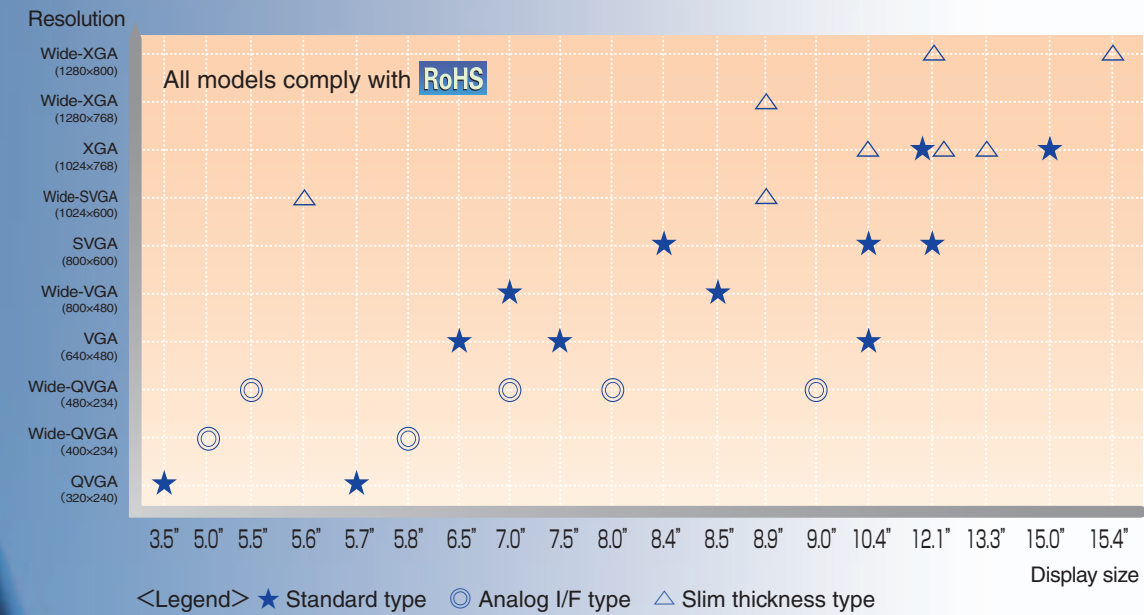


Point 1

3.5" \$ 15.4"

Abundant product line from 9cm (3.5") QVGA to 39cm (15.4") XGA

We have enhanced line-up of TFT LCDs for industrial applications.



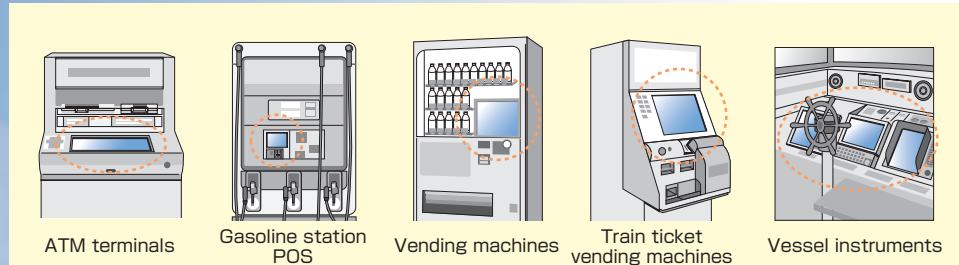
Point 2

Bright Dark

Commercialization of high luminance displays for sharp clear images even under strong solar light

We have developed the transmissive type ultra high luminance model 12.1" SVGA [LTD121C35S] (31cm (12.1") SVGA) optimal for ATM terminals and other uses. They realize high visibility even in a bright ambient environment.

<Example of Applications>



● Unlike reflective models, the color reproduction area is broad, enabling bright vivid displays.

Point 3

Euro

All models comply with EU Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS Directive)

Market release of electrical and electronic equipment containing any of the six restricted substances (lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE)) is prohibited in markets in the EU (Europe) pursuant to the RoHS Directive in force as of July 1, 2006.

We took steps to ensure compliance and supply liquid crystal modules that comply with the RoHS directive.

