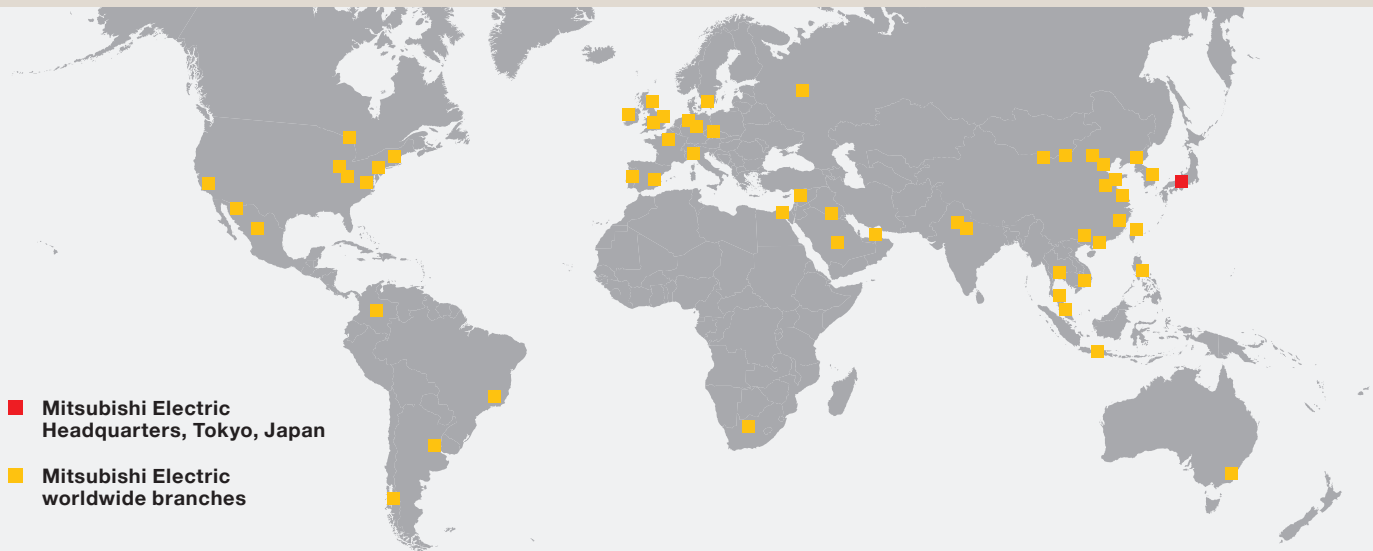


TFT-LCD Modules

# Rugged TFT-LCD Modules viewing excellence



# Corporate Overview



Mitsubishi Electric was founded in 1921, headquarters being situated in Tokyo, Japan. With around 145,800 employees the company recorded consolidated group sales of 40.7 billion US Dollar\* in the fiscal year ended March 31, 2019. Our sales offices, research & development centres and manufacturing plants are located in over 30 countries.

Mitsubishi Electric is a global leader in Manufacturing, Marketing and Sales of electric and electronic products. The Semiconductor European Business Group oversees all sales and export activities for Western and Eastern Europe, Russia and South Africa from its headquarters in Ratingen, Germany.

## Global Leader in Semiconductor Technology

Semiconductors are indispensable components for today's increasingly high performance products. Mitsubishi Electric, a global leader in the field of semiconductors, has secured its top position with continuous innovative research and development and investment in state-of-the-art production techniques.

Our worldwide customers profit from extensive technical services as well as a broad sales and distribution network.

Our success is a result of our expertise in four product areas: High Frequency, Opto and Power Semiconductors as well as TFT-LCD Modules. With quality and reliability as our core values, Mitsubishi Electric Europe B.V. has achieved ISO 9001 and 14001 certification.



for a greener tomorrow

Eco Changes is the Mitsubishi Electric Group's environmental statement and expresses the Group's stance on environmental management. Through a wide range of technologies and businesses for homes, offices, factories, infrastructure and even outer space, Mitsubishi Electric is striving to contribute to a sustainable society.

[www.ecochanges.eu](http://www.ecochanges.eu)

Please note that this catalogue is reserved to changes. All data in this publication have been compiled and checked with utmost diligence, nevertheless errors and mistakes cannot be totally excluded. Do not duplicate or copy any part or contents without the permission of Mitsubishi Electric Europe B.V.

\* At an exchange rate of 111 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2019

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# Key Concept of our TFT-LCD Modules

## Color TFT-LCD Modules for Industrial Use

TFT-LCD modules by Mitsubishi Electric are built for a wide variety of industrial uses, such as transportation (train, bus, aircraft, etc), measuring instruments, automatic teller machines (ATM), vending and ticket machines, factory automation equipment, point of sale (POS), medical equipment, and much more.

Designed for high reliability, optimal visibility and enhanced view ability, Mitsubishi Electric's leading-edge TFT-LCD modules ensure optimum performance and excellent color quality in a broad range of not only indoor but also outdoor operating environments. The technologies behind them bring us one step closer to the realization of true images with realistic colors and clear visibility even under strong sunlight.

## Target markets

TFT-LCD modules by Mitsubishi Electric are built for a wide variety of industrial uses, such as:

- Mobile Working Machines (Agriculture, Construction, Material Handling)
- Transportation (Train, Trucks, Bus, Aircraft, Marine etc.)
- Measuring instruments
- Automatic Teller Machines (ATM), Vending and Ticket Machines, Point of sale (POS)
- Factory automation equipment
- Medical equipment and more



### Product Range

- From 3.5" to 19.0" (standard format)
- From 4.3" to 17.5" (wide format)
- Ultra wide format (7.8" and 19.2")

### Advanced Imaging Technology

- Super Wide Viewing Technology (U/D & L/R 176°)
- Realistic Colors with Natural Color Matrix
- High Color Saturation

### Application Focused Design

- Super High Brightness
- Low Reflection
- Transflective Technology
- Glass Bonding
- Wide Format
- Reverse Scan Function
- White LED Backlight
- Integrated LED driver
- PCAP Touch Panel option

### High Reliability

- Rugged Design
- Vibration / Shock resistance
- Wide Temperature Range (up to -40 to +85 °C)
- Ultra Long LED lifetime
- Low EMI
- High ESD Durability

**Focus on Industrial Market**  
**Long Term Support**  
**Cross-over Compatibility**

### Glossary

**U/D & L/R:** Up/Down & Left/Right  
**LED:** Light Emitting Diode  
**EMI:** Electro Magnetic Interference  
**ESD:** Electrostatic Discharge  
**SWV:** Super Wide Viewing

**TN:** Twisted Nematic  
**TFT-LCD:** Thin Film Transistor Liquid Crystal Display  
**PCAP TP:** Projected Capacitive Touch Panel  
**Cross-over compatibility:** Backwards & Sideways Compatibility  
**MP:** Mass Production



# Industrial Target Applications

Image: Sunseeker International Limited



Marine



Transportation



Elevator



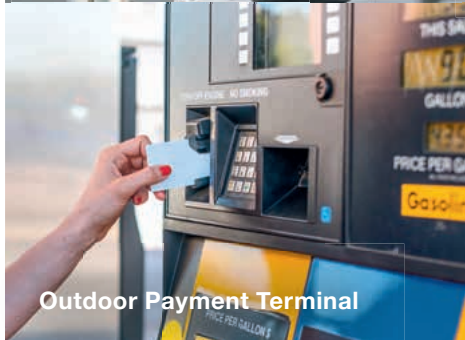
Factory Automation



Aviation



Medical



Outdoor Payment Terminal

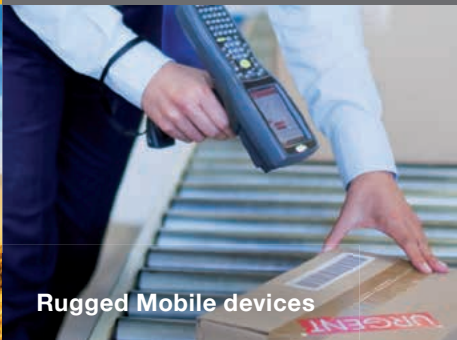
Industrial  
TFT-LCD  
Market



ATM



Agriculture



Rugged Mobile devices



Construction



Measurement equipment



Broadcasting

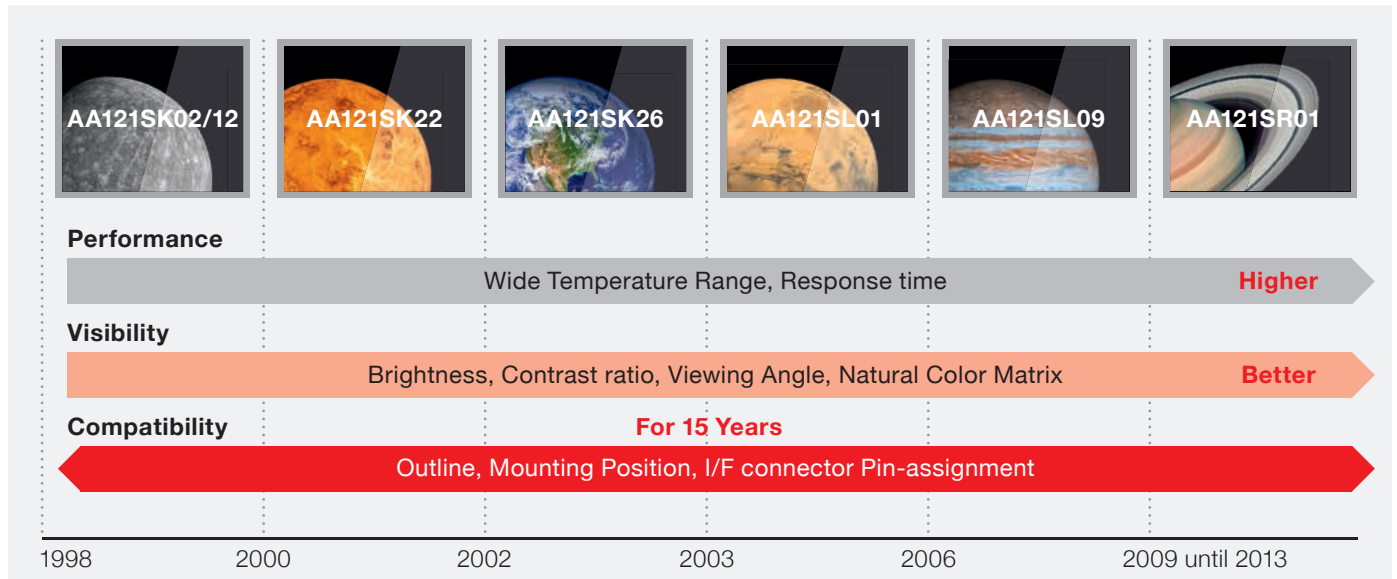


Ticket Machine

# Long Term Support & Cross-over Compatibility

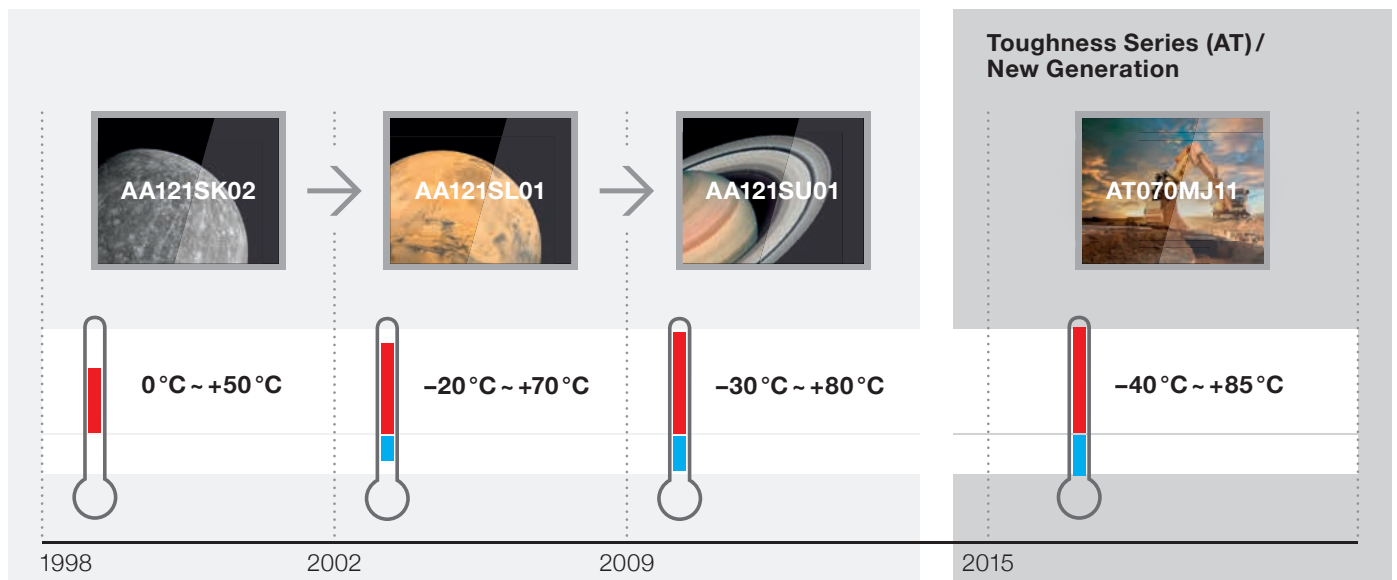
Long term support is the key requirement for industrial applications. Mitsubishi Electric's TFT-LCD modules keep providing

leading-edge technology and performance while ensuring cross-over compatibility both, electrically and mechanically.



# Wide Operation Temperature Range

Mitsubishi Electric's Rugged TFT-LCD modules offer a wide temperature range from -40 to +85 degrees Celsius to operate in tough environments.



# Transflective Technology

Mitsubishi Electric uses real transflective technology for better performance under the strong sunlight.

