



WiseChip
Semiconductor Inc.

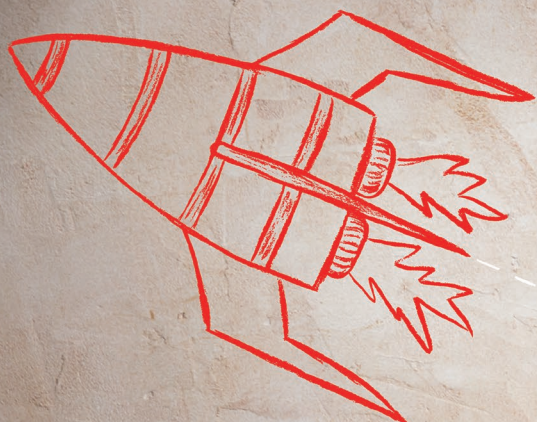
智晶光電



OLED

Enrich Your Vision

*Professional Innovations
Create More Value for You*



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智晶光電成立於2005年，公司總部設於臺灣，並設有專業經銷團隊於中國大陸、歐洲、美洲、日本、韓國、大洋洲、中東地區等全球佈局。

WiseChip Semiconductor Inc. (WSI) was established in 2005 and headquartered in Taiwan. WSI has sales and distributors in Mainland China, Europe, U.S., Japan, Korea, Oceania and the Middle East.

About WiseChip

智晶光電是全球顯示器模組方案領導廠商，專注於OLED顯示技術領域。本公司提供完整的顯示器模組整合方案，包含穿透型、可撓型、繪圖型、字元型、區彩型、全彩型、圓型及客製化設計等相關產品在市場上均居領導地位。

WSI is OLED display panel supplier. It's a market leader and pioneer in OLED solutions which include Transparent OLED, Flexible OLED, Monochrome OLED, Character OLED, Segment OLED, Area Color OLED, Full Color OLED, Custom design products, etc.

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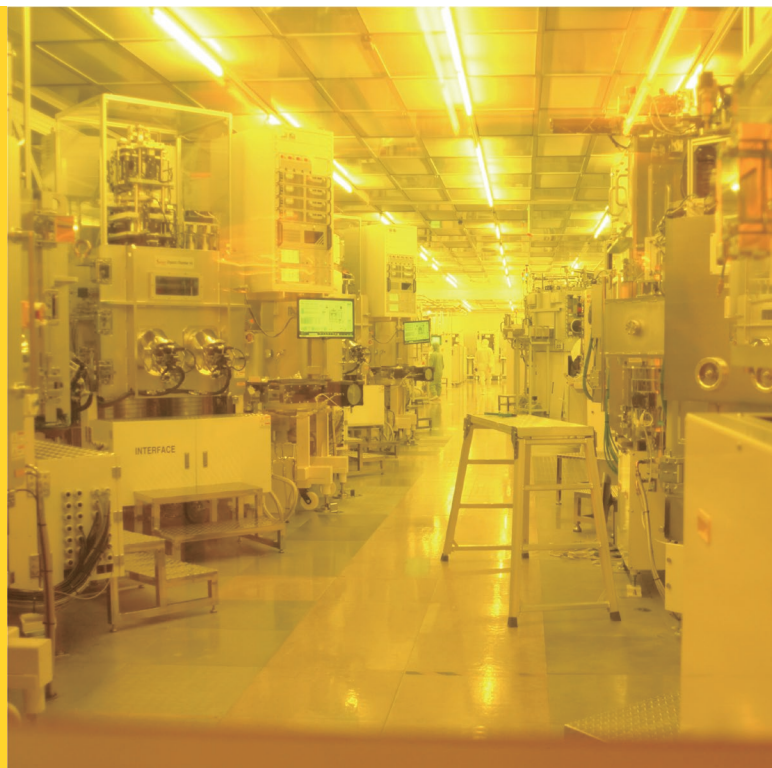
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Monochrome /Character OLED



OLED Application

Industrial

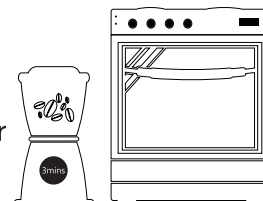
測量儀器
OA設備
收銀/倉儲機
讀卡機
門禁設備
安全金鑰

Measuring & Meter
OA Equipment
POS & Server
Card Reader
Door Security
USB Key



Home Appliances

空氣淨化器 Air Purifier
熱水器 Water Heater
遙控器 Remote Control
咖啡機 Coffee Machine
電磁爐 Induction Cooker
烤箱 Oven
冰箱 Refrigerator
視聽設備 Audio Video Equipment



Communication



行動電話 Mobile Phone
家用電話 DECT Phone
藍芽裝置 Bluetooth Device
路由器 Router
機上盒 Set-Top Box

