

TFT 4-IN-1 Family

- ◆ Same Pin Assignment
- ◆ Long Life Time B/L (50k hour)
- ◆ High Brightness (800 cd/m²)
- E Series
- I Series
 - Embedded starter kit
 - LVDS to RGB conversion
 - V-com, B/L built in
- A Series
 - With V-com, B/L power on FPC
 - Support wide range; analog power supply 5V ~ 15V

3.5"

4.3"

5.0"

7.0"

Size (inch)	Resolution (dots)	Part no.	Outline dimensions (mm)	Active Area (mm)	Interface	View.Angle	Brightness (cd/m²)	Touchpanel solution	Remarks
3.5"	LQVGA	PH320240T023-IHC04	84.02 x 75.36 x 5.05	70.08 x 52.56	Digital 24-bits RGB	60° 60° 60° 60°	850	CTP	Borderless CTP available
4.3"	WQVGA	PH480272T009-IHC05	113.2 x 73.2 x 4.5	95.04 x 53.86	Digital 24-bits RGB	60° 60° 60° 60°	850	CTP	Borderless CTP available
5.0"	WVGA	PH800480T024-IHC07	131.0 x 90.5 x 5.0	110.0 x 66.8	Digital 24-bits RGB	60° 60° 60° 60°	850	CTP	Borderless CTP available
7.0"	WVGA	PH800480T013-IHC09	186.8 x 110.56 x 5.29	154.08 x 85.92	Digital 24-bits RGB	50° 70° 70° 70°	850	CTP	Borderless CTP available
7.0"	WSVGA	PH102600T009-IHA	165.8 x 105.3 x 3.4	154.21 x 85.92	Digital 24-bits RGB	60° 60° 60° 60°	1000	NO	
7.0"	WVGA	PH800480T007-IHA	165.0 x 104.44 x 5.4	152.4 x 91.44	Digital 24-bits RGB	60° 60° 60° 60°	1000	CTP	Borderless CTP available

Note: With Cover Lens / Sensor Only type available

Touch Panel Solutions

- Touch Key For Electronic Devices
- One Glass Touch Solution(OGS)
- STN Inner Touch
- Borderless CTP (GG Sensor Only)
- High Sensitivity Capacitive Touch-screen
 - Water resistance
 - 3mm Cover lens with Glove
- EM(Electromagnetic) Touch Solutions
- Cover Lens based on IK6 Impact Resistance

Sign Board



POWER TIP
TECHNOLOGY CORPORATION

Full Viewing Angle Display

Size (inch)	Resolution (dots)	Part no.	Outline Dimensions (mm)	Active Area (mm)	Interface	View.Angle	Brightness (cd/m²)	Remarks
2.4"	QVGA	PH240320T073-ZAA	42.32 x 60.06 x 2.1	36.72 x 48.96	8 Bit i80	80° 80° 80° 80°	170	
2.8"	QVGA	PH240320T075-ZEA	50.0 x 69.2 x 2.45	43.2 x 57.6	16-bits 8080	80° 80° 80° 80°	450	
3.5"	QVGA	PH320240T028-ZEA	76.9 x 63.9 x 3.2	70.08 x 52.56	24-bits RGB	80° 80° 80° 80°	300	
3.5"	QVGA	PH320240T028-ZEA01	76.9 x 63.9 x 3.2	70.08 x 52.56	24-bits RGB	80° 80° 80° 80°	300	Extended operating temp.
4.3"	WVGA	PH800480T028-ZFA	105.5 x 67.2 x 2.6	95.04 x 53.856	24-bits RGB	80° 80° 80° 80°	1000	Extended operating temp.
7.0"	WVGA	PH800480T027-ZHA	167.7 x 109.45 x 19.8	152.4 x 91.44	24-bits RGB	80° 80° 80° 80°	1000	Extended operating temp.
7.0"	WSVGA	PH102600T013-ZFA	165.75 x 105.4 x 2.75	154.21 x 85.92	LVDS	80° 80° 80° 80°	400	

DISPLAY DEVICES FOR ADVANCING TECHNOLOGY

- ◆ Embedded Solutions
- ◆ Monochrome Solutions
- ◆ Touch Panel Solutions
- ◆ TFT Solutions

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Company Profile

Powertip Technology Corporation, established in 1991, began operation by instituting time-honored ideals that still largely guide this company today. Powertip continues to reinforce the principles of being a leading display manufacturer to industry. Powertip consistently strives to uphold exceptionally high standards concerning technology and product development while remaining deeply attentive to quality, on-time delivery and remaining highly price competitive.

