

PRODUCT CATALOG SMART MOBILE DISPLAYS 2020



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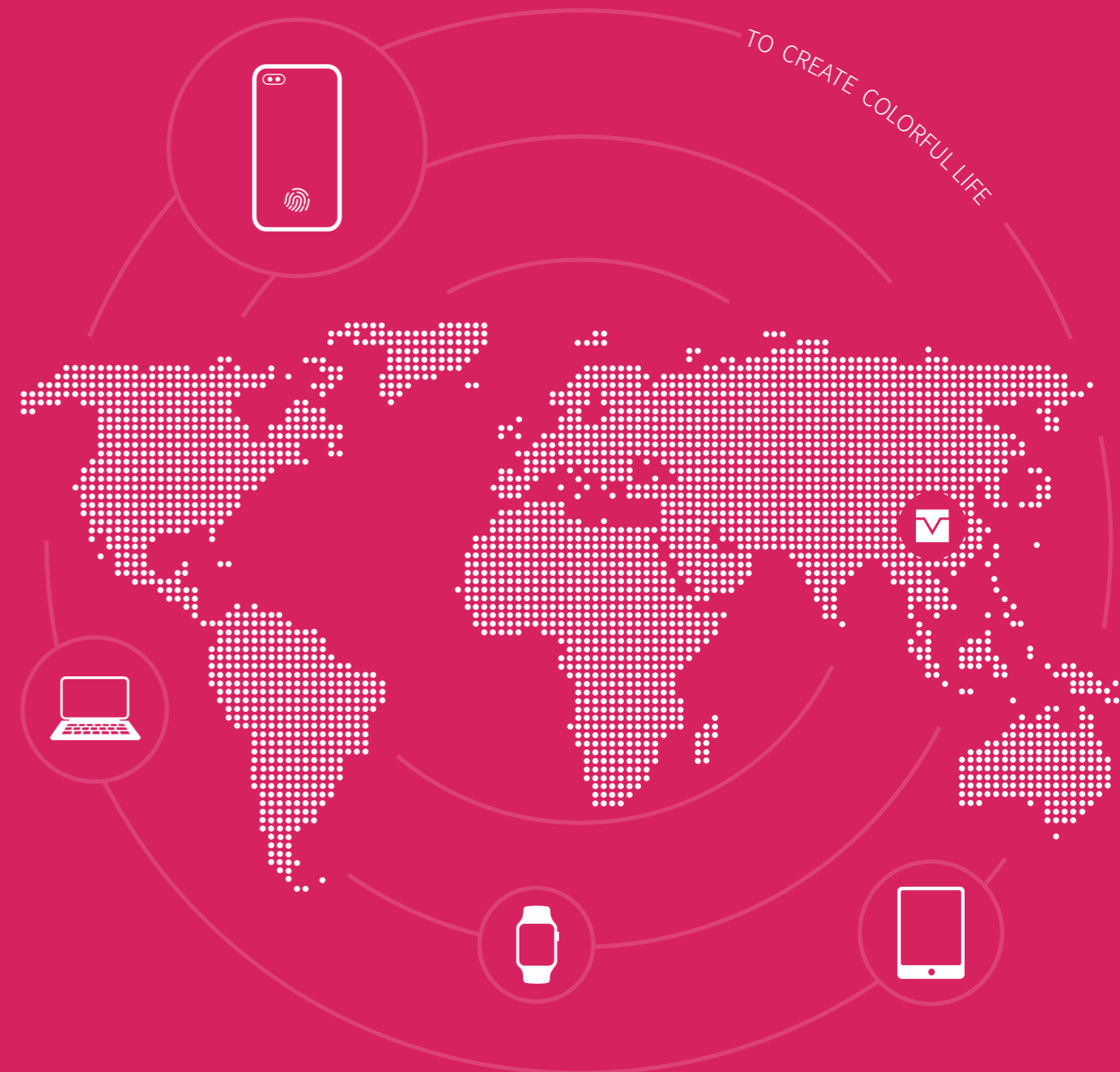
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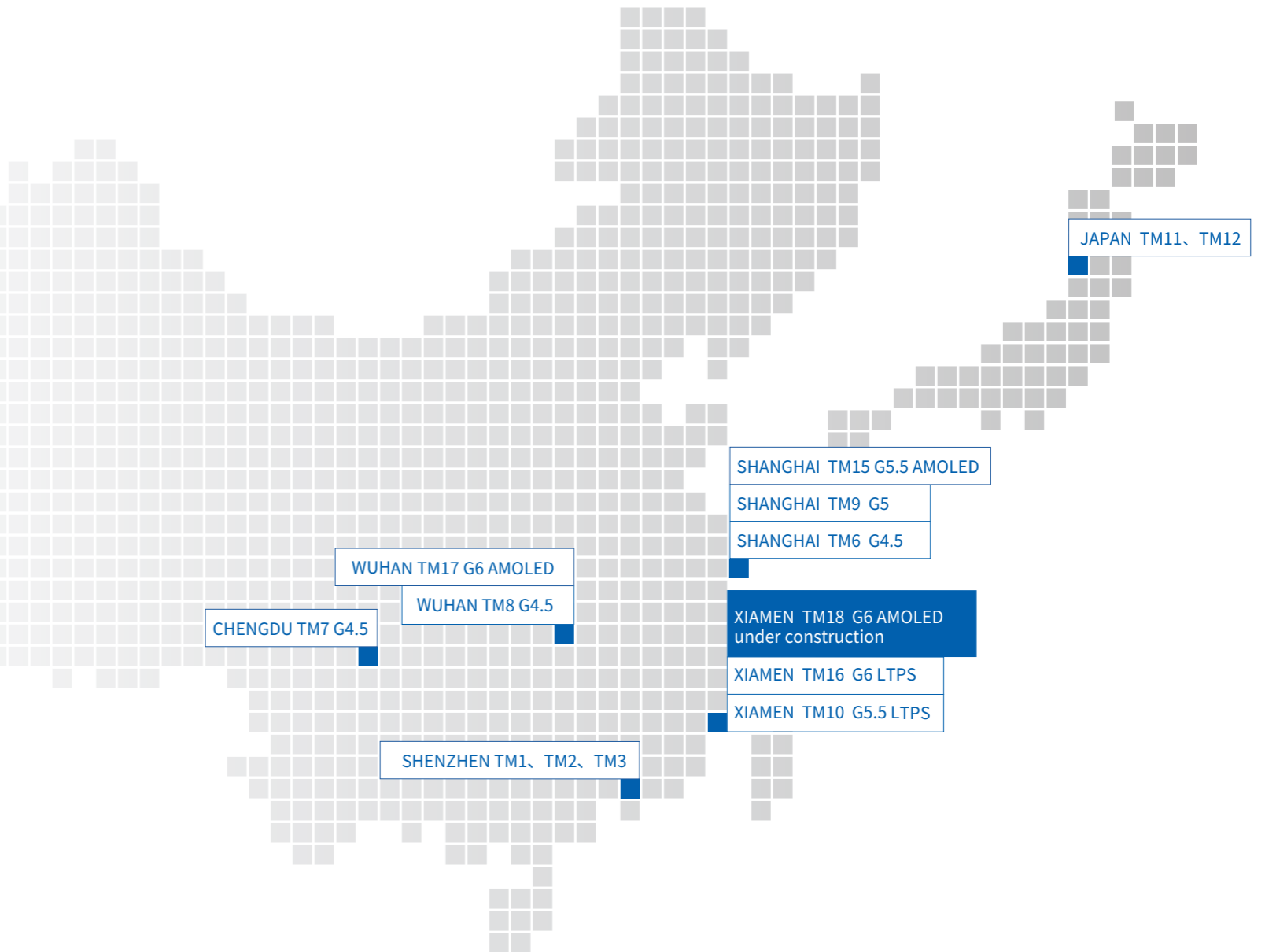
Tianma Microelectronics Co., Ltd. (Tianma) specializes in providing display solutions and associated support services worldwide. The company was established in 1983 and publicly listed on the Shenzhen Stock Exchange (SZ. 000050) in 1995.