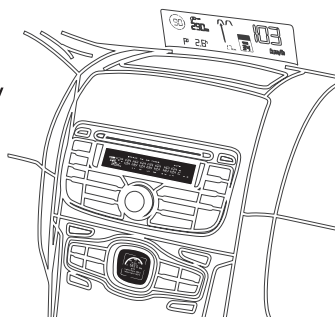
Medical

血糖機 Glucose Meter
血氧儀 Oximeter
血壓計 Blood-Pressure Meter
醫美器材 Beauty & Cosmetic Equipment



Automotive

抬頭顯示器 Head Up Display
音響 Car Audio
測速器 Speed Detector
ETC
計時器 Timer
溫控空調 Climate Control
儀錶 Gauge



Consumer

物聯網產品 IoT
穿戴式裝置 Wearable Device
數位相機 Digital Camera
遊戲機 Game Machine
電子菸 E-Cigarette



OLED Benefits

- 超高對比 (10,000:1)
- 超廣視角
- 快速反應 ($\leq 15\mu s$)
- 超薄、超輕、耐久使用
- 工作溫度範圍廣 $-40^{\circ}\text{C} \sim +75^{\circ}\text{C}$
(客製可達 $+105^{\circ}\text{C}$)
- 自發光
- 用途廣泛、適用於各領域產品
- High Contrast Ratio (10,000:1)
- Free Viewing Angle
- Fast Response Time ($\leq 15\mu s$)
- Thinner & Lighter & Durable
- Wide Operation Temperature $-40^{\circ}\text{C} \sim +75^{\circ}\text{C}$
(Customized up to $+105^{\circ}\text{C}$)
- Self-emitting, No Need of Backlight
- Applicable to Most Products from Any Segment

Life Time

Color	Brightness (cd/m ²)	Hours
Yellow	120	>80,000
	100	>100,000
	80	>150,000
Green	120	>40,000
	100	>50,000
	80	>80,000
White	100	>50,000
	80	>70,000
Red	100	>50,000
	80	>80,000
Blue	100	>20,000
	80	>30,000

- Lifetime Base on 128x32 .1/32 duty

PRODUCTS Touch Solution



Diagonal Size	0.96"
Pixel No.	64×128
Color White	White
Panel Size(mm)	14.00×28.00×1.20
Active Area(mm)	10.86×21.74
Interface	4-wire SPI, I ² C
Function	1 Dimension Slide Gestures Single Tap · Double Tap · Long Tap



Diagonal Size	1.71"
Pixel No.	32×128
Color White	White
Panel Size(mm)	15.75×51.10× 2.00
Active Area(mm)	10.54 × 42.22
Interface	4-wire SPI, I ² C
Function	2 Dimension Slide Gestures Single Tap · Double Tap · Long Tap

PMOLED Touch Screen Advantage

- Enable Touch Detection on Existing PMOLED Display Module Structure.
- Ultra Low Power Consumption:
Enables Power Saving and Longer Battery Life.
- Better Display Quality and Touch Performance:
Enhances Light Transmittance, and Features Good SNR and Water Immunity.
- Development Cycle :
Shorten Firmware Development Cycle / Effort for Touch Display System.
- Mechanical Advantage :
Enable Ultra-slim form Factor with Narrow Bezel Design.
- Cost Advantage :
Reduce Total BOM Costs, Manufacturing Time & Module Thickness; Enhance End Product Integration Yield rate.

PRODUCTS

Bendable Solution

Icon	Diagonal Size	Pixel No.	Color	Panel Size (mm)	Active Area (mm)	Interface
	1.36"	128x16	White	44.50x8.66x0.30	34.408x3.448	SPI, I ² C
	1.81"	160x32	White (16 Gray Scales)	55.30x14.94x0.30	45.096x9.00	SPI, I ² C

Transparent Solution

Icon	Diagonal Size	Pixel No.	Color	Panel Size (mm)	Active Area (mm)	Interface
	1.51"	128x56	Light Blue	42.04x27.22x1.25	35.05x15.32	Parallel, SPI, I ² C
	4.10"	Segment type	Red, Orange Green, White	106.00x37.90x1.40	100.00x27.30	I ² C

Full Color Solution

Icon	Diagonal Size	Pixel No.	Color	Panel Size (mm)	Active Area (mm)	Interface
	0.60"	64x64	65,536 Colors	15.00x17.50x1.20	10.73x10.73	Parallel, SPI, I ² C
	0.95"	96x64	65,536 Colors	25.70x22.20x1.45	20.14x13.42	Parallel, SPI
	1.10"	96x96	65,536 Colors	25.90x30.10x1.30	19.85x19.85	Parallel, SPI
	1.27"	128x96	262,144 Colors	33.70x26.90x1.60	25.708x19.28	Parallel, SPI
	1.50"	128x128	262,144 Colors	33.80x34.00x1.60	26.855x26.864	Parallel, SPI
	1.45"	160x128	262,144 Colors	35.80x30.80x1.60	28.78x23.024	Parallel, SPI
	1.69"	160x128	262,144 Colors	39.90x34.00x1.60	33.575x26.864	Parallel, SPI