Powertip has grown to become a leading manufacturer of small to mid-size full color TFT and monochrome displays as well as resistive and capacitive touch panels. Powertip is headquartered in Taichung, Taiwan with production facilities located in Taiwan and Nanjing, China. Powertip's product offerings address major industries to include medical, industrial, automotive, consumer, white goods, communications, test and measurement and gas pumps / parking meters.

Company Vision

Display Devices for Advancing Technology

Established Global Marketing Group

Innovative High Technology R&D Center

Established An Efficient And Professional Manufacturing Facility

Committed to Continual Operational Growth

Accomplished International Environmental Protection Standards

Business Philosophy

- Established Global Marketing Group
- Innovative High Technology R&D Center
- Established An Efficient And Professional Manufacturing Facility
- Committed to Continual Operational Growth
- ▲ Accomplished International Environmental Protection Standards.

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Product

Monochrome Solutions

● Character / Graphic LCD Modules

— Powertip Technology Corporation manufactures the complete line of industry standard Character Modules ranging from 8x2 character up through 40x4 character. For further details visit the Powertip Technology Corporation website.

— Graphic LCM with controller IC are available with following resolutions 96x64, 120x32, 122x32, 128x48, 128x64, 240x128, 240x160, 256x128, 320x240.

— COG: one chip solution up to 320x240

Monochrome graphics modules List

Product	Powertip Part No.	Display Format	Outline Dimensions	Viewing Area	Active Area	Dot Pitch	Dot Size	Controller	Interface	Viewing Direction
PG9832-A	PG9832LRS-AGB-H-Q	96 x 32 dots	52.0 x 44.0	46.0 x 18.5	43.08 x 15.64	0.44 x 0.49	0.4 x 0.45	SBN1661G	68/80-8bit	6H
PG12032-D	PG12032LRS-DGB-H-Q	120 x 32 dots	68.1 x 32.9	62.0 x 22.5	56.35 x 20.75	0.47 x 0.65	0.42 x 0.6	SBN1661G	6800-8bit	6H *
PG12232-A	PG12232LRS-AGB-H-Q	122 x 32 dots	60.5 x 18.5	53.64 x 15.64	0.44 x 0.49	0.4 x 0.45	SBN1661G	6800-8bit	6H *	
PG12232-B	PG12232LRS-BGB-H-Q	120 x 32 dots	80.0 x 36.0	60.5 x 18.5	53.64 x 15.64	0.44 x 0.49	0.4 x 0.45	SBN1661G	6800-8bit	6H *
PG12864-F	PG12864LRU-FGAH04Q	128 x 64 dots	78.0 x 70.0	62.0 x 44.0	56.27 x 38.35	0.44 x 0.6	0.39 x 0.55	SAP1024B	80-8bit	6H
PG12864-J	PG12864WRF-JCNHP5Q	128 x 64 dots	75.0 x 52.7	60.0 x 32.6	55.0 x 27.48	0.43 x 0.43	0.39 x 0.39	NT7107,NT7108	6800-8bit	6H
PG12864-J	PG12864LRS-JCN-H-Q	128 x 64 dots	75.0 x 52.7	60.0 x 32.6	55.0 x 27.48	0.43 x 0.43	0.39 x 0.39	NT7107,NT7108	6800-8bit	6H *
PG12864-K	PG12864WRF-KCN-H05Q	128 x 64 dots	93.0 x 70.0	72.0 x 40.0	66.52 x 33.24	0.52 x 0.52	0.48 x 0.48	NT7107,NT7108	6800-8bit	6H
PG12864-K	PG12864LRS-KCN-H-Q	128 x 64 dots	93.0 x 70.0	72.0 x 40.0	66.52 x 33.24	0.52 x 0.52	0.48 x 0.48	NT7107,NT7108	6800-8bit	6H *
PG16032-B	PG16032WRS-BWH-H-Q	160 x 32 dots	101.0 x 35.0	64.5 x 17.2	59.17 x 15.01	0.37 x 0.47	0.34 x 0.44	ST7920	6800-8bit	6H
PG24064-E	PG24064LRU-EGAHPSQ	240 x 64 dots	132.6 x 39.0	101.0 x 65.0	127.16 x 33.88	0.53 x 0.53	0.49 x 0.49	SAP1024B	80-8bit	6H
PG24064-E	PG24064WRM-EGAI04Q	240 x 64 dots	180.0 x 65.0	132.6 x 39.0	127.16 x 33.88	0.53 x 0.53	0.49 x 0.49	SAP1024B	80-8bit	6H
PG24064-E	PG24064WRF-EGAH16Q	240 x 64 dots	180.0 x 65.0	132.6 x 39.0	127.16 x 33.88	0.53 x 0.53	0.49 x 0.49	SAP1024B	80-8bit	6H
PG24064-E	PG24064LRF-EGAHPSQ	240 x 64 dots	180.0 x 65.0	132.6 x 39.0	127.16 x 33.88	0.53 x 0.53	0.49 x 0.49	SAP1024B	80-8bit	6H
PG240128-A	PG240128WRFAGAHPCQ	240 x 128 dots	144.0 x 104.0	114.0 x 64.0	107.95 x 57.55	0.45 x 0.45	0.40 x 0.40	SAP1024B	80-8bit	6H
PG320240-C	PG320240WRFCONNH02Q	320 x 240 dots	143.0 x 96.8	105.0 x 80.0	95.985 x 71.985	0.30 x 0.30	0.285 x 0.285	—	4 bit parallel data	6H
PG320240-D	PG320240WRMDBAI30Q	320 x 240 dots	153.54 x 120.24	120.14 x 92.14	115.18 x 86.38	0.36 x 0.36	0.34 x 0.34	RA8835P3N	80-8bit	6H
PG320240-D	PG320240WRFDBAH31Q	320 x 240 dots	153.54 x 120.24	120.14 x 92.14	115.18 x 86.38	0.36 x 0.36	0.34 x 0.34	RA8835P3N	80-8bit	6H
PG320240-H	PG320240WRFHNNH51Q	320 x 240 dots	92.0 x 71.3	78.78 x 59.58	76.78 x 57.58	0.24 x 0.24	0.22 x 0.22	—	4 bit parallel data	6H
PG320240-Q	PG320240WRFQNNH10Q	320 x 240 dots	162.0 x 109.0	120.14 x 90.0	115.185 x 86.385	0.36 x 0.36	0.345 x 0.345	—	4 bit parallel data	6H