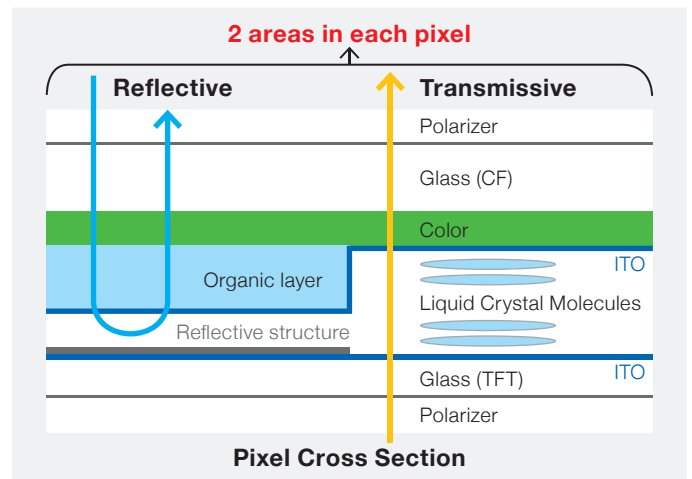
## Key Features

- Our reflective structure design provides excellent image quality under sunlight
- Quick response time, even at low temperature
- Low power consumption

Type Name	Size	Resolution	IF	Brightness	Status
	inch			cd/m <sup>2</sup>	
AC043NB01	4.3	WQVGA	CMOS	(800)	MP
AA057VG12	5.7	VGA	CMOS	500	
AA084VM01	8.4	VGA	LVDS	400	
AA084VM11				750	
AA104XL02	10.4	XGA	LVDS	250	
AA104XL12				350	

## Key Technology

- Two areas in each pixel (Reflective and Transmissive)
- Reflective structure on TFT substrate
- Dual cell gap
- Polarizer with diffusion layer



# Super Wide Viewing Technology (SWV)

Mitsubishi Electric's super wide viewing technology features excellent image quality, high contrast ratio (up to 1000:1) without any image reversal.

**Conventional model (TN mode)**

White out →  ← Color Shift

Black Out →  ← Color Shift

**Conventional model (VA mode)**

Color Shift →  ← Color Shift

Color Shift →  ← Color Shift


Simulated images


→

Features:

- No image reversal
- High Transmittance
- High Contrast Ratio up to 1000:1

**Super Wide Viewing Technology**

Better →  ←

Better →  ←

Better →  ←

Better →  ←

Simulated image

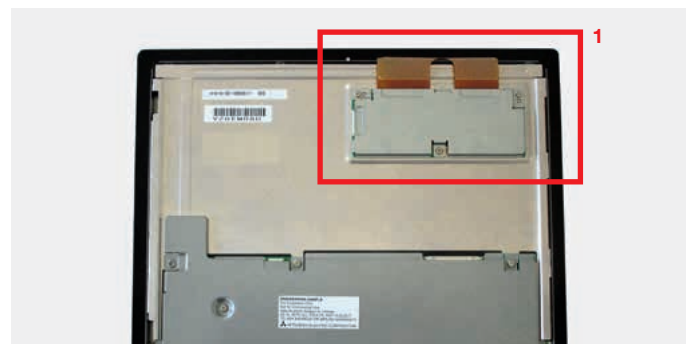


# Projected Capacitive Touch Panel Technology

Mitsubishi Electric offers the total solution as one TFT-LCD module with integrated PCAP TP, controller and cover glass.

## Key Features

- High durability  
(Optimized high sensitivity and high robustness for the water proof, hard surface ... etc)
- Clear image quality for the TP sensor by using metal mesh wire instead of ITO material  
(High transmittance and excellent color stability)
- Touch panel controller is integrated on the back of the LCD module for highest reliability<sup>1</sup>  
(Covered by the metal cover plate and fixed by screws)
- Customization on request  
(Glass bonding, Surface treatment like Anti-Reflection and Anti-Glare, Customer Logo and Mark, Clear pin hole ... etc)

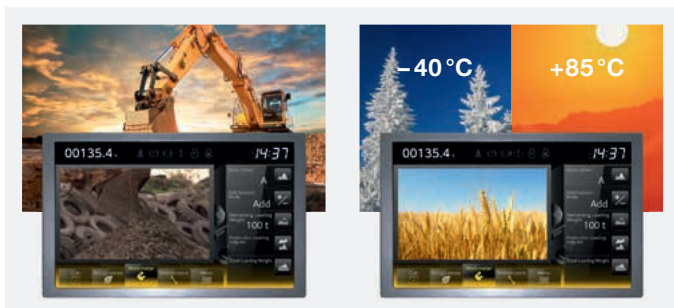


# TFT-LCD Series for Toughest Environments

Mitsubishi Electric offers the Toughness series (AT) lineup for the use in harsh environments requiring robust operating characteristics like Construction, Agriculture, Transportation, Factory Automation and Weaving machine.

## Key Features

- High vibration resistance of 6.8G
- Extended temperature range of -40°C to +85°C
- Super high brightness up to 1,500 cd/m<sup>2</sup> with 100k hour LED backlight lifetime (half brightness)



Mitsubishi Electric has a long experience for the industrial market and the automotive market. By utilizing this know-how, we optimized the LCD panel characteristics, mechanical structure and other components to achieve these extended specifications. Mitsubishi Electric achieved super high brightness, wide operational temperature and good contrast at the same time, so it is also good for sunlight readability.

Type Name	Size	Resolution	Mode	Brightness	Status
	inch			cd/m <sup>2</sup>	
AT070MJ01	7.0	WVGA	TN	1000	MP
AT070MJ11				1500	
AT070MP01			SWV	1100	
AT070MP11				1400	
AT080MD01	8.0			1000	
AT080MD11				1000	
AT104SN01	10.4	SVGA	TN	700	
AT104SN11				1500	
AT104XH01		XGA		600	
AT104XH11				1300	



# Sunlight Readability / Outdoor Use

## Glass Bonding (Optical Bonding) Technology

Our glass bonding technology, which is composed of protective glass fully bonded to the display surface with resin provides high visibility under sunlight through the protective glass.

Conventional Technology	Glass Bonding Technology
<p><b>Total Reflectance~9.3%</b></p> <p>Labels: Glass, Air, LCD</p>	<p><b>Less reflection at each surface (Index matched)</b></p> <p><b>Total Reflectance~0.5%</b></p> <p>Labels: Glass, Bonding Layer, LCD</p>
<p>Features:</p> <ul style="list-style-type: none"> <li>- Excellent viewability under sunlight</li> <li>- Without condensation between LCD and glass</li> <li>- Improved mechanical strength</li> <li>- Integrated production in clean room of our LCD factory</li> </ul>	<p>Business merits:</p> <ul style="list-style-type: none"> <li>- Integrated production at Mitsubishi Electric factory</li> <li>- Integrated display design and one contact FAE support</li> <li>- Full benefit of factory warranty</li> </ul>

## Low Reflection, Super High Brightness & Transflective Technology

Low reflection products are designed to suppress bright reflection. Transflective products offer excellent sunlight readability

with low power consumption. Super High Brightness products guarantee good visibility under every light condition.

### Sunlight Readability

Conventional	Good	Excellent	Excellent
<p>Labels: LCD</p>			<p>Labels: Reflective parts within pixel</p>
<p>Standard Model (Anti-glare Type Polarizer)</p>	<p>Low-Reflection Model (Anti-reflection Type Polarizer)</p>	<p>Super High Brightness Model</p>	<p>Transflective Model</p>

# Safety Functions

Mitsubishi Electric offers TFT-LCD modules with safety functions for functional safety relevant applications. Safety functions detect defined failures and can be read-out to ensure safe state of the application.

## Key Features

- Safety functions for failure detection
- By integrated hardware design
- For safety critical use cases

Type Name	Size	Resolution	Safety function
	inch	pixels	
AA103AE01	10.25		Integrated
AA123AF01	12.3	1920 × 720	
AA150AC01	15.0		



# Near-Field Communication (NFC)

Mitsubishi Electric introduce a new 7.0-inch TFT-LCD line equipped with a built-in short-range NFC antenna (Near-Field Communication). The new module offers a new way of interaction.

## Key Features

- Built-in NFC antenna saves equipment space and improves usability
- The NFC antenna enables contactless communication directly with the LCD screens
- Use cases: Operator identification, access control, device operation settings ...



Type Name	Size	Resolution	Touch Panel	Status
	inch	pixels		
AN070MC11ADA11	7.0	WVGA	PCAP	Development
AN070MC01ADA11				
AN070MC11				
AN070MC01				

# New Generation TFT-LCD Modules

The New Generation of Industrial TFT-LCD modules with an advanced design concept for high performance and robustness.

## Key Features

- Rugged components enable the usage in extreme temperatures ranging from -40 to +85 degrees Celsius.
- Optimized mechanical design achieves high vibration resistance
- Super high brightness and a high contrast ratio providing excellent visibility even in bright environments
- Dimming ratio from 1 to 100 percent assures visibility at any level of ambient brightness



Type Name	Size	Resolution	Status
AC070MR01/11	7.0	pixels	MP
AA070TA01/11		WXGA	
AA084V*01/11	8.4	VGA	Development
AA104V*01/11	10.4	XGA	Development
AA104XN01/11			
AA121X*01/11	12.1	WXGA	MP
AA121TJ01/11			Development
AA141T*01/11	14.1		

## Solution for Mobile Working Machines and other industrial applications













\* In development (specification tentative)



# Solution Matrix and Product Overview

Your Interest			Our Solution								Color Code								
			Touch Panel	Long Life LED Backlight	LED Driver Implemented	High Color Saturation	Anti Reflection Coating	Transflective Technology	Super High/High Brightness	Glass Bonding Technology	Super Wide Viewing Technology	Toughness Technology	New Generation	New					
Easy Development			•		•						•								
Sunlight readability/Outdoor use							•	•	•	•				•					
Convenient backlight for every condition				•	•														
Constant color appearance from all viewing angles						•							•						
Low Power Consumption/Environmental friendly				•				•											
Screen Size	Resolution	Type Name											Contrast	Brightness	Interface	Dimensions (mm)			
inch													Ratio	cd/m <sup>2</sup>		W	H	D	
3.5	QVGA	AC035QG01											1000:1	520	CMOS	63.5	85.0	4.5**	
	QHD	AA035AE01				•							800:1	400	LVDS	90.0	57.0	4.0**	
4.3	WQVGA	AC043NA11								•			1000:1	1000	CMOS	105.5	67.2	4.5**	
		AC043NB01								•	•		130:1	800	CMOS	105.5	67.2	5.2**	
5.0	WVGA	AA050MG03									•		1000:1	900	CMOS	118.5	84.7	3.9**	
		AA050MG03-DA1	PCAP								•	•		1000:1	700	CMOS	129.1	95.3	10.0**
		AA050MG04					•				•	•		1000:1	900	CMOS	118.5	84.7	3.9**
		AA050MH01										•		1000:1	500	CMOS	118.5	77.8	3.9**
		AA050MH01-DA1	PCAP									•		1000:1	400	CMOS	129.1	95.3	10.0**
5.7	QVGA	AA057QD01		•	•								800:1	450	CMOS	144.0	104.6	8.8	
		AC057QE02												600:1	600	CMOS	127.0	100.0	7.3
	VGA	AA057VF12		•	•						•			600:1	1100	CMOS	135.0	104.6	8.85
		AA057VF14		•	•						•			600:1	1250	CMOS	135.0	104.6	8.85
		AA057VG12		•	•		•	•						185:1	500	CMOS	135.0	104.6	8.85
AC057VK04												600:1	520	CMOS	127.0	100.0	7.3		
6.5	VGA	AA065VD11		•							•		600:1	1300	CMOS	154.0	121.0	11.0	
		AA065VD13		•			•				•		600:1	1300	CMOS	154.0	121.0	11.0	
		AA065VE11		•							•		600:1	1300	LVDS	154.0	121.0	11.0	
		AA065VE11--G1		•							•	•	600:1	1300	LVDS	170.2	132.6	12.4	
		AA065VE11ADA11	PCAP	•							•			600:1	1000	LVDS	170.2	132.6	14.5
		AA065VE13		•			•				•			600:1	1300	LVDS	154.0	121.0	11.0
7.0	WVGA	AA070MC01		•	•						•		1000:1	1000	LVDS	169.8	109.7	8.9	
		AA070MC01ADA11	PCAP	•	•						•	•		1000:1	800	LVDS	189.8	129.7	13.8
		AA070MC11		•							•	•		1000:1	1300	LVDS	169.8	109.7	8.9
		AA070MC11ADA11	PCAP	•							•	•		1000:1	1040	LVDS	189.8	129.7	13.8
		AN070MC11ADA11	PCAP	•							•	•		1000:1	1040	LVDS	189.8	129.7	13.8
		AA070MC12		•							•	•		1000:1	1200	LVDS	169.8	109.7	8.9
		AA070MC52		•							•	•		1000:1	1200	LVDS	109.7	169.8	8.9
		AA070ME01		•	•						•			600:1	1000	LVDS	169.8	109.7	8.9
		AA070ME01-CA1	PCAP	•	•						•	•		600:1	900	LVDS	189.8	129.7	13.0
		AA070ME01-CJ1	PCAP	•	•						•	•		600:1	900	LVDS	189.8	129.7	14.7
		AA070ME01ADA11	PCAP	•	•						•			600:1	800	LVDS	189.8	129.7	13.8
		AA070ME11		•							•			600:1	1500	LVDS	169.8	109.7	8.9
		AA070ME11-CJ1	PCAP	•							•	•		600:1	1350	LVDS	189.8	129.7	14.7
		AA070ME11ADA11	PCAP	•							•			600:1	1200	LVDS	189.8	129.7	13.8
		AT070MJ01		•	•						•		•	800:1	1000	LVDS	169.8	109.7	8.9
		AT070MJ11		•							•		•	800:1	1500	LVDS	169.8	109.7	8.9
		AT070MP01		•	•						•	•	•	1000:1	1000	LVDS	169.8	109.7	8.9
		AT070MP11		•							•	•	•	1000:1	1400	LVDS	169.8	109.7	8.9