Tianma focuses on providing displays for smart mobile terminals including smartphones, tablets and advanced laptop devices, as well as professional displays optimized for automotive, medical, smart-home, POS, HMI and other industrial applications.

Tianma is a recognized leader of small and medium size display products and technologies. In 2019 Tianma was recognized as the #1 LTPS TFT LCD supplier for the smartphone display market. As a leader in the professional display market, Tianma is also considered one of the top suppliers worldwide following more than five straight years of double-digit growth. Meanwhile, our market share for high-end medical devices, in-flight entertainment, navigation, HMI and VOIP products reflects our

leadership role in the market. Tianma is committed to continuous innovation and improved customer service while supporting best-in-class display performance for wide-ranging applications in the field.

Tianma continues to focus on serving display markets worldwide utilizing our extensive technology portfolio, advanced, multi-generational production lines and deep reserve of talent. With our core values of "Passion, Effectiveness, Win-Win", our "1+1+N" strategy, and our mission "To Create Colorful Life", Tianma will continue to focus on providing displays for smart mobile terminals as our core business with expanding automotive instrumentation business as the key for our corporate transformation and growth. Taking advantage of our leading position in industrial and medical instrumentation markets to build well-structured industrial supply chains while maintaining research in the area of small and medium size displays, Tianma is dedicated to leading the industry as the world's most well-respected display company.



We have established manufacturing facilities in Shenzhen, Shanghai, Chengdu, Wuhan, and Xiamen, China as well as in Akita, Japan. In addition, our global sales and technical support network includes offices in the United States, Europe, India, Japan, South Korea, Taiwan, Hong Kong etc. ensuring seamless global support to our customers.



1983
SHENZHEN TM1、TM2、TM3



2006
SHANGHAI TM6



2008
CHENGDU TM7



2008
WUHAN TM8



2009
SHANGHAI TM9



2011
XIAMEN TM10



2011
JAPAN TM11、TM12



2013
SHANGHAI TM15



2014
XIAMEN TM16



2016
WUHAN TM17



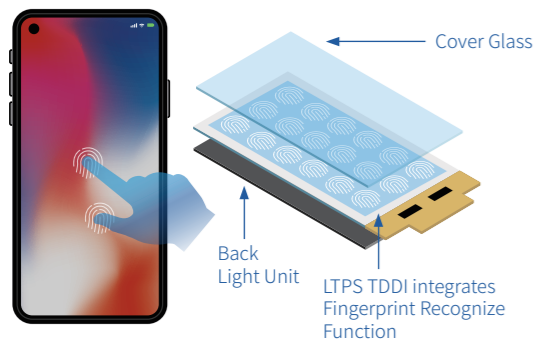
2020
XIAMEN TM18 AMOLED under construction



Flexible OLED Curved Display

Flexible OLED curved displays can be applied to a variety of smart mobile display applications. The flexible curved OLED displays have a flexible polyimide substrate, thin film encapsulation technology, narrow border and are ultra-thin.

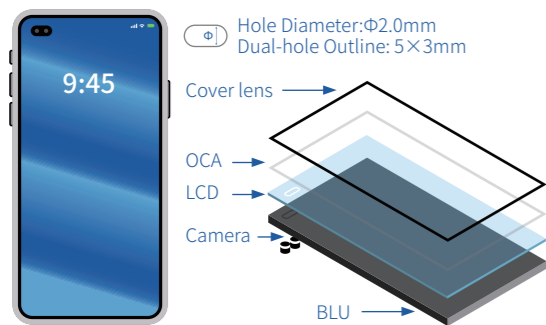
- Ultra thin
- Ultra narrow border
- Free form
- Bending radius < 3mm



LTPS TDDI(Touch Display Driver IC) with in-cell Fingerprint Recognition

Taking advantage of self-development in-cell LTPS optical image sensor and optical collimator system, Tianma realizes LTPS TDDI with full screen fingerprint recognition function.