Note: * STN yellow-green transfective available

Monochrome COG modules List

Powertip Part No.	Display Format	Outline Dimensions	Viewing Area	Active Area	Font Pitch	Font Size	Controller	Interface	Viewing Direction
D-GFC30988A-0-Q	16ch x 2 lines	68.5 x 24.5	65.5 x 16.0	58.2 x 10.5	3.7 x 5.75	2.7 x 4.75	ST7032i	8 bit parallel data	6H
PE1602WRT-017-L-Q	16ch x 2 lines	70.0* 32.0	63.0* 18.0	56.21 *11.5	3.55 * 5.94	2.96 * 5.56	ST7032i	PC/ serial	12H
Powertip Part No.	Display Format	Outline Dimensions	Viewing Area	Active Area	Dot Pitch	Dot Size	Controller	Interface	Viewing Direction
PE9664WRF-004-I02Q	96 x 64 dots	33.35 x 41.64	29.3 x 29.9	27.34 x 26.86	0.285 x 0.42	0.265 x 0.40	ST7579	68/80-8bit/ SPI-3/SPI-4	6H
PE9665WRF-002-I02Q	96 x 65 dots	34.0 x 30.4	27.8 x 18.9	25.42 x 16.88	0.265 x 0.260	0.245 x 0.24	ST7579	SPI-3	6H
PE12832LRF-002HL1Q	128 x 32 dots	38.8 x 17.65	32.0 x 8.9	26.86 x 7.34	0.21 x 0.23	0.19 x 0.21	ST7565R	68/80-8bit	12H
PE1284BURF-007-L-Q	128 x 48 dots	66.0 x 31.1	63.0 x 23.0	61.425 x 21.585	0.48 x 0.45	0.465 x 0.435	NT7534H	SPI-4	12H
PE12864WRF-018HY1Q	128 x 64 dots	80.5 x 45.0	60.0 x 32.6	55.01 x 27.49	0.43 x 0.43	0.40 x 0.40	NT7532H	80-8bit	6H
PE12864WRM-026-L-Q	128 x 64 dots	86.35 x 46.2	74.0 x 36.6	71.66 x 34.54	0.56 x 0.54	0.54 x 0.52	ST7565P	SPI-4	12H
PE12864LRF-042-H-Q	128 x 64 dots	80.0 x 54.0	70.7 x 38.8	66.545 x 33.265	0.52 x 0.52	0.505 x 0.505	ST7567	SPI-4	6H
PE12864WRF-042HC1Q	128 x 64 dots	80.0 x 54.0	70.7 x 38.8	66.545 x 33.265	0.52 x 0.52	0.505 x 0.505	ST7567	68/80-8bit/SPI-4	6H
PE12864LRF-042H01Q	128 x 64 dots	80.0 x 54.0	70.7 x 38.8	66.545 x 33.265	0.52 x 0.52	0.505 x 0.505	ST7567	68/80-8bit/SPI-4	6H
PE12864WRF-055-H-Q	128 x 64 dots	55.2 x 39.8	45.2 x 27.0	40.95 x 24.31	0.32 x 0.38	0.31 x 0.37	ST7567	68/80-8bit/SPI-4	6H