Our Solution																			
Your Interest																			
Easy Development			•		•						•								
Sunlight readability/Outdoor use							•	•	•	•		•							
Convenient backlight for every condition				•	•														
Constant color appearance from all viewing angles						•					•								
Low Power Consumption/Environmental friendly				•				•											
Screen Size	Resolution	Type Name											Contrast	Brightness	Interface	Dimensions (mm)			
inch													Ratio	cd/m <sup>2</sup>		W	H	D	
7.0	WVGA	AC070MR11		•		•			•		•		1000:1	1000	LVDS	169.8	109.7	8.9	
		AA070TA01		•	•				•		•		1000:1	1000	LVDS	169.8	109.7	8.9	
	WXGA	AA070TA01ADA11	PCAP	•	•				•		•		1000:1	800	LVDS	189.8	129.7	13.7	
		AA070TA11		•					•		•		1000:1	1000	LVDS	169.8	109.7	8.9	
		AA070TA11ADA11	PCAP	•					•		•		1000:1	800	LVDS	189.8	129.7	13.7	
7.8	HSVGA	AA078AA01		•	•	•			•		•		1000:1	500	LVDS	207.0	86.0	10.0	
		AA078AA51		•	•	•			•		•		1000:1	500	LVDS	86.0	207.0	10.0	
8.0	WVGA	AA080MB01		•	•				•				700:1	1200	LVDS	192.0	122.0	8.9	
		AA080MB01ADA11	PCAP	•	•				•				700:1	960	LVDS	212.0	142.0	14.1	
		AA080MB11		•					•				700:1	1500	LVDS	192.0	122.0	8.9	
		AA080MB11ADA11	PCAP	•					•				700:1	1200	LVDS	212.0	142.0	14.1	
		AT080MD01		•	•				•		•	•		1000:1	1000	LVDS	192.0	122.0	11.2
		AT080MD11		•					•		•	•		1000:1	1000	LVDS	192.0	122.0	11.2
8.4	VGA	AA084VG01		•					•				600:1	800	CMOS	199.5	149.0	11.5	
		AA084VJ01		•	•				•				800:1	800	LVDS	199.5	149.0	9.7	
		AA084WJ11		•					•				800:1	1500	LVDS	199.5	149.0	9.7	
		AA084VM01		•	•			•					130:1	400	LVDS	199.5	149.0	9.7	
		AA084VM11		•				•					130:1	750	LVDS	199.5	149.0	9.7	
		AA084V*01		•	•				•		•		1000:1	800	LVDS	199.5	149.0	9.7	
		AA084V*11		•					•		•		1000:1	1000	LVDS	199.5	149.0	9.7	
		AA084SC01		•	•	•				•		•		1000:1	600	LVDS	199.5	149.0	9.7
	SVGA	AA084SC01ADA11	PCAP	•	•	•				•		•		1000:1	490	LVDS	209.5	159.0	14.4
		AA084SC03		•	•	•				•		•		1000:1	600	LVDS	199.5	149.0	9.7
		AA084SD01		•	•					•				600:1	600	LVDS	199.5	149.0	9.7
		AA084SD01ADA11	PCAP	•	•					•				600:1	480	LVDS	209.5	159.0	14.4
		AA084SD11		•					•					600:1	1200	LVDS	199.5	149.0	9.7
		AA084SD11-CA3	PCAP	•					•	•				600:1	1000	LVDS	209.5	159.0	13.6
		AA084SD11ADA11	PCAP	•					•					600:1	960	LVDS	209.5	159.0	14.4
		AA084XD01		•	•				•		•			1000:1	700	LVDS	199.5	149.0	9.7
	XGA	AA084XD01-CA1	PCAP	•	•					•	•			1000:1	630	LVDS	199.5	149.0	13.6
		AA084XD01ADA11	PCAP	•	•					•	•			1000:1	560	LVDS	209.5	159.0	14.4
		AA084XD11		•					•		•			1000:1	1000	LVDS	199.5	149.0	9.7
		AA084XD11ADA11	PCAP	•					•		•			1000:1	800	LVDS	209.5	159.0	14.4
		AA084XD51		•					•		•			1000:1	1000	LVDS	149.0	199.5	9.7
		AA084XE01		•	•									800:1	500	LVDS	199.5	149.0	9.7
		AA084XE01-CA3	PCAP	•	•					•				600:1	450	LVDS	199.5	149.0	13.6
		AA084XE01ADA11	PCAP	•	•									800:1	400	LVDS	209.5	159.0	14.4
		AA084XE11		•					•					800:1	1000	LVDS	199.5	149.0	9.7
		AA084XE11ADA11	PCAP	•					•					800:1	800	LVDS	209.5	159.0	14.4

\* In development (specification tentative)

# Solution Matrix and Product Overview

Your Interest			Our Solution								Color Code								
			Touch Panel	Long Life LED Backlight	LED Driver Implemented	High Color Saturation	Anti Reflection Coating	Transflective Technology	Super High/High Brightness	Glass Bonding Technology	Super Wide Viewing Technology	Toughness Technology	New Generation	New					
Easy Development			•		•					•									
Sunlight readability/Outdoor use							•	•	•	•				•					
Convenient backlight for every condition				•	•														
Constant color appearance from all viewing angles						•							•						
Low Power Consumption/Environmental friendly				•				•											
Screen Size	Resolution	Type Name											Contrast	Brightness	Interface	Dimensions (mm)			
inch													Ratio	cd/m <sup>2</sup>		W	H	D	
9.0	WVGA	AA090ME01		•		•							900:1	400	LVDS	219.0	136.2	9.5	
		AA090MH01		•	•					•			800:1	800	LVDS	219.0	136.2	9.5	
		AA090MH11		•							•		800:1	1500	LVDS	219.0	136.2	9.5	
	WXGA	AA090TB01		•	•						•		1000:1	800	LVDS	219.0	136.2	9.5	
		AA090TB01--G1		•	•						•	•	1000:1	800	LVDS	229.0	146.2	11.1	
		AA090TB01-CE1	PCAP	•	•						•	•	1000:1	720	LVDS	229.0	146.2	14.2	
		AA090TB01-DA2	PCAP	•	•							1000:1	640	LVDS	229.0	146.2	14.3		
10.1	WXGA	AA101TA02		•	•								1000:1	500	LVDS	231.0	153.5	8.5	
		AA101TA02ADA11	PCAP	•	•								1000:1	400	LVDS	239.0	158.5	13.7	
		AA101TA02ADA21	PCAP	•	•								1000:1	400	LVDS	239.0	158.5	13.7	
		AA101TA12		•						•			1000:1	1000	LVDS	231.0	153.5	8.5	
		AA101TA12ADA11	PCAP	•						•			1000:1	800	LVDS	239.0	158.5	13.7	
		AA101TA12ADA21	PCAP	•						•			1000:1	800	LVDS	239.0	158.5	13.7	
		AC101TB01		•	•									800:1	500	LVDS	231.0	153.5	9.8
10.25	2/3 FHD	AA103AE01				•			•		•		1000:1	1000	LVDS	259.1	106.9	6.2**	
10.4	VGA	AA104VH02		•						•			700:1	900	CMOS	230.0	180.2	10.5	
		AA104VH12		•						•			700:1	1700	CMOS	230.0	180.2	10.5	
		AA104VJ02		•	•						•			800:1	900	LVDS	230.0	180.2	9.5
		AA104VJ02--G1		•	•		•			•	•			800:1	900	LVDS	230.0	180.2	11.8
		AA104VJ12		•							•			800:1	1700	LVDS	230.0	180.2	9.5
		AA104V*01		•	•						•			800:1	1500	LVDS	230.0	180.2	TBD
		AA104V*11		•							•			800:1	1500	LVDS	230.0	180.2	TBD
	SVGA	AA104SJ02		•	•	•						•		1000:1	600	LVDS	230.0	180.2	9.5
		AA104SJ05		•	•	•						•		1000:1	600	LVDS	230.0	180.2	9.5
		AA104SL02		•	•						•			700:1	700	LVDS	230.0	180.2	9.5
		AA104SL02-CE1	PCAP	•	•							•		700:1	630	LVDS	240.6	190.8	14.2
		AA104SL02-CE2	PCAP	•	•		•					•		700:1	630	LVDS	240.6	190.8	14.2
		AA104SL02DDE11	PCAP	•	•									700:1	560	LVDS	240.6	190.8	15.0
		AA104SL12		•							•			700:1	1200	LVDS	230.0	180.2	9.5
		AA104SL12DDE11	PCAP	•							•			700:1	960	LVDS	240.6	190.8	15.0
		AT104SN01		•	•								•	700:1	700	LVDS	230.0	180.2	11.0
		AT104SN11		•									•	700:1	1500	LVDS	230.0	180.2	11.0
	XGA	AA104XF02		•	•									700:1	600	LVDS	230.0	180.2	9.5
		AA104XF02-DE2	PCAP	•	•									700:1	480	LVDS	240.6	190.8	15.0
		AA104XF12		•							•			700:1	1000	LVDS	230.0	180.2	9.5
		AA104XF12-DE2	PCAP	•							•			700:1	800	LVDS	240.6	190.8	15.0
AA104XG02			•	•							•		1000:1	500	LVDS	230.0	180.2	9.5	
AA104XG02-DE1		PCAP	•	•							•		1000:1	400	LVDS	240.6	190.8	14.7	
		AA104XG12		•						•			1000:1	900	LVDS	230.0	180.2	9.5	

\* In development (specification tentative)  
 \*\* Dimensions are without FPC/PCB/Bosses



		Our Solution										Color Code							
												New Generation							
												New							
Your Interest		Touch Panel	Long Life LED Backlight	LED Driver Implemented	High Color Saturation	Anti Reflection Coating	Transflective Technology	Super High/High Brightness	Glass Bonding Technology	Super Wide Viewing Technology	Toughness Technology								
Easy Development		•		•							•								
Sunlight readability/Outdoor use							•	•	•	•									
Convenient backlight for every condition			•	•															
Constant color appearance from all viewing angles					•							•							
Low Power Consumption/Environmental friendly			•				•												
Screen Size	Resolution	Type Name											Contrast Ratio	Brightness cd/m <sup>2</sup>	Interface	Dimensions (mm)			
inch																W	H	D	
10.4	XGA	AA104XG52		•	•							•	1000:1	500	LVDS	180.2	230.0	9.5	
		AA104XL02		•	•					•			120:1	250	LVDS	230.0	180.2	9.5	
		AA104XL12		•						•			120:1	350	LVDS	230.0	180.2	9.5	
		AT104XH01		•	•								700:1	600	LVDS	230.0	180.2	11.0	
		AT104XH11		•									700:1	1300	LVDS	230.0	180.2	11.0	
		AA104XN01		•	•	•				•		•	1000:1	(1300)	LVDS	230.0	180.2	9.5	
		AA104XN11		•	•				•		•	1000:1	(1300)	LVDS	230.0	180.2	9.5		
10.6	WXGA	AA106TA01		•	•							•	1000:1	1000	LVDS	250.0	157.0	8.9	
		AA106TA01-CA1	PCAP	•	•						•	•	1000:1	900	LVDS	260.0	167.0	13.0	
		AA106TA01DDA11	PCAP	•	•							•	1000:1	800	LVDS	260.0	167.0	13.8	
		AA106TA11		•								•	1000:1	1000	LVDS	250.0	157.0	8.9	
		AA106TA11DDA11	PCAP	•								•	1000:1	800	LVDS	260.0	167.0	13.8	
		AA106TA51		•								•	1000:1	1000	LVDS	157.0	250.0	8.9	
12.1	SVGA	AA121ST01		•	•	•						•	1000:1	600	LVDS	260.5	203.0	9.5	
		AA121ST01DDE11	PCAP	•	•	•						•	1000:1	480	LVDS	281.8	220.8	15.1	
		AA121ST03		•	•	•						•	1000:1	600	LVDS	260.5	203.0	9.5	
		AA121SU01		•	•							•	800:1	800	LVDS	260.5	203.0	9.5	
		AA121SU11		•								•	800:1	1500	LVDS	260.5	203.0	9.5	
	XGA	AA121XN01		•	•							•	800:1	700	LVDS	260.5	203.0	9.5	
		AA121XN01DDE11	PCAP	•	•								800:1	560	LVDS	281.8	220.8	15.1	
		AA121XN11		•								•	800:1	1300	LVDS	260.5	203.0	9.5	
		AA121XN11-CE4	PCAP	•								•	800:1	1100	LVDS	270.5	213.0	14.5	
		AA121XN11DDE11	PCAP	•								•	800:1	1040	LVDS	281.8	220.8	15.1	
		AA121XP01		•	•	•						•	1000:1	500	LVDS	260.5	203.0	9.5	
		AA121XP01DDE11	PCAP	•	•	•							1000:1	400	LVDS	281.8	220.8	15.1	
		AA121XP02		•		•							•	1000:1	500	LVDS	260.5	203.0	9.5
		AA121XP13		•								•	1000:1	1000	LVDS	260.5	203.0	9.5	
		AA121XP13DDE11	PCAP	•								•	1000:1	800	LVDS	281.8	220.8	15.1	
		AA121X*01		•	•	•						•	1000:1	1300	LVDS	260.5	203.0	(11.0)	
		AA121X*11		•		•						•	1000:1	1300	LVDS	260.5	203.0	(11.0)	
		WXGA	AA121TJ01		•	•	•						•	1000:1	1500	LVDS	283.0	185.1	9.7
			AA121TJ01DDE11	PCAP	•	•	•						•	1000:1	1200	LVDS	303.0	205.1	14.9
			AA121TJ11		•		•						•	1000:1	1500	LVDS	283.0	185.1	9.7
AA121TJ11DDE11	PCAP		•		•						•	1000:1	1200	LVDS	303.0	205.1	14.9		
12.3	2/3 FHD	AA123AD11		•							•	1000:1	1600	LVDS	314.5	129.5	10.4		
		AA123AF01				•					•	1000:1	1000	LVDS	305.5	127.9	7.4**		
14.1	WXGA	AA141T*01		•	•						•	1000:1	1300	LVDS	326.0	216.5	TBD		
		AA141T*11		•							•	1000:1	1300	LVDS	326.0	216.5	TBD		
		AA141TC01		•							•	700:1	800	LVDS	326.0	216.5	16.0		




\* In development (specification tentative)