- Multi-function integrated in LCD
- High safety for improved
- Supports full-screen fingerprint recognition
- Supports multi-finger

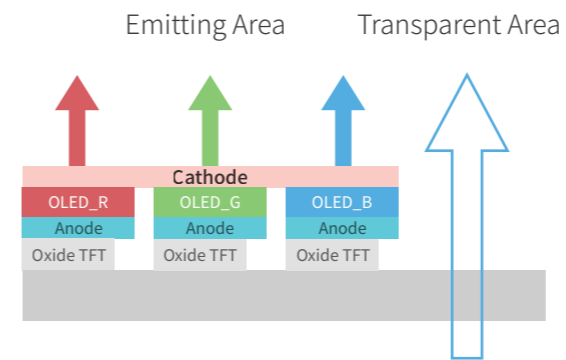


Advanced Dual-hole

Advanced dual-hole technology achieves extremely small diameter of 2.0mm dual-hole without gap, with the application of new sealing technology that reduces width of sealed edge, to achieve extremely thin width of 0.25mm or less

- Athletic track dual-hole
- High body screen ratio
- Advanced double camera

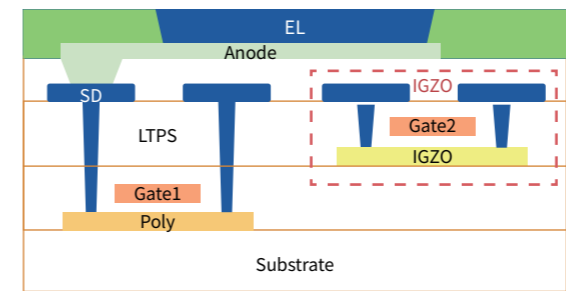
*TDDI : Touch display driver IC



Transparent Display

Advanced transparent AMOLED display with 50% transparency has been fabricated based on novel IGZO-TFT backplane driver, patterned cathode and auxiliary cathode construction.

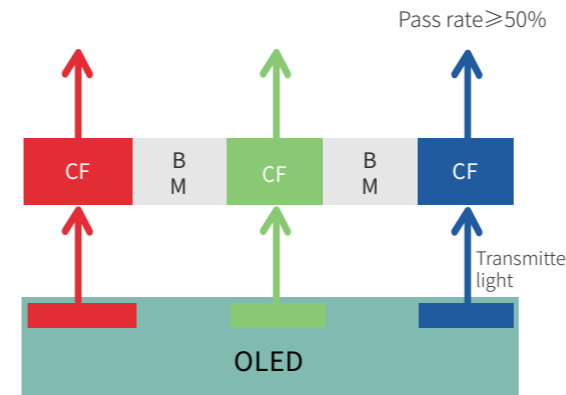
- Ultra-high transparency
- High brightness
- High degree color saturation
- Low diffraction visibility



HTD (Hybrid TFT Display)

HTD technology adds the IGZO TFT process on the basis of LTPS, and combining the high mobility of LTPS and the ultra-low leakage current of IGZO to realize low frequency display. According to different display scenarios, dynamically adjust the display frequency to achieve the purpose of frequency conversion, thereby reducing display power consumption.

- Low power consumption suitable to 5G
- Low power consumption



CFOT (Color filter on TPOT)

By highly integrating TFE (Thin Film Encapsulation), touch and color filter, CFOT AMOLED display was produced, showing low power consumption and wide color gamut.

- Low power consumption, suitable to 5G
- Wide color gamut
- Ultra-thin display device, fit for foldable AMOLED

*HTD : Hybrid TFT Display / *CFOT : Color filter on TPOT / *TPOT : Touch panel on TFE / *TFE : thin film encapsulation

SMART PHONE APPLICATION



Technology	Flexible AMOLED		
Resolution	WQHD+	FHD+	FHD+
Size	6.8"	6.47"	6.5"
Product No.	TA068FYWK01	TA065VDHF01	TA065FYWK01
Resolution(pixel)	1440×3120	1080×2340	1080×2460
Active Area(mm)	72.38×172.72	68.36×148.12	68.48×149.16
Mode	OLED	OLED	OLED
Color Gamut	100%	100%	100%
Viewing Angle(U/D/L/R)	90 / 90 / 90 / 90	90 / 90 / 90 / 90	90 / 90 / 90 / 90
Bending Radius(mm)	3	3	3mm
Brightness(cd/m ²)	500	500	500
Contrast Ratio	100000	100000	100000
Interface	MIPI 4 Lane	MIPI 4 Lane	MIPI 4 Lane
Outline Dimension(mm)	74.56×174.74×0.61	70.56×151.34×0.61	70.68×152.38×0.61
Production	2021 Q1	MP	2021 Q1