Powertip Part No.	Display Format	Outline Dimensions	Viewing Area	Active Area	Dot Pitch	Dot Size	Controller	Interface	Viewing Direction
PE128128WRF-003-HQ	128 x 128 dots	60.0 x 62.0	50.0 x 50.0	46.05 x 46.05	0.36 x 0.36	0.33 x 0.33	ST7541	68/80-8bit	6H
PE128128WRF-005-HQ	128 x 128 dots	75.0 x 85.0	69.0 x 69.0	63.345 x 63.345	0.495 x 0.495	0.48 x 0.48	NT7508H	68/80-8bit	6H
PE128128WRF011H01Q	128 x 128 dots	36.6 x 42.7	33.5 x 33.5	28.785 x 28.785	0.225 x 0.225	0.21 x 0.21	ST7571	SPI-3/SPI-4	6H
PE128128WRF-013-HQ	128 x 128 dots	32.36 x 38.0	26.8 x 26.8	25.331 x 25.331	0.198 x 0.198	0.185 x 0.185	ST7571	SPI-3/SPI-4	6H
PE24064WRM-004-I-Q	240 x 64 dots	120.0 x 44.82	102.4 x 30.22	98.39 x 26.23	0.41 x 0.41	0.4 x 0.4	ST7586S	SPI-4	6H
PE240128WRF001HC1Q	240 x 128 dots	99.2 x 64.2	93.0 x 49.0	82.775 x 44.135	0.345 x 0.345	0.32 x 0.32	ST7529	68/80-8bit	6H
PE240128WRF-002-KQ	240 x 128 dots	74.5 x 54.5	68.0 x 40.0	61.18 x 36.46	0.255 x 0.285	0.235 x 0.265	ST7529	68/80-8bit	12H
PE240160WRT001Y1Q	240 x 160 dots	96.2 x 67.2	80.78 x 54.18	76.785 x 51.185	0.32 x 0.32	0.305 x 0.305	ST7529	68/80-8bit	6H
PE320240WRF-021-HQ	320 x 240 dots	143.0 x 96.8	106.0 x 81.0	95.985 x 71.985	0.3 x 0.3	0.285 x 0.285	—	4 bit parallel data	6H
PE320240WRM002IP1Q	320 x 240 dots	153.54 x 120.24	120.14 x 92.14	115.18 x 86.38	0.36 x 0.36	0.34 x 0.34	RA8835P3N	80-8bit	6H
PE320240WRF-008-HQ	320 x 240 dots	167.0 x 111.0	120.2 x 90.0	115.185 x 86.385	0.36 x 0.36	0.345 x 0.345	—	4 bit parallel data	6H *

Note: * Mechanical comparable with PG320240WRFQNNH10Q

●VA Displays

— Wide viewing angle

— High contrast ratio : 400:1 ↑

— Wide operation temperature range : -30°C~85°C

— Support duty ratio : static 1/2, 1/4, 1/16, 1/32, 1/64 duty.



Product	Display Format	Outline Dimensions(mm)	Active Area	Font Size	Font Pitch	Controller	Backlight Type	Backlight Color	LCD type
NPC1602WRF-FWA-I	16 ch x 2 lines	84.0 x 44.0	56.21 x 11.5	2.95 x 5.55	3.55 x 5.95	ST7066U or compatible	LED	White	PBT
NPC1602WRF-GWA-I	16 ch x 2 lines	80.0 x 36.0	56.21 x 11.5	2.95 x 5.55	3.55 x 5.95	ST7066U or compatible	LED	White	PBT
NPC1602WRF-JWA-I	16 ch x 2 lines	85.0 x 30.0	56.21 x 11.5	2.95 x 5.55	3.55 x 5.95	ST7066U or compatible	LED	White	PBT
NPC1602WRF-LWA-I	16 ch x 2 lines	122.0 x 44.0	94.84 x 20.0	4.84 x 9.66	6.0 x 10.34	ST7066U or compatible	LED	White	PBT
NPC2002WRF-BWA-I	20 ch x 2 lines	116.0 x 37.0	73.5 x 11.5	3.2 x 5.55	3.7 x 5.95	ST7066U or compatible	LED	White	PBT
NPC2004WRF-AWA-I	20 ch x 4 lines	98.0 x 20.0	2.95 x 4.75	3.55 x 5.35	3.70 x 6.0	ST7066U or compatible	LED	White	PBT