\*\* Dimensions are without FPC/PCB/Bosses

# Solution Matrix and Product Overview

Your Interest			Our Solution										Color Code										
			Touch Panel	Long Life LED Backlight	LED Driver Implemented	High Color Saturation	Anti Reflection Coating	Transflective Technology	Super High/High Brightness	Glass Bonding Technology	Super Wide Viewing Technology	Toughness Technology	New Generation	New	Contrast	Brightness	Interface	Dimensions (mm)					
Screen Size	Resolution	Type Name																					
inch																	Ratio	cd/m <sup>2</sup>		W	H	D	
15.0	XGA	AA150XT01		•						•							800:1	800	LVDS	326.0	255.0	16.6	
		AA150XT02DDE11	PCAP	•														800:1	640	LVDS	346.5	275.0	20.6
		AA150XT11		•							•							800:1	1500	LVDS	326.0	255.0	16.6
		AA150XT12DDE11	PCAP	•							•							800:1	1200	LVDS	346.5	275.0	20.6
		AA150XW01		•	•	•							•					1000:1	500	LVDS	326.0	255.0	10.5
		AA150XW01DDE11	PCAP	•	•	•							•					1000:1	400	LVDS	346.5	275.0	15.4
		AA150XW02		•	•								•					1000:1	500	LVDS	326.0	255.0	10.5
		AA150XW14		•								•		•				1000:1	1000	LVDS	326.0	255.0	10.5
		AA150XW14DDE11	PCAP	•								•		•				1000:1	800	LVDS	346.5	275.0	15.4
	AC150XA05		•	•	•								•				2500:1	500	LVDS	326.5	253.5	9.1	
	SXGA+	AA150PD03		•	•								•					1000:1	500	LVDS	326.0	255.0	10.5
		AA150PD13		•							•		•					1000:1	1000	LVDS	326.0	255.0	10.5
		AA150PD14		•		•					•		•					1000:1	800	LVDS	326.0	255.0	10.5
2/3 FHD	AA150AC01				•				•		•					1000:1	1000	LVDS	374.5	154.5	11.6**		
15.6	HD	AC156GA01		•	•												600:1	450	LVDS	363.8	215.9	11.1	
17.5	WXGA	AA175TD01		•						•							700:1	700	LVDS	404.0	258.0	16.2	
		AA175TD01--G1		•			•			•	•						700:1	700	LVDS	404.0	258.0	18.2	
		AA175TE03		•									•					1000:1	450	LVDS	404.0	258.0	16.2
19.0	SXGA	AA190EA01		•						•							800:1	1500	LVDS	404.2	330.0	14.9	
		AA190EB02		•	•													800:1	500	LVDS	404.2	330.0	14.9
		AA190EB02DDE11	PCAP	•	•													800:1	400	LVDS	434.0	359.0	18.9
19.2	1/3 FHD	AA192AA01		•	•												700:1	500	LVDS	496.0	109.2	13.9	
		AA192AA51		•	•													700:1	650	LVDS	109.2	496.0	13.9

# Line-up



Screen Size and Resolution	3.5-inch QVGA	3.5-inch QHD	4.3-inch WQVGA		5.0-inch WVGA
Type Name	AC035QG01	AA035AE01	AC043NA11	AC043NB01	AA050MG03
Active Screen Area Size [mm]	53.6 × 71.5	77.8 × 43.7	95.0 × 53.9	95.0 × 53.9	108.0 × 64.8
Pixel Number	240 × 320	960 × 540	480 × 272	480 × 272	800 × 480
Pixel Pitch [mm]	0.224 × 0.224	0.081 × 0.081	0.198 × 0.198	0.198 × 0.198	0.135 × 0.135
Contrast Ratio	1000:1	800:1	1000:1	130:1	1000:1
Brightness [cd/m <sup>2</sup> ]	520	400	1000	800	900
Viewing Angle (CR>10) [°]	-85 ~85 (H), -85 ~85 (V)	-88 ~88 (H), -88 ~88 (V)	-85 ~85 (H), -85 ~85 (V)	-50 ~35 (H), -50 ~25 (V)	-88 ~88 (H), -88 ~88 (V)
Colors	262k (6 bit/color)	262k (6 bit/color)	16.7M (8 bit/color)	16.7M (8 bit/color)	16.7M (8 bit/color)
Color Saturation vs. NTSC [%]	50	72	50	50	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 50000	Not defined	Typ. 50000	Typ. 50000	Not defined
Interface	CMOS	LVDS	CMOS	CMOS	CMOS
Power Consumption [W]	0.56	1.1	1.71	1.62	1.9
Power Supply [V]	3.0	Analog: 3.3, Digital: 2.5	3.3	3.3	3.3
Module Outline Dimensions WxHxD [mm]	63.5 × 85.0 × 4.5**	90.0 × 57.0 × 4.0**	105.5 × 67.2 × 4.5**	105.5 × 67.2 × 4.5**	118.5 × 84.7 × 3.9**
Module Mass [g]	48.5	43	55	58	80
Operation Temperature Range [°C]	-20 ~70	-20 ~70	-30 ~80	-40 ~85	-30 ~80
Storage Temperature Range [°C]	-30 ~80	-30 ~80	-30 ~80	-40 ~85	-30 ~80
Surface Treatment	AG	Clear	AG	Clear	Clear
Main Features	 Portrait View CMOS-IF	 QHD Resolution	 CMOS-IF	 CMOS-IF	 CMOS-IF






Screen Size and Resolution	5.0-inch WVGA				5.7-inch QVGA
Type Name	AA050MG03-DA1	AA050MG04	AA050MH01	AA050MH01-DA1	AA057QD01
Active Screen Area Size [mm]	108.0 × 64.8	108.0 × 64.8	108.0 × 64.8	108.0 × 64.8	115.2 × 86.4
Pixel Number	800 × 480	800 × 480	800 × 480	800 × 480	320 × 240
Pixel Pitch [mm]	0.135 × 0.135	0.135 × 0.135	0.135 × 0.135	0.135 × 0.135	0.360 × 0.360
Contrast Ratio	1000:1	1000:1	1000:1	1000:1	800:1
Brightness [cd/m <sup>2</sup> ]	700	900	500	400	450
Viewing Angle (CR>10) [°]	-88 ~88 (H), -88 ~88 (V)	-85 ~88 (H), -85 ~85 (V)	-88 ~88 (H), -88 ~88 (V)	-88 ~88 (H), -88 ~88 (V)	-80 ~80 (H), -60 ~80 (V)
Colors	16.7M (8 bit/color)	16.7M (8 bit/color)	16.7M (8 bit/color)	16.7M (8 bit/color)	262k (6 bit/color)
Color Saturation vs. NTSC [%]	50	50	50	50	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Not defined	Not defined	Not defined	Not defined	Typ. 100000
Interface	CMOS	CMOS	CMOS	CMOS	CMOS
Power Consumption [W]	2.15	1.9	1.4	1.67	1.8
Power Supply [V]	3.3	3.3	3.3	3.3	LCD: 3.3, Backlight: 5.0
Module Outline Dimensions WxHxD [mm]	129.1 × 95.3 × 10.0**	118.5 × 84.7 × 3.9**	118.5 × 77.8 × 3.9**	129.1 × 95.3 × 10.0**	144.0 × 104.6 × 8.8
Module Mass [g]	150	80	76	140	165
Operation Temperature Range [°C]	-30 ~70	-30 ~80	-30 ~80	-30 ~70	-30 ~80
Storage Temperature Range [°C]	-30 ~80	-30 ~80	-30 ~80	-30 ~80	-30 ~80
Surface Treatment	Clear	AGAR	Clear	Clear	Clear
Main Features	 PCAP: Tape Bonding CMOS-IF	 AGAR CMOS-IF	 CMOS-IF	 PCAP: Tape Bonding CMOS-IF	 CMOS-IF

\*\* Dimensions are without FPC/PCB/Bosses



## Line-up

Screen Size and Resolution	5.7-inch QVGA				
Type Name	AC057QE02	AA057VF12	AA057VF14	AA057VG12	AC057VK04
Active Screen Area Size [mm]	115.2 × 86.4	115.2 × 86.4	115.2 × 86.4	115.2 × 86.4	115.2 × 86.4
Pixel Number	320 × 240	640 × 480	640 × 480	640 × 480	640 × 480
Pixel Pitch [mm]	0.360 × 0.360	0.180 × 0.180	0.180 × 0.180	0.180 × 0.180	0.180 × 0.180
Contrast Ratio	1000:1	600:1	600:1	185:1	600:1
Brightness [cd/m <sup>2</sup> ]	600	1100	1250	500	520
Viewing Angle (CR>10) [°]	-80~80 (H), -80~60 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -65~50 (V)	-80~80 (H), -60~80 (V)
Colors	262k (6bit/color)	262k (6bit/color)	262k (6bit/color)	262k (6bit/color)	262k (6bit/color)
Color Saturation vs. NTSC [%]	50	50	50	40	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 50000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 50000
Interface	CMOS	CMOS	CMOS	CMOS	CMOS
Power Consumption [W]	1.64	4.4	5.0	4.4	1.8
Power Supply [V]	3.3	LCD: 3.3, Backlight: 5.0	LCD: 3.3, Backlight: 5.0	LCD: 3.3, Backlight: 5.0	3.3
Module Outline Dimensions WxHxD [mm]	127.0 × 100.0 × 7.3	135.0 × 104.6 × 8.85	135.0 × 104.6 × 8.85	135.0 × 104.6 × 8.85	127.0 × 100.0 × 7.3
Module Mass [g]	90	165	165	165	90
Operation Temperature Range [°C]	-20~70	-20~70	-30~80	-20~70	-20~70
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	AG	Clear	Clear	AR	AG
Main Features					
	Narrow Bezel Design CMOS-IF	CMOS-IF	CMOS-IF	CMOS-IF	Narrow Bezel Design CMOS-IF

Screen Size and Resolution	6.5-inch VGA				
Type Name	AA065VD11	AA065VD13	AA065VE11	AA065VE11--G1	AA065VE11ADA11
Active Screen Area Size [mm]	132.5 × 99.4	132.5 × 99.4	132.5 × 99.4	132.5 × 99.4	132.5 × 99.4
Pixel Number	640 × 480	640 × 480	640 × 480	640 × 480	640 × 480
Pixel Pitch [mm]	0.207 × 0.207	0.207 × 0.207	0.207 × 0.207	0.207 × 0.207	0.207 × 0.207
Contrast Ratio	600:1	600:1	600:1	600:1	600:1
Brightness [cd/m <sup>2</sup> ]	1300	1300	1300	1300	1000
Viewing Angle (CR>10) [°]	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)
Colors	262k (6bit/color)	262k (6bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	40	40	40	40	40
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	CMOS	CMOS	LVDS	LVDS	LVDS
Power Consumption [W]	3.8	3.8	3.9	3.9	4.2
Power Supply [V]	3.3	3.3	3.3	3.3	3.3
Module Outline Dimensions WxHxD [mm]	154.0 × 121.0 × 11.0	154.0 × 121.0 × 11.0	154.0 × 121.0 × 11.0	170.2 × 132.6 × 12.4	170.2 × 132.6 × 14.5
Module Mass [g]	185	185	185	270	300
Operation Temperature Range [°C]	-30~80	-30~80	-30~80	-30~70	-30~70
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	AG	AR	AG	Clear	Clear
Main Features					
	CMOS-IF	CMOS-IF		Glass Bonding	PCAP: Tape Bonding

Screen Size and Resolution	6.5-inch VGA		7.0-inch WVGA		
Type Name	AA065VE13	AA070MC01	AA070MC01ADA11	AA070MC11	AA070MC11ADA11
Active Screen Area Size [mm]	132.5 × 99.4	152.4 × 91.4	152.4 × 91.4	152.4 × 91.4	152.4 × 91.4
Pixel Number	640 × 480	800 × 480	800 × 480	800 × 480	800 × 480
Pixel Pitch [mm]	0.207 × 0.207	0.191 × 0.191	0.191 × 0.191	0.191 × 0.191	0.191 × 0.191
Contrast Ratio	600:1	1000:1	1000:1	1000:1	1000:1
Brightness [cd/m <sup>2</sup> ]	1300	1000	800	1300	1040
Viewing Angle (CR>10) [°]	-80~80 (H), -60~80 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	40	50	50	50	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	3.9	5.1	5.4	6.6	6.9
Power Supply [V]	3.3	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	3.3	3.3
Module Outline Dimensions WxHxD [mm]	154.0 × 121.0 × 11.0	169.8 × 109.7 × 8.9	189.8 × 129.7 × 13.8	169.8 × 109.7 × 8.9	189.8 × 129.7 × 13.8
Module Mass [g]	185	200	350	200	350
Operation Temperature Range [°C]	-30~80	-30~80	-30~70	-30~80	-30~70
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	AR	Clear	Clear	Clear	Clear
Main Features					
			PCAP: Tape Bonding		PCAP: Tape Bonding

Screen Size and Resolution	7.0-inch WVGA				
Type Name	AN070MC11ADA11	AA070MC12	AA070MC52	AA070ME01	AA070ME01-CA1
Active Screen Area Size [mm]	152.4 × 91.4	152.4 × 91.4	152.4 × 91.4	152.4 × 91.4	152.4 × 91.4
Pixel Number	800 × 480	800 × 480	800 × 480	800 × 480	800 × 480
Pixel Pitch [mm]	0.191 × 0.191	0.191 × 0.191	0.191 × 0.191	0.191 × 0.191	0.191 × 0.191
Contrast Ratio	1000:1	1000:1	1000:1	600:1	600:1
Brightness [cd/m <sup>2</sup> ]	1040	1200	1200	1000	900
Viewing Angle (CR>10) [°]	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-80~80 (H), -80~60 (V)	-80~80 (H), -80~60 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	50	50	50	50	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	6.9	6.4	6.4	4.5	4.8
Power Supply [V]	3.3	3.3	3.3	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12
Module Outline Dimensions WxHxD [mm]	189.8 × 129.7 × 13.8	169.8 × 109.7 × 8.9	109.7 × 169.8 × 8.9	169.8 × 109.7 × 8.9	189.8 × 129.7 × 13.0
Module Mass [g]	350	200	200	200	370
Operation Temperature Range [°C]	-30~70	-30~80	-30~80	-30~80	-30~70
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	Clear	Clear	Clear	Clear	Clear
Main Features					
	PCAP: Tape Bonding	For Medical	For Medical Portrait view		PCAP: Glass Bonding