Technology	Flexible AMOLED		
Resolution	FHD+	FHD+	FHD+
Size	6.55"	6.57"	6.67"
Product No.	TA066FYWK01	TA066FVWK01	TA067FYWK01
Resolution(pixel)	1080×2400	1080×2400	1080×2340
Active Area(mm)	68.27×151.68	68.36×152.72	70.96×153.74
Mode	OLED	OLED	OLED
Color Gamut	100%	100%	100%
Viewing Angle(U/D/L/R)	90 / 90 / 90 / 90	90 / 90 / 90 / 90	90 / 90 / 90 / 90
Bending Radius(mm)	3	3	3
Brightness(cd/m ²)	500	500	500
Contrast Ratio	100000	100000	100000
Interface	MIPI 4 Lane	MIPI 4 Lane	MIPI 4 Lane
Outline Dimension(mm)	70.26×153.82×0.61	70.56×154.34×0.61	72.96×153.74×0.61
Production	2020 Q3	2020 Q3	MP

Technology	AMOLED				
Resolution	FHD+	FHD+	FHD+	FHD+	FHD
Size	6.01"	6.21"	6.39"	6.59"	5.5"
Product No.	TA060VDHM01	TA062VDHX01	TA064VDHX01	TA066VDHM01	TA055VDHM01
Resolution(pixel)	1080×2160	1080×2248	1080×2340	1080×2340	1080×1920
Active Area(mm)	68.26×136.51	68.26×142.07	68.04×147.42	70.20×152.10	68.31×121.44
Mode	OLED	OLED	OLED	OLED	OLED
Color Gamut	100%	100%	100%	100%	100%
Viewing Angle(U/D/L/R)	90 / 90 / 90 / 90	90 / 90 / 90 / 90	90 / 90 / 90 / 90	90 / 90 / 90 / 90	90 / 90 / 90 / 90
Brightness(cd/m ²)	430	430	430	430	500
Contrast Ratio	100000	100000	100000	100000	100000
Interface	MIPI 4 Lane	MIPI 4 Lane	MIPI 4 Lane	MIPI 4 Lane	MIPI 4 Lane
Outline Dimension(mm)	70.07×140.92×0.85	70.16×145.97×0.85	69.94×150.47×0.85	72.10×156.55×0.85	69.96×127.19×0.85
Production	MP	MP	MP	MP	MP

Technology	LTPS				
Resolution	WQHD	FHD+	FHD+	FHD+	FHD+
Size	5.7"	5.65"	5.93"	6.0"	6.3"
Product No.	TL057BVXS01	TL057FVXP01	TL059FDMP01	TL060FVMS01	TL063FVMA01
Resolution(pixel)	1440×2560	1080×2160	1080×2160	1080×2160	1080×2340
Active Area(mm)	70.98×126.18	65.75×133.10	67.39×134.78	68.04×136.08	67.07×145.31
Mode	SFT	SFT	SFT	SFT	SFT
Color Gamut	90%	70%	70%	85%	85%
Viewing Angle(U/D/L/R)	85 / 85 / 85 / 85	85 / 85 / 85 / 85	85 / 85 / 85 / 85	85 / 85 / 85 / 85	85 / 85 / 85 / 85
Brightness(cd/m ²)	480	450	450	450	480
Contrast Ratio	1500	1500	1500	1500	1500
Interface	MIPI	MIPI	MIPI	MIPI	MIPI
Outline Dimension(mm)	72.56×133.59×1.32	66.15×137.90×1.16	69.39×144.88×1.30	69.84×142.03×1.19	68.87×150.04×1.20
Production	MP	MP	MP	MP	MP