Product	Display Format	Outline Dimensions(mm)	Active Area	Dot Size	Dot Pitch	Controller	Backlight Type	Backlight Color	LCD type
PE12864WRP-085-L-Q	128 * 64 Dots	55.2 x 39.8 x 4.8	40.95 x 24.31	0.31 x 0.37	0.32 x 0.38	ST75320 or compatible	LED	White	PBT
PE12864WRP-086-L-Q	128 * 64 Dots	80.0 x 54.0 x 4.8	66.545 x 33.265	0.505 x 0.505	0.52 x 0.52	ST75320 or compatible	LED	White	PBT
PE24064WRP-009-L-Q	240 * 64 Dots	163.4 x 60.1x4.8	151.17 x40.29	0.60 x 0.60	0.63 x 0.63	ST75320 or compatible	LED	White	PBT
PE32032WRP-004-L-Q	320 * 32 Dots	150.0 x 34.9 x 6.4	142.7 x 19.82	0.426 x 0.6	0.446 x 0.62	ST75320 or compatible	LED	White	PBT

Note : Red / Y/G / Blue Backlight are available

●Innovations

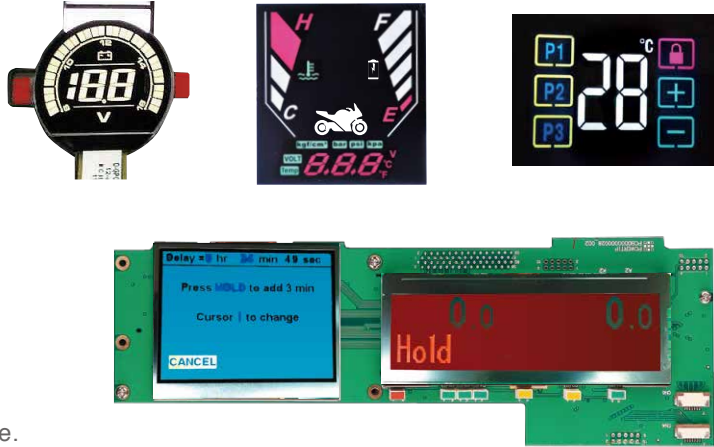
— High Contrast Display

— Low Power Consumption < 100μA

— Inner Touch Solution

— Shape Cutting

— Color Printing



●Custom LCD Modules

— Custom panel sizes and resolutions are available.

— Value-added : Integrate peripheral components on LCD module by request.

— Total solution : Capable of integrating customer's main board with LCD module.

— SMT Facility IPC 610 Certified

Embedded Display Modules

● Feature:

— LVDS to RGB Display interface

— Connective Options for the Embedded Market

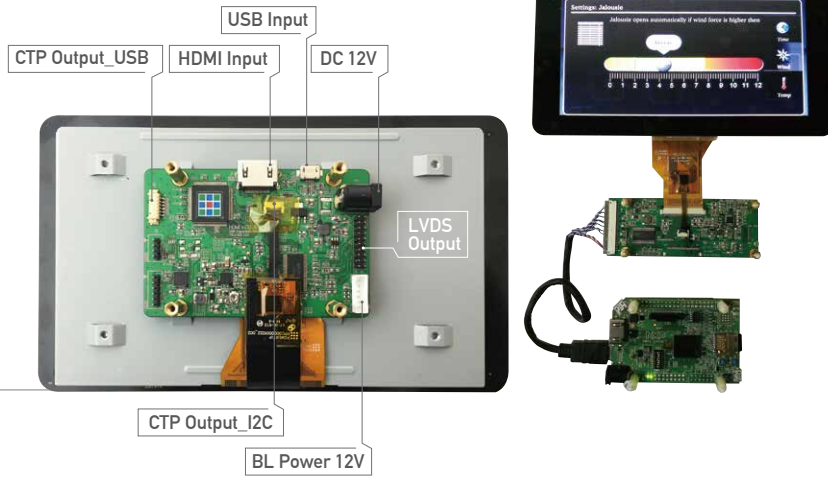
— Accessories Available

— Functional with various TFT sizes

— HDMI Display provides flexibility to meet various industrial needs.