# Line-up

Screen Size and Resolution	7.0-inch WVGA				
Type Name	AA070ME01-CJ1	AA070ME01ADA11	AA070ME11	AA070ME11-CJ1	AA070ME11ADA11
Active Screen Area Size [mm]	152.4 × 91.4	152.4 × 91.4	152.4 × 91.4	152.4 × 91.4	152.4 × 91.4
Pixel Number	800 × 480	800 × 480	800 × 480	800 × 480	800 × 480
Pixel Pitch [mm]	0.191 × 0.191	0.191 × 0.191	0.191 × 0.191	0.191 × 0.191	0.191 × 0.191
Contrast Ratio	600:1	600:1	600:1	600:1	600:1
Brightness [cd/m <sup>2</sup> ]	900	800	1500	1350	1200
Viewing Angle (CR>10) [°]	-80~80 (H), -80~60 (V)	-80~80 (H), -80~60 (V)	-80~80 (H), -80~60 (V)	-80~80 (H), -80~60 (V)	-80~80 (H), -80~60 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	50	50	50	50	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	4.8	4.7	5.6	5.9	5.9
Power Supply [V]	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	3.3	3.3	3.3
Module Outline Dimensions WxHxD [mm]	189.8 × 129.7 × 14.7	189.8 × 129.7 × 13.8	169.8 × 109.7 × 8.9	189.8 × 129.7 × 14.7	189.8 × 129.7 × 13.8
Module Mass [g]	460	350	200	460	350
Operation Temperature Range [°C]	-30~70	-30~70	-30~80	-30~70	-30~70
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	AG	Clear	AG	AG	Clear
Main Features					
	PCAP: Glass Bonding CG: 2.8mmt, AG	PCAP: Tape Bonding		PCAP: Glass Bonding CG: 2.8mmt, AG	PCAP: Tape Bonding






Screen Size and Resolution	7.0-inch WVGA				
Type Name	AT070MJ01	AT070MJ11	AT070MP01	AT070MP11	AC070MR11
Active Screen Area Size [mm]	152.4 × 91.4	152.4 × 91.4	152.4 × 91.4	152.4 × 91.4	152.4 × 91.4
Pixel Number	800 × 480	800 × 480	800 × 480	800 × 480	800 × 480
Pixel Pitch [mm]	0.191 × 0.191	0.191 × 0.191	0.191 × 0.191	0.191 × 0.191	0.191 × 0.191
Contrast Ratio	800:1	800:1	1000:1	1000:1	1000:1
Brightness [cd/m <sup>2</sup> ]	1000	1500	1100	1400	1000
Viewing Angle (CR>10) [°]	-80~80 (H), -80~60 (V)	-80~80 (H), -80~60 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-85~85 (H), -85~85 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	50	50	50	50	70
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 50000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	4.47	5.6	5.7	6.0	TBD
Power Supply [V]	LCD: 3.3, Backlight: 12	3.3	LCD: 3.3, Backlight: 12	3.3	3.3
Module Outline Dimensions WxHxD [mm]	169.8 × 109.7 × 8.9	169.8 × 109.7 × 8.9	169.8 × 109.7 × 8.9	169.8 × 109.7 × 8.9	169.8 × 109.7 × 8.9
Module Mass [g]	200	200	200	200	(185)
Operation Temperature Range [°C]	-40~85	-40~85	-40~85	-40~85	-40~85
Storage Temperature Range [°C]	-40~85	-40~85	-40~85	-40~85	-40~90
Surface Treatment	AG	AG	AG	AG	AG
Main Features					
	Shock and Vibration Resistance Extended Temperature Range	Shock and Vibration Resistance Extended Temperature Range	Shock and Vibration Resistance Extended Temperature Range	Shock and Vibration Resistance Extended Temperature Range	






Screen Size and Resolution	7.0-inch WXGA				7.8-inch HSVGA
Type Name	AA070TA01	AA070TA01ADA11	AA070TA11	AA070TA11ADA11	AA078AA01
Active Screen Area Size [mm]	151.7 × 91.0	151.7 × 91.0	151.7 × 91.0	151.7 × 91.0	184.8 × 69.3
Pixel Number	1280 × 768	1280 × 768	1280 × 768	1280 × 768	800 × 300
Pixel Pitch [mm]	0.119 × 0.119	0.119 × 0.119	0.119 × 0.119	0.119 × 0.119	0.231 × 0.231
Contrast Ratio	1000:1	1000:1	1000:1	1000:1	1000:1
Brightness [cd/m <sup>2</sup> ]	1000	800	1000	800	500
Viewing Angle (CR>10) [°]	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	50	50	50	50	72
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	(5.4)	(5.7)	(4.6)	(4.9)	5.3
Power Supply [V]	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	3.3	3.3	LCD: 12, Backlight: 12
Module Outline Dimensions WxHxD [mm]	169.8 × 109.7 × 8.9	189.8 × 129.7 × 13.7	169.8 × 109.7 × 8.9	189.8 × 129.7 × 13.7	207.0 × 86.0 × 10.0
Module Mass [g]	(200)	(350)	(200)	(350)	200
Operation Temperature Range [°C]	-40~80	-30~70	-40~80	-30~70	-30~80
Storage Temperature Range [°C]	-40~80	(-40~80)	-40~80	(-40~80)	-30~80
Surface Treatment	AG	Clear	AG	Clear	AG
Main Features					
		PCAP: Tape Bonding		PCAP: Tape Bonding	Ultra wide

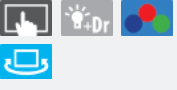




Screen Size and Resolution	7.8-inch HSVGA	8.0-inch WVGA			
Type Name	AA078AA51	AA080MB01	AA080MB01ADA11	AA080MB11	AA080MB11ADA11
Active Screen Area Size [mm]	69.3 × 184.8	174.0 × 104.4	174.0 × 104.4	174.0 × 104.4	174.0 × 104.4
Pixel Number	800 × 300	800 × 480	800 × 480	800 × 480	800 × 480
Pixel Pitch [mm]	0.231 × 0.231	0.218 × 0.218	0.218 × 0.218	0.218 × 0.218	0.218 × 0.218
Contrast Ratio	1000:1	700:1	700:1	700:1	700:1
Brightness [cd/m <sup>2</sup> ]	500	1200	960	1500	1200
Viewing Angle (CR>10) [°]	-88~88 (H), -88~88 (V)	-80~80 (H), -80~80 (V)	-80~80 (H), -80~80 (V)	-80~80 (H), -80~80 (V)	-80~80 (H), -80~80 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	72	50	50	50	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	5.3	5.1	5.3	5.7	5.9
Power Supply [V]	LCD: 12, Backlight: 12	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	3.3	3.3
Module Outline Dimensions WxHxD [mm]	86.0 × 207.0 × 10.0	192.0 × 122.0 × 8.9	212.0 × 142.0 × 14.1	192.0 × 122.0 × 8.9	212.0 × 142.0 × 14.1
Module Mass [g]	200	250	410	250	410
Operation Temperature Range [°C]	-30~80	-30~80	-30~70	-30~80	-30~70
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	AG	AG	Clear	AG	Clear
Main Features					
	Ultra wide Portrait View		PCAP: Tape Bonding		PCAP: Tape Bonding








## Line-up











Screen Size and Resolution	8.0-inch WVGA		8.4-inch VGA		
Type Name	AT080MD01	AT080MD11	AA084VG01	AA084VJ01	AA084VJ11
Active Screen Area Size [mm]	174.0 × 104.4	174.0 × 104.4	170.9 × 128.2	170.9 × 128.2	170.9 × 128.2
Pixel Number	800 × 480	800 × 480	640 × 480	640 × 480	640 × 480
Pixel Pitch [mm]	0.218 × 0.218	0.218 × 0.218	0.267 × 0.267	0.267 × 0.267	0.267 × 0.267
Contrast Ratio	1000:1	1000:1	600:1	800:1	800:1
Brightness [cd/m <sup>2</sup> ]	1000	1000	800	800	1500
Viewing Angle (CR>10) [°]	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)
Colors	16.7M (8bit/color)	16.7M (8bit/color)	262k (6bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	50	50	40	40	40
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	CMOS	LVDS	LVDS
Power Consumption [W]	(4.7)	(4.1)	4.6	3.9	6.4
Power Supply [V]	LCD: 3.3, Backlight: 12	3.3	3.3	LCD: 3.3, Backlight: 12	3.3
Module Outline Dimensions WxHxD [mm]	192.0 × 122.0 × 11.2	192.0 × 122.0 × 11.2	199.5 × 149.0 × 11.5	199.5 × 149.0 × 9.7	199.5 × 149.0 × 9.7
Module Mass [g]	(320)	(320)	365	340	340
Operation Temperature Range [°C]	-40~85	-40~85	-30~80	-30~80	-30~80
Storage Temperature Range [°C]	-40~85	-40~85	-30~80	-30~80	-30~80
Surface Treatment	AG	AG	AG	AG	AG
Main Features	 Shock and Vibration Resistance Extended Temperature Range	 Shock and Vibration Resistance Extended Temperature Range	 CMOS-IF		





Screen Size and Resolution	8.4-inch VGA				8.4-inch SVGA
Type Name	AA084VM01	AA084VM11	AA084V*01	AA084V*11	AA084SC01
Active Screen Area Size [mm]	170.9 × 128.2	170.9 × 128.2	170.9 × 128.2	170.9 × 128.2	170.4 × 127.8
Pixel Number	640 × 480	640 × 480	640 × 480	640 × 480	800 × 600
Pixel Pitch [mm]	0.267 × 0.267	0.267 × 0.267	0.267 × 0.267	0.267 × 0.267	0.213 × 0.213
Contrast Ratio	130:1	130:1	1000:1	1000:1	1000:1
Brightness [cd/m <sup>2</sup> ]	400	750	800	1500	600
Viewing Angle (CR>10) [°]	-35~50 (H), -25~50 (V)	-35~50 (H), -25~50 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	40	40	50	50	72
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	3.9	6.2	TBD	TBD	5.9
Power Supply [V]	LCD: 3.3, Backlight: 12	3.3	LCD: 3.3, Backlight: 12	3.3	LCD: 3.3, Backlight: 12
Module Outline Dimensions WxHxD [mm]	199.5 × 149.0 × 9.7	199.5 × 149.0 × 9.7	199.5 × 149.0 × 9.7	199.5 × 149.0 × 9.7	199.5 × 149.0 × 9.7
Module Mass [g]	340	340	TBD	TBD	330
Operation Temperature Range [°C]	-30~80	-30~80	-40~80	-40~80	-30~80
Storage Temperature Range [°C]	-30~80	-30~80	-40~80	-40~80	-30~80
Surface Treatment	Clear	Clear	Clear	Clear	AG
Main Features					






Screen Size and Resolution	8.4-inch SVGA				
Type Name	AA084SC01ADA11	AA084SC03	AA084SD01	AA084SD01ADA11	AA084SD11
Active Screen Area Size [mm]	170.4 × 127.8	170.4 × 127.8	170.4 × 127.8	170.4 × 127.8	170.4 × 127.8
Pixel Number	800 × 600	800 × 600	800 × 600	800 × 600	800 × 600
Pixel Pitch [mm]	0.213 × 0.213	0.213 × 0.213	0.213 × 0.213	0.213 × 0.213	0.213 × 0.213
Contrast Ratio	1000:1	1000:1	600:1	600:1	600:1
Brightness [cd/m <sup>2</sup> ]	480	600	600	480	1200
Viewing Angle (CR>10) [°]	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	72	72	40	40	40
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	6.1	5.9	4.1	4.4	6.6
Power Supply [V]	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	3.3
Module Outline Dimensions WxHxD [mm]	209.5 × 159.0 × 14.4	199.5 × 149.0 × 9.7	199.5 × 149.0 × 9.7	209.5 × 159.0 × 14.4	199.5 × 149.0 × 9.7
Module Mass [g]	490	330	340	490	340
Operation Temperature Range [°C]	-30~70	-30~80	-30~80	-30~70	-30~80
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	Clear	AG	AG	Clear	AG
Main Features					
	PCAP: Tape Bonding	For Medical		PCAP: Tape Bonding	






Screen Size and Resolution	8.4-inch SVGA		8.4-inch XGA		
Type Name	AA084SD11-CA3	AA084SD11ADA11	AA084XD01	AA084XD01-CA1	AA084XD01ADA11
Active Screen Area Size [mm]	170.4 × 127.8	170.4 × 127.8	170.5 × 127.9	170.5 × 127.9	170.5 × 127.9
Pixel Number	800 × 600	800 × 600	1024 × 768	1024 × 768	1024 × 768
Pixel Pitch [mm]	0.213 × 0.213	0.213 × 0.213	0.167 × 0.167	0.167 × 0.167	0.167 × 0.167
Contrast Ratio	600:1	600:1	1000:1	1000:1	1000:1
Brightness [cd/m <sup>2</sup> ]	1000	960	700	630	560
Viewing Angle (CR>10) [°]	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	40	40	50	50	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	6.9	6.8	6.1	6.3	6.3
Power Supply [V]	3.3	3.3	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12
Module Outline Dimensions WxHxD [mm]	209.5 × 159.0 × 13.6	209.5 × 159.0 × 14.4	199.5 × 149.0 × 9.7	199.5 × 149.0 × 13.6	209.5 × 159.0 × 14.4
Module Mass [g]	530	490	340	510	490
Operation Temperature Range [°C]	-30~70	-30~70	-40~80	-30~70	-30~70
Storage Temperature Range [°C]	-30~80	-30~80	-40~80	-30~80	-30~80
Surface Treatment	AG	Clear	AG	Clear	Clear
Main Features					
	PCAP: Glass Bonding	PCAP: Tape Bonding		PCAP: Glass Bonding	PCAP: Tape Bonding

## Line-up

Screen Size and Resolution	8.4-inch XGA				
Type Name	AA084XD11	AA084XD11ADA11	AA084XD51	AA084XE01	AA084XE01-CA3
Active Screen Area Size [mm]	170.5 × 127.9	170.5 × 127.9	127.9 × 170.5	170.5 × 127.9	170.5 × 127.9
Pixel Number	1024 × 768	1024 × 768	768 × 1024	1024 × 768	1024 × 768
Pixel Pitch [mm]	0.167 × 0.167	0.167 × 0.167	0.167 × 0.167	0.167 × 0.167	0.167 × 0.167
Contrast Ratio	1000:1	1000:1	1000:1	800:1	600:1
Brightness [cd/m <sup>2</sup> ]	1000	800	1000	500	450
Viewing Angle (CR>10) [°]	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	50	50	50	40	40
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	7.2	7.4	7.2	4.2	4.4
Power Supply [V]	3.3	3.3	3.3	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12
Module Outline Dimensions WxHxD [mm]	199.5 × 149.0 × 9.7	209.5 × 159.0 × 14.4	149.0 × 199.5 × 9.7	199.5 × 149.0 × 9.7	199.5 × 149.0 × 13.6
Module Mass [g]	340	490	340	340	510
Operation Temperature Range [°C]	-40~80	-30~70	-30~80	-30~80	-30~70
Storage Temperature Range [°C]	-40~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	AG	Clear	AG	AG	Clear
Main Features	 	  	 		 
		PCAP: Tape Bonding	Portrait View		PCAP: Glass Bonding