RoHS



Toshiba Matsushita Display Technology Co.,Ltd.

www.tmdisplay.com

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* The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by our company for any infringements of patents or other rights of the third parties which may result from its use.
No license is granted by implication or otherwise under any patent or patent rights of our company or others.
* The information contained herein may be changed without prior notice. It is therefore advisable to contact our company before proceeding with the design of equipment incorporating this product.
* Since there is a part of product applicable to the strategic goods (or service) set to foreign exchange and the foreign trade method of administration, when you export, please consult with our company.
* Read and follow individual specifications and instruction manuals for each product listed in this material before using the product.
* Review the characteristics of the products listed in this material, and review the safety of your products using the listed products in designing and manufacturing.

⚠ Safety Precautions

Liquid crystal display modules ("modules") may present hazards to those handling them or to others and may also be the cause of fires or malfunctions depending on the handling or storage method. Attention should therefore be given to the points below in order to assure that they are used safely. Refer to the sales technology materials Engineering Information "Precautions and Requests regarding the handling of Liquid Crystal Modules (EJ-D-001A)" for detailed information regarding safety precautions and requests regarding module handling.

Furthermore, to assure proper use, thoroughly read the separate specifications and sales technology materials for detailed technological information regarding module use.

1. Do not use for special applications

Our modules are not designed for use in devices in which failures or malfunctions may directly threaten human life or present hazards to the body. When using in such devices, consult first with our customer service desk.

2. Take care to avoid electrical shocks

When handling the modules, be sure to turn the electrical supply off without fail. Since high voltages (300-2100V) are applied to modules equipped with backlight, contacting them during operation can result in an electrical shock.

3. Do not disassemble or alter the module

If modules are used that have been disassembled or altered, there is the possibility of fire or damage to circuits or parts due to soiling or failures in parts or circuits.

Modules that have been disassembled or altered are not covered by our product warranty.

4. Do not forcefully press the display surface or subject it to strong mechanical impact or damage it.

Immediately wash your mouth or eyes with water in the event of exposure to liquid in the display due to damage to the module display surface that causes the liquid (liquid crystal) inside to leak.

If your skin or clothing is exposed, wipe it off immediately with alcohol, etc., and wash with soap.

If ignored, it could cause damage to your skin or clothing if not dealt with properly. Also take sufficient care to avoid cutting your fingers, etc., on broken glass.

5. Be sure to observe the absolute maximum rating without fail and use a power supply circuit protection device.

If the module is used in excess of the absolute maximum rating or if a power supply circuit protection device is not used, there is the possibility of fire or damage to circuits or parts and the inability to restore device properties.

6. Disposal

The disposal of modules may be regulated by local government agencies. Be sure to dispose of modules in accordance with local government regulations.



CATALOG No. PRC 07008



VOC(揮発性有機化合物)成分ゼロの環境に配慮した100%植物油型インキを使用しました。



この印刷物は、有害な廃液が出ない「水なし方式」で印刷されています。

2007-11



Toshiba Matsushita Display Technology

LIQUID CRYSTAL DISPLAY DEVICE INDUSTRIAL USE



www.tmdisplay.com

LIQUID CRYSTAL DISPLAY DEVICE INDUSTRIAL USE

Industrial liquid crystal displays combining brightness and durability

The industrial liquid crystal displays are brought to you by the industry's Top provider of vehicle-installed displays, which demands high reliability.

We are developing a diverse product line featuring high luminance, wide temperature range, lamp replaceable structure, pixel format and display size for use in various industrial devices requiring long-term use and long-term support.

Actual performance based on DisplaySearch survey in 2006

- Long-term support
- Wide temperature range
- Energy conservation of set design
- Set mobile use and compact size

- Support service is provided for long-term use including the use of long-life lamps, lamp replaceable structure, etc.²⁾ for standard industrial equipment.
- Models are available with a temperature range (-10°C—70°C/Operation) wider than conventional products.
- Models are available that are compatible with different pixel number, brightness and interface installation. In addition, there are models we can supply the recommended inverter to meet compatibility.
- We also offer a line of thin, lightweight, narrow frame, low product power compatible slim type and analog I/F type models.