— Backlight driver and V-com circuit intergraded.

— Support multi capacitive touch.



TFT Solutions

— Size : 1.44", 1.77", 2.0", 2.4", 2.8", 3.5", 4.3", 5.0", 5.7", 7.0", 10.1", 12.1"

— Capacitive or resistive touch panel options.

— Wide viewing angle solution.

— Flexible design to meet customer's demand.

— High reliability and long-term availability.

— Optical bonding / high brightness for outdoor applications



TFT Display List

Size (inch)	Resolution (dots)	Part no.	Outline dimensions (mm)	Active Area (mm)	Interface	View.Angle				Brightness (cd/m2)	Touchpanel solution	Remarks
1.44"	QQVGA	PH128128T-040-L02Q	31.1 x 36.9 x 2.85	25.5 x 26.5	80-8 bit	45	15	45	45	260	NO	
1.77"	QQVGA	PH128160T068-LAA06	34.0 x 47.0 x 2.4	28.032 x 35.04	80-8 bit	15	45	45	45	260	NO	
2.0"	QQVGA	PH176220T062-LAB01	41.42 x 51.6 x 4.7	32.48 x 40.4	SPI 4	60	60	60	60	150	RTP	
2.4"	QVGA	PH240320T-062-L-Q	42.32 x 60.06 x 2.4	36.72 x 48.96	80-8 bit	60	60	60	60	160	NO	
		PH240320T-062-L06Q	42.72 x 60.26 x 3.85	36.72 x 48.96	80-16 bit	60	60	60	60	200	RTP	
		PH240320T062-LAA07	42.72 x 61.46 x 2.55	36.72 x 48.96	80-16 bit	60	60	60	60	160	NO	Extended operating temp.
		PH240320T-063-L-Q	50.0 x 69.2 x 3.05	43.2 x 57.6	80-16 bit	60	60	60	60	300	NO	
2.8"	QVGA	PH240320T-063-L04Q	50.0 x 69.2 x 4.25	43.2 x 57.6	80-16 bit	60	60	60	60	250	RTP	
		PH240320T063-LAC	55.8 x 75.0 x 4.25	43.2 x 57.6	80-16 bit	60	60	60	60	200	CTP	OGS
		PH240320T063-LZG01	50.0 x 69.2 x 3.4	43.2 x 57.6	80-16 bit	60	60	60	60	700	NO	High brightness
3.5"	LQVGA	PH320240T-023-I02Q	76.9 x 63.9 x 3.2	70.08 x 52.56	24-bits RGB	60	60	60	60	500	NO	
		PH320240T-023-I03Q	76.9 x 63.9 x 4.75	70.08 x 52.56	24-bits RGB	60	60	60	60	300	RTP	
		PH320240T023-IBC	84.02 x 75.36 x 5.2	70.08 x 52.56	24-bits RGB	60	60	60	60	400	CTP	
		PH320240T023-IBC01	76.9 x 63.9 x 4.5	70.08 x 52.56	24-bits RGB	60	60	60	60	450	CTP	OGS borderless
		PH320240T023-IBF01	84.02 x 75.36 x 4.5	70.08 x 52.56	24-bits RGB	80	80	80	80	350	CTP	OGS, O-Film
		PH320240T023-IBG	84.02 x 75.36 x 5.2	70.08 x 52.56	24-bits RGB	60	60	60	60	300	NO	Sunlight readable
		PH320240T023-IHA03	84.02 x 75.36 x 5.2	70.08 x 52.56	24-bits RGB	60	60	60	60	500	NO	Extended operating temp.
3.5"	HVGA	PH320480T090-LAA01	55.26 x 84.69 x 2.7	48.96 x 73.44	24-bits RGB	60	60	60	300	NO	Portrait	
		PH480272T006-I06-LAA02	105.5 x 67.2 x 2.5	95.04 x 53.856	24-bits RGB	60	60	60	320	NO	Slim type	
4.3"	WQVGA											
		PH480272T006-IAC02	113.2 x 73.2 x 3.9	95.04 x 53.856	24-bits RGB	60	60	60	320	CTP	Slim type/OGS	