Technology	LTPS			
Resolution	FHD+	FHD+	FHD+	FHD+
Size	6.36"	6.53"	6.53"	6.53"
Product No.	TL064FVMM01	TL065FVXM01	TL065FVXS30	TL065FVMC01
Resolution(pixel)	1080×2300	1080×2340	1080×2340	1080×2340
Active Area(mm)	68.69×146.28	69.50×150.58	69.50×150.58	69.50×150.58
Mode	SFT	SFT	SFT	SFT
Color Gamut	85%	85%	85%	85%
Viewing Angle(U/D/L/R)	85 / 85 / 85 / 85	85 / 85 / 85 / 85	85 / 85 / 85 / 85	85 / 85 / 85 / 85
Brightness(cd/m ²)	450	450	450	450
Contrast Ratio	1500	1500	1500	1500
Interface	MIPI	MIPI	MIPI	MIPI
Outline Dimension(mm)	70.39×149.98×1.30	71.30×154.93×1.30	71.30×155.78×1.20	71.30×155.78×1.20
Production	MP	MP	MP	MP


Technology	LTPS			
Resolution	FHD+	FHD+	FHD+	HD+
Size	6.57"	6.59"	6.9"	6.39"
Product No.	TL066FVMH01	TL066FVXF01	TL069FVXP01	TL064JVMM01
Resolution(pixel)	1080×2400	1080×2430	1080×2160	720×1560
Active Area(mm)	68.53×152.28	70.15×151.98	78.41×156.82	68.04×147.42
Mode	SFT	SFT	SFT	SFT
Color Gamut	85%	85%	85%	70%
Viewing Angle(U/D/L/R)	85 / 85 / 85 / 85	85 / 85 / 85 / 85	85 / 85 / 85 / 85	85 / 85 / 85 / 85
Brightness(cd/m ²)	450	450	450	450
Contrast Ratio	1500	1500	1500	1500
Interface	MIPI	MIPI	MIPI	MIPI
Outline Dimension(mm)	70.43×155.98×1.30	71.95×155.73×1.20	80.41×167.07×1.30	70.34×151.87×1.30
Production	MP	MP	MP	MP

Technology	A-si			
Resolution	HD+	HD+	HD+	HD+
Size	6.22"	6.22"	6.36"	6.39"
Product No.	TM062JVSC01	TM062JVSC13	TM064JVSC01	TM064JVSM02
Resolution(pixel)	720×1520	720×1520	720×1544	720×1560
Active Area(mm)	67.61×142.73	67.61×142.73	67.60×146.84	68.04×147.42
Mode	SFT	SFT	SFT	SFT
Color Gamut	70%	70%	70%	70%
Viewing Angle(U/D/L/R)	85 / 85 / 85 / 85	85 / 85 / 85 / 85	85 / 85 / 85 / 85	85 / 85 / 85 / 85
Brightness(cd/m ²)	450	450	450	450
Contrast Ratio	1500	1500	1500	1500
Interface	MIPI	MIPI	MIPI	MIPI
Outline Dimension(mm)	69.61×148.33×2.05	69.61×148.33×2.05	72.26×155.52×2.35	72.84×158.77×2.25
Production	MP	MP	MP	MP

Technology	A-si		
Resolution	HD+	HD+	HD
Size	6.52"	6.55"	5"
Product No.	TM065JVSC03	TM065JVSM04	TM050JVHS19
Resolution(pixel)	720×1600	720×1600	720×1280
Active Area(mm)	67.93×150.96	68.26×151.68	62.10×110.40
Mode	SFT	SFT	SFT
Color Gamut	70%	70%	70%
Viewing Angle(U/D/L/R)	85 / 85 / 85 / 85	85 / 85 / 85 / 85	85 / 85 / 85 / 85
Brightness(cd/m ²)	450	450	450
Contrast Ratio	1500	1500	1500
Interface	MIPI	MIPI	MIPI
Outline Dimension(mm)	72.13×160.86×2.2	72.46×160.00×2.30	68.10×140.80×2.44
Production	MP	MP	MP