Screen Size and Resolution	8.4-inch XGA			9.0-inch WVGA	
Type Name	AA084XE01ADA11	AA084XE11	AA084XE11ADA11	AA090ME01	AA090MH01
Active Screen Area Size [mm]	170.5 × 127.9	170.5 × 127.9	170.5 × 127.9	196.8 × 118.1	196.8 × 118.1
Pixel Number	1024 × 768	1024 × 768	1024 × 768	800 × 480	800 × 480
Pixel Pitch [mm]	0.167 × 0.167	0.167 × 0.167	0.167 × 0.167	0.246 × 0.246	0.246 × 0.246
Contrast Ratio	800:1	800:1	800:1	900:1	800:1
Brightness [cd/m <sup>2</sup> ]	400	1000	800	400	800
Viewing Angle (CR>10) [°]	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-88~88 (H), -88~88 (V)	-80~80 (H), -60~80 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	40	40	40	72	40
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	4.5	6.7	6.9	5.1	4.5
Power Supply [V]	LCD: 3.3, Backlight: 12	3.3	3.3	3.3	LCD: 3.3, Backlight: 12
Module Outline Dimensions WxHxD [mm]	209.5 × 159.0 × 14.4	199.5 × 149.0 × 9.7	209.5 × 159.0 × 14.4	219.0 × 136.2 × 9.5	219.0 × 136.2 × 9.5
Module Mass [g]	490	340	490	320	350
Operation Temperature Range [°C]	-30~70	-30~80	-30~70	-30~80	-30~80
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	Clear	AG	Clear	AG	AG
Main Features	 		 	 	 
	PCAP: Tape Bonding		PCAP: Glass Bonding		

Screen Size and Resolution	9.0-inch WVGA		9.0-inch WXGA		
Type Name	AA090MH11	AA090TB01	AA090TB01--G1	AA090TB01-CE1	AA090TB01-DA2
Active Screen Area Size [mm]	196.8 × 118.1	195.8 × 117.5	195.8 × 117.5	195.8 × 117.5	195.8 × 117.5
Pixel Number	800 × 480	1280 × 768	1280 × 768	1280 × 768	1280 × 768
Pixel Pitch [mm]	0.246 × 0.246	0.153 × 0.153	0.153 × 0.153	0.153 × 0.153	0.153 × 0.153
Contrast Ratio	800:1	1000:1	1000:1	1000:1	1000:1
Brightness [cd/m <sup>2</sup> ]	1500	800	800	720	640
Viewing Angle (CR>10) [°]	-80~80 (H), -60~80 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-85~85 (H), -85~85 (V)	-88~88 (H), -88~88 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	40	50	50	50	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	6.7	7.9	7.9	8.2	8.2
Power Supply [V]	3.3	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12
Module Outline Dimensions WxHxD [mm]	219.0 × 136.2 × 9.5	219.0 × 136.2 × 9.5	229.0 × 146.2 × 11.1	229.0 × 146.2 × 14.2	229.0 × 146.2 × 14.3
Module Mass [g]	350	330	460	600	500
Operation Temperature Range [°C]	-30~80	-30~80	-30~80	-30~70	-30~70
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	AG	AG	Clear	Clear	Clear
Main Features					
			Glass Bonding	PCAP: Glass Bonding	PCAP: Tape Bonding

Screen Size and Resolution	10.1-inch WXGA				
Type Name	AA101TA02	AA101TA02ADA11	AA101TA02ADA21	AA101TA12	AA101TA12ADA11
Active Screen Area Size [mm]	217.0 × 135.6	217.0 × 135.6	217.0 × 135.6	217.0 × 135.6	217.0 × 135.6
Pixel Number	1280 × 800	1280 × 800	1280 × 800	1280 × 800	1280 × 800
Pixel Pitch [mm]	0.170 × 0.170	0.170 × 0.170	0.170 × 0.170	0.170 × 0.170	0.170 × 0.170
Contrast Ratio	1000:1	1000:1	1000:1	1000:1	1000:1
Brightness [cd/m <sup>2</sup> ]	500	400	400	1000	800
Viewing Angle (CR>10) [°]	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	50	50	50	50	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	4.9	5.1	5.1	8.7	8.9
Power Supply [V]	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	3.3	3.3
Module Outline Dimensions WxHxD [mm]	231.0 × 153.5 × 8.5	239.0 × 158.5 × 13.7	239.0 × 158.5 × 13.7	231.0 × 153.5 × 8.5	239.0 × 158.5 × 13.7
Module Mass [g]	310	500	500	310	500
Operation Temperature Range [°C]	-40~80	-30~70	-30~70	-40~80	-30~70
Storage Temperature Range [°C]	-40~80	-30~80	-30~80	-40~80	-30~80
Surface Treatment	AG	Clear	AG	AG	Clear
Main Features					
	Extended Temperature Range	PCAP: Tape Bonding	PCAP: Tape Bonding	Extended Temperature Range	PCAP: Tape Bonding








# Line-up






Screen Size and Resolution	10.1-inch WXGA		10.25-inch 2/3 FHD	10.4-inch VGA	
Type Name	AA101TA12ADA21	AC101TB01	AA103AE01	AA104VH02	AA104VH12
Active Screen Area Size [mm]	217.0 × 135.6	217.0 × 135.6	243.6 × 91.4	211.2 × 158.4	211.2 × 158.4
Pixel Number	1280 × 800	1280 × 800	1920 × 720	640 × 480	640 × 480
Pixel Pitch [mm]	0.170 × 0.170	0.170 × 0.170	0.127 × 0.127	0.330 × 0.330	0.330 × 0.330
Contrast Ratio	1000:1	800:1	1000:1	700:1	700:1
Brightness [cd/m <sup>2</sup> ]	800	500	1000	900	1500
Viewing Angle (CR>10) [°]	-88~88 (H), -88~88 (V)	-85~85 (H), -85~85 (V)	-88~88 (H), -88~88 (V)	-70~70 (H), -65~65 (V)	-70~70 (H), -65~65 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	16.7M (8bit/color)	262k (6bit/color)	262k (6bit/color)
Color Saturation vs. NTSC [%]	50	50	72	40	40
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 30000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	CMOS	CMOS
Power Consumption [W]	8.9	5.9	8.1	5.1	9.5
Power Supply [V]	3.3	LCD: 3.3, Backlight: 12	3.3	3.3	3.3
Module Outline Dimensions WxHxD [mm]	239.0 × 158.5 × 13.7	231.0 × 153.5 × 9.8	259.1 × 106.9 × 6.2**	230.0 × 180.2 × 10.5	230.0 × 180.2 × 10.5
Module Mass [g]	500	345	310	520	520
Operation Temperature Range [°C]	-30~70	-20~70	-40~85	-20~70	-20~70
Storage Temperature Range [°C]	-30~80	-20~70	-40~90	-20~80	-20~80
Surface Treatment	AG	AG	AG	AG	AG
Main Features					
	PCAP: Tape Bonding		Automotive Grade Safety Function	Narrow Bezel Design CMOS-IF	Narrow Bezel Design CMOS-IF

Screen Size and Resolution	10.4-inch VGA				
Type Name	AA104VJ02	AA104VJ02--G1	AA104VJ12	AA104V*01	AA104V*11
Active Screen Area Size [mm]	211.2 × 158.4	211.2 × 158.4	211.2 × 158.4	211.2 × 158.4	211.2 × 158.4
Pixel Number	640 × 480	640 × 480	640 × 480	640 × 480	640 × 480
Pixel Pitch [mm]	0.330 × 0.330	0.330 × 0.330	0.330 × 0.330	0.330 × 0.330	0.330 × 0.330
Contrast Ratio	800:1	800:1	800:1	800:1	800:1
Brightness [cd/m <sup>2</sup> ]	900	900	1700	1500	1500
Viewing Angle (CR>10) [°]	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	45	45	45	50	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	4.6	4.6	7.6	TBD	TBD
Power Supply [V]	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	3.3	LCD: 3.3, Backlight: 12	3.3
Module Outline Dimensions WxHxD [mm]	230.0 × 180.2 × 9.5	230.0 × 180.2 × 11.8	230.0 × 180.2 × 9.5	230.0 × 180.2 × TBD	230.0 × 180.2 × TBD
Module Mass [g]	470	700	470	TBD	TBD
Operation Temperature Range [°C]	-30~80	-20~70	-20~80	-40~80	-40~80
Storage Temperature Range [°C]	-30~80	-20~80	-20~80	-40~80	-40~80
Surface Treatment	AG	AR	AG	AG	AG
Main Features					
	Narrow Bezel Design	Glass Bonding	Narrow Bezel Design	Narrow Bezel Design	Narrow Bezel Design








\* In development (specification tentative)





\*\* Dimensions are without FPC/PCB/Bosses






Screen Size and Resolution	10.4-inch SVGA				
Type Name	AA104SJ02	AA104SJ05	AA104SL02	AA104SL02-CE1	AA104SL02-CE2
Active Screen Area Size [mm]	211.2 × 158.4	211.2 × 158.4	211.2 × 158.4	211.2 × 158.4	211.2 × 158.4
Pixel Number	800 × 600	800 × 600	800 × 600	800 × 600	800 × 600
Pixel Pitch [mm]	0.264 × 0.264	0.264 × 0.264	0.264 × 0.264	0.264 × 0.264	0.264 × 0.264
Contrast Ratio	1000:1	1000:1	700:1	700:1	700:1
Brightness [cd/m <sup>2</sup> ]	600	600	700	630	630
Viewing Angle (CR>10) [°]	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	72	72	40	40	40
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	7.6	7.6	5.2	5.5	5.5
Power Supply [V]	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12
Module Outline Dimensions WxHxD [mm]	230.0 × 180.2 × 9.5	230.0 × 180.2 × 9.5	230 × 180.2 × 9.5	240.6 × 190.8 × 14.2	240.6 × 190.8 × 14.2
Module Mass [g]	450	450	470	820	820
Operation Temperature Range [°C]	-30~80	-30~80	-30~80	-30~70	-30~70
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	AG	AG	AG	Clear	AR
Main Features	 Narrow Bezel Design	 Narrow Bezel Design For Medical	 Narrow Bezel Design	 PCAP: Glass Bonding	 PCAP: Glass Bonding

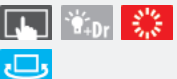




Screen Size and Resolution	10.4-inch SVGA				
Type Name	AA104SL02DDE11	AA104SL12	AA104SL12DDE11	AT104SN01	AT104SN11
Active Screen Area Size [mm]	211.2 × 158.4	211.2 × 158.4	211.2 × 158.4	211.2 × 158.4	211.2 × 158.4
Pixel Number	800 × 600	800 × 600	800 × 600	800 × 600	800 × 600
Pixel Pitch [mm]	0.264 × 0.264	0.264 × 0.264	0.264 × 0.264	0.264 × 0.264	0.264 × 0.264
Contrast Ratio	700:1	700:1	700:1	700:1	700:1
Brightness [cd/m <sup>2</sup> ]	560	1200	960	700	1500
Viewing Angle (CR>10) [°]	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -80~80 (V)	-80~80 (H), -80~80 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	40	40	40	50	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	5.5	7.2	7.5	9.0	10.4
Power Supply [V]	LCD: 3.3, Backlight: 12	3.3	3.3	LCD: 3.3, Backlight: 12	3.3
Module Outline Dimensions WxHxD [mm]	240.6 × 190.8 × 15.0	230.0 × 180.2 × 9.5	240.6 × 190.8 × 15.0	230.0 × 180.2 × 11.0	230.0 × 180.2 × 11.0
Module Mass [g]	780	470	780	610	610
Operation Temperature Range [°C]	-30~70	-30~80	-30~70	-40~85	-40~85
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-40~85	-40~85
Surface Treatment	Clear	AG	Clear	AG	AG
Main Features	 PCAP: Tape Bonding	 Narrow Bezel Design	 PCAP: Tape Bonding	 Narrow Bezel Design Shock and Vibration Resistance Extended Temperature Range	 Narrow Bezel Design Shock and Vibration Resistance Extended Temperature Range

## Line-up

Screen Size and Resolution	10.4-inch XGA				
Type Name	AA104XF02	AA104XF02-DE2	AA104XF12	AA104XF12-DE2	AA104XG02
Active Screen Area Size [mm]	210.4 × 157.8	210.4 × 157.8	210.4 × 157.8	210.4 × 157.8	210.4 × 157.8
Pixel Number	1024 × 768	1024 × 768	1024 × 768	1024 × 768	1024 × 768
Pixel Pitch [mm]	0.206 × 0.206	0.206 × 0.206	0.206 × 0.206	0.206 × 0.206	0.206 × 0.206
Contrast Ratio	700:1	700:1	700:1	700:1	1000:1
Brightness [cd/m <sup>2</sup> ]	600	480	1000	800	500
Viewing Angle (CR>10) [°]	-80~80 (H), -80~80 (V)	-80~80 (H), -80~80 (V)	-80~80 (H), -80~80 (V)	-80~80 (H), -80~80 (V)	-88~88 (H), -88~88 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	40	40	40	40	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	5.3	5.5	6.8	7.1	5.5
Power Supply [V]	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	3.3	3.3	LCD: 3.3, Backlight: 12
Module Outline Dimensions WxHxD [mm]	230.0 × 180.2 × 9.5	240.6 × 190.8 × 15.0	230.0 × 180.2 × 9.5	240.6 × 190.8 × 15.0	230.0 × 180.2 × 9.5
Module Mass [g]	470	780	470	780	450
Operation Temperature Range [°C]	-30~80	-30~70	-30~80	-30~70	-30~80
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	AG	Clear	AG	Clear	AG
Main Features	 +Dr	 +Dr		 	 +Dr 
	Narrow Bezel Design	PCAP: Tape Bonding	Narrow Bezel Design	PCAP: Tape Bonding	Narrow Bezel Design






