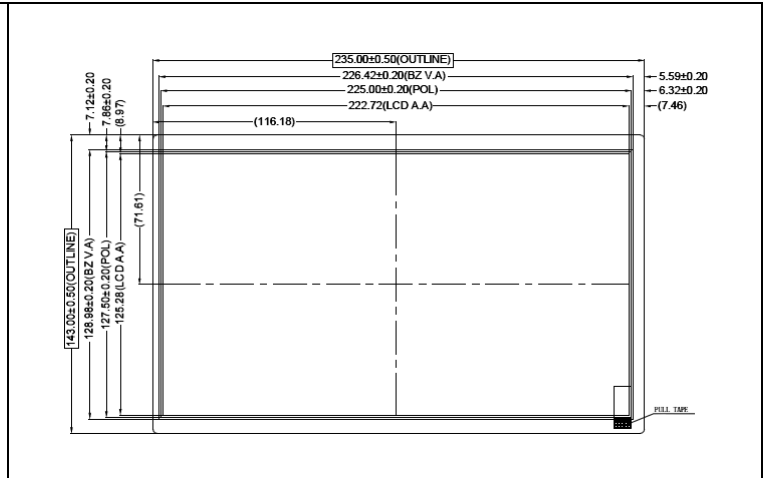


Mechanical Comparison

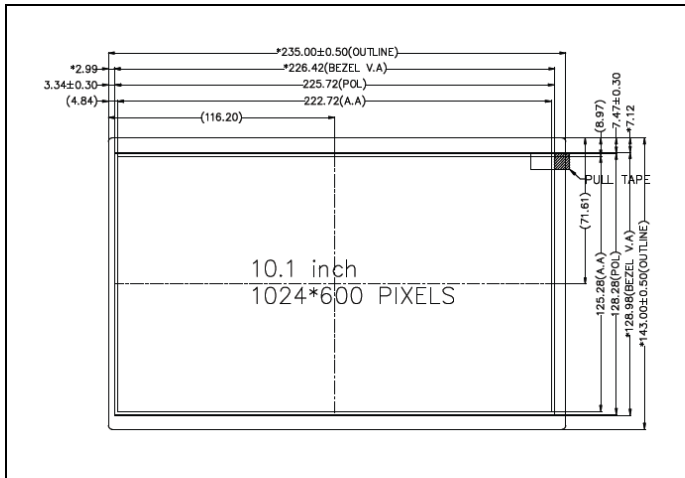
NHD-10.1-1024600AF-ASXV#



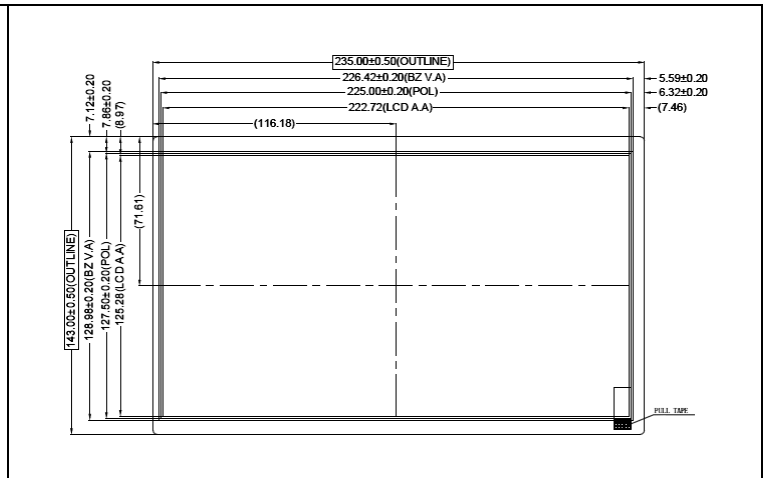
NHD-10.1-1024600BF-ASXP



NHD-10.1-1024600AF-LSXV#



NHD-10.1-1024600BF-LSXP



Software

The new 10.1" IPS TFT display can be driven using the same display data input timing as the old 10.1" TN TFT display. Our testing has indicated that the new IPS display is fully backwards compatible, and no software updates are required. As drive conditions may not be the same for all customers, we recommend you test samples of the new 10.1" IPS TFT display to verify compatibility within your application.

For additional support on transitioning to our new 10.1" IPS TFT display, or questions about other products, please contact us through any of our technical support channels listed below:

Email: nhtech@newhavendisplay.com

Online Support Center: [Contact an Engineer](#)

Forum: [Community Forum](#)

Phone: (847) 844-8795