Monochrome Solution

Icon	Diagonal Size	Pixel No.	Color	Panel Size (mm)	Active Area (mm)	Interface
	1.07"	160x136	White	32.70x32.20x1.20	27.18x23.10	Parallel, SPI, I²C
	0.66"	88x112	White	16.00x17.00x1.12	13.42x10.012	SPI, I²C
	0.95"	96x64	White	24.90x22.95x1.40	19.953x13.424	Parallel, SPI, I²C
	0.96"	96x96	White	20.50x23.80x1.20	17.26x17.26	SPI, I²C
	1.12"	128x128	White	25.90x30.10x1.20	20.076x20.076	Parallel, SPI, I²C
	1.30"	128x64	Blue, White	34.50x23.00x1.45	29.42x14.70	Parallel, SPI, I²C
	1.54"	128x64	Blue, Yellow, White	42.04x27.22x1.45	35.052x17.516	Parallel, SPI, I²C
	2.42"	128x64	Blue, Yellow White, Green	60.50x37.00x2.00	55.01x27.49	Parallel, SPI, I²C
	2.23"	128x32	Blue, Yellow, White Green, Orange	62.00x24.00x2.00	55.02x13.10	Parallel, SPI, I²C
	1.71"	128x32	White, Orange	50.50x15.75x2.00	42.22x10.54	SPI, I²C

Monochrome / Area Color Solution						★Built-in Charge Pump
Icon	Diagonal Size	Pixel No.	Color	Panel Size (mm)	Active Area (mm)	Interface
	★0.96"	64x128	White	14.00x28.00x1.20	10.86x21.74	SPI, I ² C
	★1.04"	128x32	Blue, White	29.80x14.50x1.30	25.58x6.38	Parallel, SPI, I ² C
	★0.91"	128x32	White	30.00x8.90x1.20	22.38x5.58	SPI, I ² C
	★0.87"	128x32	White	29.00x8.70x1.20	21.356x5.324	SPI, I ² C
	★0.69"	96x16	Blue, White	26.30x8.00x1.30	17.26x3.18	SPI, I ² C
	★0.49"	64x32	Blue, White	14.50x11.60x1.20	11.18x5.58	SPI, I ² C
	★0.66"	64x48	Blue, White	18.46x18.10x1.45	13.42x10.06	Parallel, SPI, I ² C
	★0.82"	96x39	Blue, White	23.80x16.00x1.30	19.372x7.858	Parallel, SPI, I ² C
	★0.96"	128x64	Blue, White	24.70x16.60x1.20	21.74x11.18	Parallel, SPI, I ² C
	★0.96"	128x64	Yellow	26.70x19.26x1.45	21.744x10.864	Parallel, SPI, I ² C
	★0.96"	128x64	Blue + Yellow	26.70x19.26x1.45	21.744x11.204	Parallel, SPI, I ² C

Monochrome Solution (16 Gray Scales)

Icon	Diagonal Size	Pixel No.	Color	Panel Size (mm)	Active Area (mm)	Interface
	1.32"	128x96	White	31.50x26.70x1.57	26.86x20.14	Parallel, SPI, I²C
	2.70"	128x64	Yellow, White Green	73.00x41.86x2.00	61.41x30.69	Parallel, SPI
	2.08"	256x64	Blue, White	60.50x19.00x1.60	51.18x12.78	Parallel, SPI, I²C
	3.12"	256x64	Blue, Yellow White, Green	88.00x27.80x2.00	76.78x19.18	Parallel, SPI
	5.50"	256x64	Yellow, Green	146.00x45.00x2.00	135.65x33.89	Parallel, SPI

Character Type

★Built-in Charge Pump

KS0066 Equivalent / Drop in Replacement

COG Version	Diagonal Size	Character No.	Color	Character Size (mm)	Active Area (mm)	PCB Module
	★2.26"	16x2	Blue, Yellow White, Green	2.97x5.57	56.22x11.52	
	3.67"	16x2	Blue, Yellow White, Green	4.74x8.90	91.14x18.98	
	★2.92"	20x2	Yellow, White Green	3.22x5.57	73.52x11.52	
	2.93"	20x2	Blue, Yellow White, Green	3.22x5.57	73.52x11.52	
	★2.89"	20x4	Blue, Yellow White, Green	2.97x4.77	70.42x20.82	
	★5.80"	40x2	Yellow, White	3.20x5.55	147.50x11.50	