Screen Size and Resolution	10.4-inch XGA				
Type Name	AA104XG02-DE1	AA104XG12	AA104XG52	AA104XL02	AA104XL12
Active Screen Area Size [mm]	210.4 × 157.8	210.4 × 157.8	210.4 × 157.8	210.4 × 157.8	210.4 × 157.8
Pixel Number	1024 × 768	1024 × 768	768 × 1024	1024 × 768	1024 × 768
Pixel Pitch [mm]	0.206 × 0.206	0.206 × 0.206	0.206 × 0.206	0.206 × 0.206	0.206 × 0.206
Contrast Ratio	1000:1	1000:1	1000:1	120:1	120:1
Brightness [cd/m <sup>2</sup> ]	400	900	500	250	350
Viewing Angle (CR>10) [°]	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-50~35 (H), -50~25 (V)	-50~35 (H), -50~25 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	50	50	50	50	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	5.8	8.4	5.5	6.8	8.1
Power Supply [V]	LCD: 3.3, Backlight: 12	3.3	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	3.3
Module Outline Dimensions WxHxD [mm]	240.6 × 190.8 × 15.0	230.0 × 180.2 × 9.5	180.2 × 230.0 × 9.5	230.0 × 180.2 × 9.5	230.0 × 180.2 × 9.5
Module Mass [g]	760	450	450	470	470
Operation Temperature Range [°C]	-30~70	-30~80	-30~80	-30~80	-30~80
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	Clear	AG	AG	Clear	Clear
Main Features	 +Dr 	 	 +Dr 	 +Dr 	
	Narrow Bezel Design PCAP: Tape Bonding	Narrow Bezel Design	Narrow Bezel Design Portrait View		






Screen Size and Resolution	10.4-inch XGA				10.6-inch WXGA
Type Name	AT104XH01	AT104XH11	AA104XN01	AA104XN11	AA106TA01
Active Screen Area Size [mm]	210.4 × 157.8	210.4 × 157.8	211.2 × 158.4	211.2 × 158.4	231.4 × 138.8
Pixel Number	1024 × 768	1024 × 768	1024 × 768	1024 × 768	1280 × 768
Pixel Pitch [mm]	0.206 × 0.206	0.206 × 0.206	0.206 × 0.206	0.206 × 0.206	0.181 × 0.181
Contrast Ratio	700:1	700:1	1000:1	1000:1	1000:1
Brightness [cd/m <sup>2</sup> ]	600	1300	(1300)	(1300)	1000
Viewing Angle (CR>10) [°]	-80~80 (H), -80~80 (V)	-80~80 (H), -80~80 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	50	50	70	70	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	9.3	10.0	TBD	TBD	12.1
Power Supply [V]	LCD: 3.3, Backlight: 12	3.3	LCD: 3.3, Backlight: 12	3.3	LCD: 3.3, Backlight: 12
Module Outline Dimensions WxHxD [mm]	230.0 × 180.2 × 11.0	230.0 × 180.2 × 11.0	230.0 × 180.2 × 9.5	230.0 × 180.2 × 9.5	250.0 × 157.0 × 8.9
Module Mass [g]	610	610	TBD	TBD	420
Operation Temperature Range [°C]	-40~85	-40~85	-30~80	-30~80	-30~80
Storage Temperature Range [°C]	-40~85	-40~85	-40~80	-40~80	-30~80
Surface Treatment	AG	AG	AG	AG	Clear
Main Features	 Narrow Bezel Design Shock and Vibration Resistance Extended Temperature Range	 Narrow Bezel Design Shock and Vibration Resistance Extended Temperature Range	 Narrow Bezel Design	 Narrow Bezel Design	

Screen Size and Resolution	10.6-inch WXGA				
Type Name	AA106TA01-CA1	AA106TA01DDA11	AA106TA11	AA106TA11DDA11	AA106TA51
Active Screen Area Size [mm]	231.4 × 138.8	231.4 × 138.8	231.4 × 138.8	231.4 × 138.8	231.4 × 138.8
Pixel Number	1280 × 768	1280 × 768	1280 × 768	1280 × 768	768 × 1280
Pixel Pitch [mm]	0.181 × 0.181	0.181 × 0.181	0.181 × 0.181	0.181 × 0.181	0.181 × 0.181
Contrast Ratio	1000:1	1000:1	1000:1	1000:1	1000:1
Brightness [cd/m <sup>2</sup> ]	900	800	1000	800	1000
Viewing Angle (CR>10) [°]	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	50	50	50	50	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	12.3	12.3	10.3	10.6	10.3
Power Supply [V]	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	3.3	3.3	3.3
Module Outline Dimensions WxHxD [mm]	260.0 × 167.0 × 13.8	260.0 × 167.0 × 13.8	250.0 × 157.0 × 8.9	260.0 × 167.0 × 13.8	157.0 × 250.0 × 8.9
Module Mass [g]	640	640	420	640	420
Operation Temperature Range [°C]	-30~70	-30~70	-30~80	-30~70	-30~80
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	Clear	Clear	Clear	Clear	Clear
Main Features	 PCAP: Glass Bonding	 PCAP: Tape Bonding		 PCAP: Tape Bonding	 Portrait View



## Line-up






Screen Size and Resolution	12.1-inch SVGA				
Type Name	AA121ST01	AA121ST01DDE11	AA121ST03	AA121SU01	AA121SU11
Active Screen Area Size [mm]	246.0 × 184.5	246.0 × 184.5	246.0 × 184.5	246.0 × 184.5	246.0 × 184.5
Pixel Number	800 × 600	800 × 600	800 × 600	800 × 600	800 × 600
Pixel Pitch [mm]	0.308 × 0.308	0.308 × 0.308	0.308 × 0.308	0.308 × 0.308	0.308 × 0.308
Contrast Ratio	1000:1	1000:1	1000:1	800:1	800:1
Brightness [cd/m <sup>2</sup> ]	600	480	600	800	1500
Viewing Angle (CR>10) [°]	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-80~80 (H), -80~80 (V)	-80~80 (H), -80~80 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	72	72	72	40	40
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	9.9	10.2	9.9	6.2	10.5
Power Supply [V]	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	3.3
Module Outline Dimensions WxHxD [mm]	260.5 × 203.0 × 9.5	281.8 × 220.8 × 10.2	260.5 × 203.0 × 9.5	260.5 × 203.0 × 9.5	260.5 × 203.0 × 9.5
Module Mass [g]	570	1000	570	590	590
Operation Temperature Range [°C]	-30~80	-30~70	-30~80	-30~80	-30~80
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	AG	Clear	AG	AG	AG
Main Features	 Narrow Bezel Design	 Narrow Bezel Design	 Narrow Bezel Design For Medical	 Narrow Bezel Design	 Narrow Bezel Design







Screen Size and Resolution	12.1-inch XGA				
Type Name	AA121XN01	AA121XN01DDE11	AA121XN11	AA121XN11-CE4	AA121XN11DDE11
Active Screen Area Size [mm]	245.8 × 184.3	245.8 × 184.3	245.8 × 184.3	245.8 × 184.3	245.8 × 184.3
Pixel Number	1024 × 768	1024 × 768	1024 × 768	1024 × 768	1024 × 768
Pixel Pitch [mm]	0.240 × 0.240	0.240 × 0.240	0.240 × 0.240	0.240 × 0.240	0.240 × 0.240
Contrast Ratio	800:1	800:1	800:1	800:1	800:1
Brightness [cd/m <sup>2</sup> ]	700	560	1300	1100	1040
Viewing Angle (CR>10) [°]	-80~80 (H), -80~80 (V)	-80~80 (H), -80~80 (V)	-80~80 (H), -80~80 (V)	-80~80 (H), -80~80 (V)	-80~80 (H), -80~80 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	40	40	40	40	40
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	6.3	6.6	9.9	10.2	10.2
Power Supply [V]	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	3.3	3.3	3.3
Module Outline Dimensions WxHxD [mm]	260.5 × 203.0 × 9.5	281.8 × 220.8 × 15.1	260.5 × 203.0 × 9.5	270.5 × 213.0 × 14.5	281.8 × 220.8 × 15.1
Module Mass [g]	590	1000	590	1050	1000
Operation Temperature Range [°C]	-30~80	-30~70	-30~80	-30~70	-30~70
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	AG	Clear	AG	AG	Clear
Main Features	 Narrow Bezel Design	 PCAP: Tape Bonding	 Narrow Bezel Design	 PCAP: Glass Bonding	 PCAP: Tape Bonding

Screen Size and Resolution	12.1-inch XGA				
Type Name	AA121XP01	AA121XP01DDE11	AA121XP02	AA121XP13	AA121XP13DDE11
Active Screen Area Size [mm]	245.8 × 184.3	245.8 × 184.3	245.8 × 184.3	245.8 × 184.3	245.8 × 184.3
Pixel Number	1024 × 768	1024 × 768	1024 × 768	1024 × 768	1024 × 768
Pixel Pitch [mm]	0.240 × 0.240	0.240 × 0.240	0.240 × 0.240	0.240 × 0.240	0.240 × 0.240
Contrast Ratio	1000:1	1000:1	1000:1	1000:1	1000:1
Brightness [cd/m <sup>2</sup> ]	500	400	500	1000	800
Viewing Angle (CR>10) [°]	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	72	72	72	50	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	16.9	17.2	12.8	12.8	13.1
Power Supply [V]	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	3.3	3.3	3.3
Module Outline Dimensions WxHxD [mm]	260.5 × 203.0 × 9.5	281.8 × 220.8 × 15.1	260.5 × 203.0 × 9.5	260.5 × 203.0 × 9.5	281.8 × 220.8 × 15.1
Module Mass [g]	600	1000	600	600	1000
Operation Temperature Range [°C]	-40~80	-30~70	-30~80	-40~80	-30~70
Storage Temperature Range [°C]	-40~80	-30~80	-30~80	-40~80	-30~80
Surface Treatment	AG	Clear	AG	AG	Clear
Main Features					
		PCAP: Tape Bonding	For Medical		PCAP: Tape Bonding

Screen Size and Resolution	12.1-inch XGA		12.1-inch WXGA		
Type Name	AA121X*01	AA121X*11	AA121TJ01	AA121TJ01DDE11	AA121TJ11
Active Screen Area Size [mm]	245.8 × 184.3	245.8 × 184.3	261.1 × 163.2	261.1 × 163.2	261.1 × 163.2
Pixel Number	1024 × 768	1024 × 768	1280 × 800	1280 × 800	1280 × 800
Pixel Pitch [mm]	0.240 × 0.240	0.240 × 0.240	0.204 × 0.204	0.204 × 0.204	0.204 × 0.204
Contrast Ratio	1000:1	1000:1	1000:1	1000:1	1000:1
Brightness [cd/m <sup>2</sup> ]	(1300)	(1300)	1500	1200	1500
Viewing Angle (CR>10) [°]	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	70	70	70	70	70
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	TBD	TBD	11.9	12.2	10.7
Power Supply [V]	LCD: 3.3, Backlight: 12	3.3	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	3.3
Module Outline Dimensions WxHxD [mm]	260.5 × 203.0 × (11.0)	260.5 × 203.0 × (11.0)	283.0 × 185.1 × 9.7	303.0 × 205.1 × 14.9	283.0 × 185.1 × 9.7
Module Mass [g]	TBD	TBD	540	950	540
Operation Temperature Range [°C]	-30~80	-30~80	-40~80	-40~70	-40~80
Storage Temperature Range [°C]	-40~80	-40~80	-40~80	-40~80	-40~80
Surface Treatment	AG	AG	AG	Clear	AG
Main Features					
				PCAP: Tape Bonding	

# Line-up

Screen Size and Resolution	12.1-inch WXGA	12.3-inch 2/3 FHD		14.1-inch WXGA	
Type Name	AA121TJ11DDE11	AA123AD11	AA123AF01	AA141T*01	AA141T*11
Active Screen Area Size [mm]	261.1 × 163.2	292.3 × 109.6	292.3 × 109.6	303.3 × 189.6	303.3 × 189.6
Pixel Number	1280 × 800	1920 × 720	1920 × 720	1280 × 800	1280 × 800
Pixel Pitch [mm]	0.204 × 0.204	0.152 × 0.152	0.152 × 0.152	0.237 × 0.237	0.237 × 0.237
Contrast Ratio	1000:1	1000:1	1000:1	1000:1	1000:1
Brightness [cd/m <sup>2</sup> ]	1200	1600	1000	1300	1300
Viewing Angle (CR>10) [°]	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-85~85 (H), -85~85 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	70	50	72	50	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 30000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	11.0	13.4	10.2	TBD	TBD
Power Supply [V]	3.3	3.3	3.3	LCD: 3.3, Backlight: 12	3.3
Module Outline Dimensions WxHxD [mm]	303.0 × 205.1 × 14.9	314.5 × 129.5 × 10.4	305.3 × 127.9 × 7.4**	326.0 × 216.5 × TBD	326.0 × 216.5 × TBD
Module Mass [g]	950	500	460	TBD	TBD
Operation Temperature Range [°C]	-40~70	-40~80	-40~85	-40~80	-40~80
Storage Temperature Range [°C]	-40~80	-40~80	-40~90	-40~80	-40~80
Surface Treatment	Clear	AG	AG	AG	AG
Main Features	 PCAP: Tape Bonding		 Automotive Grade Safety Function		

Screen Size and Resolution	14.1-inch WXGA	15.0-inch XGA			
Type Name	AA141TC01	AA150XT01	AA150XT02DDE11	AA150XT11	AA150XT12DDE11
Active Screen Area Size [mm]	303.3 × 189.6	304.1 × 228.1	304.1 × 228.1	304.1 × 228.1	304.1 × 228.1
Pixel Number	1280 × 800	1024 × 768	1024 × 768	1024 × 768	1024 × 768
Pixel Pitch [mm]	0.237 × 0.237	0.297 × 0.297	0.297 × 0.297	0.297 × 0.297	0.297 × 0.297
Contrast Ratio	700:1	800:1	800:1	800:1	800:1
Brightness [cd/m <sup>2</sup> ]	800	800	640	1500	1200
Viewing Angle (CR>10) [°]	-80~80 (H), -60~80 (V)	-80~80 (H), -80~60 (V)	-80~80 (H), -80~60 (V)	-80~80 (H), -80~60 (V)	-80~80 (H), -80~60 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	45	50	50	50	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	13.9	11.9	12.2	20.6	20.8
Power Supply [V]	3.3	3.3	3.3	3.3	3.3
Module Outline Dimensions WxHxD [mm]	326.0 × 216.5 × 16.0	326.0 × 255.0 × 16.6	346.5 × 275.0 × 20.6	326.0 × 255.0 × 16.6	346.5 × 275.0 × 20.6
Module Mass [g]	1130	1270	1950	1290	1950
Operation Temperature Range [°C]	-20~70	-20~70	-20~70	-20~70	-20~70
Storage Temperature Range [°C]	-20~80	-20~80	-20~80	-20~80	-20~80
Surface Treatment	AG	AG	Clear	AG	Clear
Main Features			 PCAP: Tape Bonding		  PCAP: Tape Bonding