SMART WEARABLE APPLICATION

Technology	AMOLED			LTPS
Size	0.95"	1.3"	1.4"	1.5"
Product No.	TA010XDHM01	TA013XDHP01	TA014XDHN01	TL015XVXP01
Resolution(pixel)	120×240	360×360	300×300	360×326
Active Area(mm)	10.80×21.60	∅32.94	25.06×25.06	38.12×34.52
Mode	OLED	OLED	OLED	SFT
Color Gamut	100%	100%	100%	70%
Viewing Angle(U/D/L/R)	90/90/90/90	90/90/90/90	90/90/90/90	85 / 85 / 85 / 85
Brightness(cd/m ²)	450	350	350	500
Contrast Ratio	100000	100000	100000	1000
Interface	MIPI 4 Lane	MIPI 4 Lane	MIPI 4 Lane	MIPI
Outline Dimension(mm)	12.80×27.35×0.65	35.34×36.07×0.55	27.27×30.17×0.65	40.52×39.50×3.04
Production	MP	MP	MP	MP

Technology	A-si		
Size	1.4"	1.6"	1.28" 
Product No.	TM014ZYHP01	TM016XDHC01	TM013XDHT01
Resolution(pixel)	240×240	256×320	176×176
Active Area(mm)	25.20×25.20	25.34×31.68	23.02×23.02
Mode	SFT	SFT	SFT
Color Gamut	53%	50%	Transmissive mode: 17 Reflective mode: 15
Viewing Angle(U/D/L/R)	80 / 80 / 80 / 80	80 / 80 / 80 / 80	60/60/60/60
Brightness(cd/m ²)	400	400	10
Contrast Ratio	900	800	Transmissive mode: 25 Reflective mode: 14
Interface	MIPI	MIPI	SPI
Outline Dimension(mm)	27.20×30.00	31.20×44.36×2.82	25.22×27.92×1.45
Production	MP	MP	MP

TABLET PC APPLICATION



Technology	LTPS			A-si
Size	7.85"	8.4"	10.8"	9.7"
Product No.	TL079QDXP01	TL084BDXP01	TL108BVXH01	TM097QDSP01
Resolution(pixel)	1536×2048	1600×2560	1600×2560	1536×2048
Active Area(mm)	119.81×159.74	113.04×180.86	145.44×232.70	147.46×196.61
Mode	SFT	SFT	SFT	SFT
Color Gamut	70%	85%	96%	72%
Viewing Angle(U/D/L/R)	85 / 85 / 85 / 85	85 / 85 / 85 / 85	85 / 85 / 85 / 85	85 / 85 / 85 / 85
Brightness(cd/m ²)	400	430	540	460
Contrast Ratio	1500	1500	1500	1000
Interface	MIPI	MIPI	MIPI	MIPI
Outline Dimension(mm)	125.55×170.95×2.01	117.04×191.16×1.88	149.54×238.40×1.70	154.02×204.83×1.90
Production	MP	MP	MP	MP

ULTRABOOK APPLICATION

Technology	LTPS				A-si	
Size	12.3"	12.5"	13.88"	13.9"	12"	15.6"
Product No.	TL123GDMP01	TL125ADXP01	TL139GDXP01	TL139VDXP01	TM120GDSP01	TM156CDSP01
Resolution(pixel)	3000×2000	2560×1440	3000×2000	1920×1080	2160×1440	3840×2160
Active Area(mm)	259.65×173.10	276.48×155.52	293.85×195.90	307.58×173.02	254.02×169.34	345.60×194.40
Mode	SFT	SFT	SFT	SFT	SFT	SFT
Color Gamut	72%	80%	72%	72%	85%	72%
Viewing Angle(U/D/L/R)	85 / 85 / 85 / 85	85 / 85 / 85 / 85	85 / 85 / 85 / 85	85 / 85 / 85 / 85	85 / 85 / 85 / 85	85 / 85 / 85 / 85
Brightness(cd/m ²)	400	350	420	400	450	340
Contrast Ratio	1500	1000	1500	1500	1000	800
Interface	eDP	eDP	eDP	eDP	eDP	eDP
Outline Dimension(mm)	264.70×183.30×2.00	282.68×184.17×2.20	298.40×205.10×2.10	312.18×183.12×2.30	262.42×179.54×2.15	351.90×220.30×2.45
Production	MP	MP	MP	MP	MP	MP