\* In development (specification tentative)







\*\* Dimensions are without FPC/PCB/Bosses






Screen Size and Resolution	15.0-inch XGA				
Type Name	AA150XW01	AA150XW01DDE11	AA150XW02	AA150XW14	AA150XW14DDE11
Active Screen Area Size [mm]	304.1 × 228.1	304.1 × 228.1	304.1 × 228.1	304.1 × 228.1	304.1 × 228.1
Pixel Number	1024 × 768	1024 × 768	1024 × 768	1024 × 768	1024 × 768
Pixel Pitch [mm]	0.297 × 0.297	0.297 × 0.297	0.297 × 0.297	0.297 × 0.297	0.297 × 0.297
Contrast Ratio	1000:1	1000:1	1000:1	1000:1	1000:1
Brightness [cd/m <sup>2</sup> ]	500	400	500	1000	800
Viewing Angle (CR>10) [°]	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	72	72	72	50	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	18.9	19.2	15.9	15.9	17.4
Power Supply [V]	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12	3.3	3.3	3.3
Module Outline Dimensions WxHxD [mm]	326.0 × 255.0 × 10.5	346.5 × 275.0 × 15.4	326.0 × 255.0 × 10.5	326.0 × 255.0 × 10.5	346.5 × 275.0 × 15.4
Module Mass [g]	900	(1050)	900	900	TBD
Operation Temperature Range [°C]	-30~80	-30~70	-30~80	-30~80	-30~70
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	AG	Clear	AG	Clear	Clear
Main Features		 		 	  
		PCAP: Tape Bonding	For Medical		PCAP: Tape Bonding

Screen Size and Resolution	15.0-inch XGA	15.0-inch SXGA+			15.0-inch 2/3 FHD
Type Name	AC150XA05	AA150PD03	AA150PD13	AA150PD14	AA150AC01
Active Screen Area Size [mm]	304.1 × 228.1	304.5 × 228.4	304.5 × 228.4	304.5 × 228.4	355.7 × 133.4
Pixel Number	1024 × 768	1400 × 1050	1400 × 1050	1400 × 1050	1920 × 720
Pixel Pitch [mm]	0.297 × 0.297	0.218 × 0.218	0.218 × 0.218	0.218 × 0.218	0.185 × 0.185
Contrast Ratio	2500:1	1000:1	1000:1	1000:1	1000:1
Brightness [cd/m <sup>2</sup> ]	500	500	1000	(800)	1000
Viewing Angle (CR>10) [°]	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-88~88 (H), -88~88 (V)	-85~85 (H), -85~85 (V)	-85~85 (H), -85~85 (V)
Colors	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	262k (6bit/color) 16.7M (8bit/color)	16.7M (8bit/color)
Color Saturation vs. NTSC [%]	72	50	50	72	72
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Typ. 70000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 30000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	10.44	20.3	20.3	20.3	16.7
Power Supply [V]	3.3	LCD: 3.3, Backlight: 12	3.3	3.3	3.3
Module Outline Dimensions WxHxD [mm]	326.5 × 253.5 × 9.1	326.0 × 255.0 × 10.5	326.0 × 255.0 × 10.5	326.0 × 255.0 × 10.5	374.5 × 154.5 × 11.6**
Module Mass [g]	960	900	900	910	710
Operation Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-40~85
Storage Temperature Range [°C]	-40~80	-40~80	-40~80	-30~80	-40~90
Surface Treatment	AG	AG	AG	AG	AG
Main Features			 	  	  
		High Resolution SXGA+	High Resolution SXGA+	High Resolution SXGA+	Automotive Grade Safety Function



## Line-up

Screen Size and Resolution	15.6-inch HD	17.5-inch WXGA			19.0-inch SXGA
Type Name	AC156GA01	AA175TD01	AA175TD01--G1	AA175TE03	AA190EA01
Active Screen Area Size [mm]	344.2 × 193.5	380.2 × 228.1	380.2 × 228.1	380.2 × 228.1	376.3 × 301.1
Pixel Number	1366 × 768	1280 × 768	1280 × 768	1280 × 768	1280 × 1024
Pixel Pitch [mm]	0.252 × 0.252	0.297 × 0.297	0.297 × 0.297	0.297 × 0.297	0.294 × 0.294
Contrast Ratio	600:1	700:1	700:1	1000:1	800:1
Brightness [cd/m <sup>2</sup> ]	450	700	700	450	1500
Viewing Angle (CR>10) [°]	160 (H), 150 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-88~88 (H), -88~88 (V)	-80~80 (H), -80~80 (V)
Colors	16.7 M (8 bit/color)	262k (6 bit/color) 16.7 M (8 bit/color)	262k (6 bit/color) 16.7 M (8 bit/color)	262k (6 bit/color) 16.7 M (8 bit/color)	262k (6 bit/color) 16.7 M (8 bit/color)
Color Saturation vs. NTSC [%]	60	50	50	50	50
Backlight	LED	LED	LED	LED	LED
LED Life [h]	Min. 50000	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	12.4	19.3	19.3	15.5	33.1
Power Supply [V]	LCD: 3.3, Backlight: 12	3.3	3.3	3.3	5.0
Module Outline Dimensions WxHxD [mm]	363.8 × 215.9 × 11.1	404.0 × 258.0 × 16.2	404.0 × 258.0 × 18.2	404.0 × 258.0 × 16.2	404.2 × 330.0 × 14.9
Module Mass [g]	830	1700	2300	1570	1870
Operation Temperature Range [°C]	0~60	-20~70	-20~70	-20~70	-30~70
Storage Temperature Range [°C]	-20~60	-20~80	-20~80	-20~80	-30~80
Surface Treatment	AG	AG	AR	AG	AG
Main Features			 		
	For Volume Projects		Glass Bonding		

Screen Size and Resolution	19.0-inch SXGA	19.0-inch SXGA	19.2-inch 1/3 FHD	
Type Name	AA190EB02	AA190EB02DDE11	AA192AA01	AA192AA51
Active Screen Area Size [mm]	376.3 × 301.1	376.3 × 301.1	478.1 × 89.6	89.6 × 478.1
Pixel Number	1280 × 1024	1280 × 1024	1920 × 360	1920 × 360
Pixel Pitch [mm]	0.294 × 0.294	0.294 × 0.294	0.249 × 0.249	0.249 × 0.249
Contrast Ratio	800:1	800:1	700:1	700:1
Brightness [cd/m <sup>2</sup> ]	500	400	500	650
Viewing Angle (CR>10) [°]	-80~80 (H), -80~80 (V)	-80~80 (H), -80~80 (V)	-80~80 (H), -60~80 (V)	-60~80 (H), -80~80 (V)
Colors	262k (6 bit/color) 16.7 M (8 bit/color)	262k (6 bit/color) 16.7 M (8 bit/color)	262k (6 bit/color) 16.7 M (8 bit/color)	262k (6 bit/color) 16.7 M (8 bit/color)
Color Saturation vs. NTSC [%]	50	50	50	50
Backlight	LED	LED	LED	LED
LED Life [h]	Typ. 100000	Typ. 100000	Typ. 100000	Typ. 100000
Interface	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	13.3	14.2	11.5	16.3
Power Supply [V]	LCD: 5.0, Backlight: 12	LCD: 5.0, Backlight: 12	LCD: 3.3, Backlight: 12	LCD: 3.3, Backlight: 12
Module Outline Dimensions WxHxD [mm]	404.2 × 330.0 × 14.9	434.0 × 359.0 × 18.9	496.0 × 109.2 × 13.9	109.2 × 496.0 × 13.9
Module Mass [g]	1930	2910	780	780
Operation Temperature Range [°C]	-30~70	-30~70	-30~80	-30~80
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80
Surface Treatment	AG	Clear	AG	AG
Main Features		 		
		PCAP: Tape Bonding	Ultra Wide Format	Ultra Wide Format Portrait View

# Authorised Distributors for Mitsubishi Electric TFT-LCD Modules

<b>Austria Germany Switzerland</b>	Distec GmbH	Augsburger Straße 2b 82110 Germering, Germany Phone +49 (0) 89 894 363-0 Fax +49 (0) 89 894 363-131	Email: info@distec.de www.distec.de
	GLYN GmbH & Co. KG	Am Wörtzgarten 8 65510 Idstein, Germany Phone +49 (0) 6126 590 222 Fax +49 (0) 6126 590 188	Email: sales@glyn.de https://www.glyn.de
	Avnet Integrated (also Benelux and Eastern Europe)	Industriestraße 16 76297 Stutensee, Germany Phone +49 (0) 7249 910-0 Fax +49 (0) 7249 910-559	Email: integrated@avnet.eu www.avnet.com/integrated
	Ultratronik Vertriebs GmbH	Dornierstraße 9 82205 Gilching, Germany Phone +49 (0) 8105 77839-0 Fax +49 (0) 8105 77839-850	Email: displays@ultratronik.de www.ultratronik-distribution.de
<b>Benelux</b>	Nijkerk Electronics BV	Willem Fenengastraat 12 1096 BN Amsterdam, The Netherlands Phone +31 (0) 20 5041424 Fax +31 (0) 20 6423948	Email: ne@nijkerk.nl www.nijkerk-ne.com
<b>France</b>	Steliau Technology	41-42, rue Périer 92120 Montrouge, France Phone +33 (0) 1 55 58 04 04 Fax +33 (0) 1 55 58 04 00	Email: contact@steliau-technology.com www.steliau-technology.com
	Eurocomposant	1 rue René Caudron - BP 15 78960 Voisins le Bretonneux Phone +33 (0) 130 64 9515 Fax +33 (0) 130 43 6827	Email: info@eurocomposant.fr www.eurocomposant.fr
<b>Israel</b>	RAM N.S Technologies Ltd	1, Hamasger St. Industrial Zone Raanana 4365201 Phone +972 (0) 77 920 8111 Fax +972 (0) 77 920 8112	Email: sales@ram-tech.co.il www.ram-tech.co.il
<b>Russia/Belarus</b>	Symmetron Belarus	Vier Horuzhey St. 1a 220005 Minsk Phone +375 (17) 336-0606	Email: mitsubishi@symmetron.ru www.symmetron.ru
	Symmetron Russia	Tallinskaya St. 7 195196 St. Petersburg Phone +7 812 449-4000 Fax +7 812 322-9723	Email: mitsubishi@symmetron.ru www.symmetron.ru
<b>Scandinavia</b>	Acal BFI Sweden	Rissneleden 138 SE-17457 Sundbyberg, Sweden Phone +46 (0) 8 5465 6500 Fax +46 (0) 8 5465 6565	Email: info@acalbfi.se www.acalbfi.com/se/
	EG Electronics AB	Kumla Gårdsväg 24C SE-145 63 Norsborg, Sweden Phone +46 (0) 8 531 939 00	Email: info@egelectronics.com www.egelectronics.com
<b>Spain</b>	Aicox Soluciones S.A. (also Portugal)	Avda. Somosierra, 12, 1ª, 28703 San Sebastian de los Reyes (Madrid) Phone +34 91 65 92 970 Fax +34 91 65 31 019	Email: informa@aicox.com www.aicox.com
<b>United Kingdom</b>	Anglia Components	Sandall Road, Wisbech PE13 2PS Phone +44 (0) 1945 47 47 47	Email: info@anglia.com www.anglia.com
	Pacer International	XL House, Mill Court, Spindle Way, Crawley, West Sussex, RH10 1TT Phone +44 (0) 118 984 5280 Fax +44 (0) 118 984 5425	Email: info@pacer.co.uk www.pacer.co.uk

# Main Features

## Color Code

 New Generation

 New



Touch Panel



LED driver  
implemented



High Color  
Saturation



Anti Reflection  
Coating



Transflective  
Technology



Super High/  
High Brightness



Super Wide  
Viewing Technology



Toughness  
Technology



NFC

\* In development  
(specification tentative)

\*\* Dimensions are without  
FPC/PCB/Bosses



## TFT-LCD Modules

**Mitsubishi Electric Europe B.V. (European Headquarters)  
– Semiconductor European Business Group –**

Mitsubishi-Electric-Platz 1 / D-40882 Ratingen  
Phone +49(0)21 02/4860 / Fax +49(0)21 02/48641 40

**Mitsubishi Electric Europe B.V.  
German Branch  
Semiconductor Sales Office**

Mitsubishi-Electric-Platz 1  
D-40882 Ratingen  
Phone +49(0)21 02/4864522  
Fax +49(0)21 02/4867220

**Mitsubishi Electric Europe B.V.  
UK Branch  
Semiconductor Sales Office**

Travellers Lane, Hatfield  
GB-Herts. AL 10 8XB  
Phone +44 1707/27 61 00

**Mitsubishi Electric  
(Russia) LLC  
Semiconductor Sales Office**

Letnikovskaya St.2, bld.1, 115114,  
Moscow, Russia  
Phone +7 (495) 721-2070  
Fax +7 (495) 721-2071

**Mitsubishi Electric Europe B.V.  
French Branch  
Semiconductor Sales Office**

25, Boulevard des Bouvets  
F-92741 Nanterre Cedex (Paris)  
Phone +33 1/55 68 55 68  
Fax +33 1/55 68 57 39

**Mitsubishi Electric Europe B.V.  
Italian Branch  
Semiconductor Sales Office**

Viale Colleoni 7 – Palazzo Sirio  
I-20864 Agrate Brianza (Milano)  
Phone +39 039/60 53 10  
Fax +39 039/60 53 212

**Spanish Representative Agent  
for Mitsubishi Electric Europe  
in Spain and Portugal**

C/ Las Hayas, 127  
28922 Alcorcón (Madrid)  
Phone +34 91 6436805

**Mitsubishi Electric Europe B.V.  
Scandinavian Branch**

Hammarbacken 14  
P.O. Box 750  
SE-19127, Sollentuna, Sweden  
Phone +46 (8) 625-1000