²⁾ Does not apply to some products

Ultra high luminance 1000cd/m²



LTD121C35S SVGA 31cm(12.1")SVGA

- Ultra high luminance: 1000cd/m² (lamp current 7mA)
- Use of long-life lamps (avg. lifespan: 50,000h; lamp current 6mA, 25°C)
- Wide operating temperature range (-10°C—65°C)
- Replaceable lamp
- Reverse scan function



LTA104D182F SVGA 26cm(10.4")SVGA

- High luminance: 400cd/m² (lamp current 6mA)
- Use of long-life lamps (avg. lifespan: 50,000h; lamp current 6mA, 25°C)
- Wide operating temperature range (-20°C—70°C)
- Replaceable lamp
- Reverse scan function



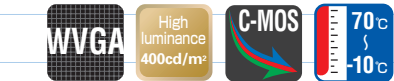
LTM08C351L SVGA 21cm(8.4")SVGA

- High luminance: 350cd/m² (lamp current 6mA)
- Use of long-life lamps (avg. lifespan: 50,000h; lamp current 6mA, 25°C)
- Wide operating temperature range (-10°C—60°C)
- Replaceable lamp



LTA070A320F W-VGA 18cm(7")W-VGA

- Wideformat 800x480pixel
- High luminance: 350cd/m² (lamp current 6mA)
- Use of long-life lamps (avg. lifespan: 50,000h; lamp current 6mA, 25°C)
- Wide operating temperature range (-10°C—70°C)
- Reverse scan function



LTA057A341F QVGA 14cm(5.7")QVGA

- High luminance: 300cd/m² (lamp current 6mA)
- Use of LED backlight
- Replaceable LED unit
- Wide operating temperature range (-20°C—70°C)
- Reverse scan function



■ Specification For the most up-to-date information, access our website at www.tmdisplay.com.

Products No. ³⁾	Display size (cm / inch)	Number of pixel W x H (pixel)	pixel pitch ⁴⁾ W x H (mm)	Active area W x H (mm)	Dimensional outline W x H x D (mm)	Backlight	Brightness (cd / m ²)	Power consumption (W)	Input voltage (V)	Input signal	Number of colors	Weight (g)	H viewing-angle (°)	V viewing-angle (°)	Reverse scan	Recommendable inverter	Replaceable lamp	Touch panel	RoHS compliance	UL compliance	REMARKS	
LTA150B851F	38(15.0)	1024 x 768 [XGA]	□0.297	304.1 x 228.1	348.0 x 253.9 x 14.5max	FLX4	450	TBD			16,770k	TBD		140	○	○						
LTA150B852F							400	21.1			16,190k	1350	160	120	—	—	○					
LTM150C458M							350	16.7				1200	140	140	—	—	○					
LTA149B781F	38(14.9)	1280 x 390	□0.282	360.94 x 109.98	407.5 x 136.0 x 20.0		400	9.3		LVDS		890	120	120	—	—	—					
LTD121GA0S		1024 x 768 [XGA]	□0.24	245.76 x 184.32	278.3 x 209.0 x 11.5		350	7.7				660	120	100								
LTA121C250F							TBD	TBD				680	140	120								
LTD121C30S							250	7.2	3.3	C-MOS		670	120	100		○						
LTD121C31L							300	7.5				TBD	140	120		○						
LTD121C31S							350	7.5				680	120	100		○						
LTD121C32S							400	TBD				820	140	120		○						
LTA121C32SF		800 x 600 [SVGA]	□0.3075	246.0 x 184.5	278.3 x 209.0 x 10.5		350	7.5				TBD	140	120		○						
LTD121C33S							400	TBD				680	120	100		○						
LTA121C33SF							380	7.5				820	140	120		○						
LTD121C34S							1000	18.5				580	120	100		—						
LTD121C35S				245.9 x 184.56	278.2 x 215.8 x 13.5	FLX4	400	6.3				TBD	90	50		—						
LTA104D182F			□0.264		242.0 x 178.5 x 13.2		320	6.3				600	90	50		—						
LTA104A260F					242.0 x 178.5 x 15.4		250	6.5	5.0			610	120	100		—						
LTA104A261F	26(10.4)	640 x 480 [VGA]	□0.33	211.2 x 158.4	265.0 x 188.8 x 11.4	FLX2	400	6.5				500	140	120		○						
LTD104C11R					238.5 x 177.5 x 11.5		400	6.3	3.3/5.0	C-MOS		500	140	120		○						
LTD104C11S							215	4.5				TBD	120	100		—						
LTA085C184F		800 x 480 [W-VGA]	□0.231	184.8 x 110.88	206.0 x 135.0 x 13.5	FLX1	270	4.7				580	90	50		—						
LTA085C185F	22(8.5)				222.7 x 130.6 x 12.5max		240	4.7				450	90	50		—						
LTD085C18S																—						
LTM08C351L							350	6.4				385	100	90		○						
LTM08C351R							400					TBD				○						
LTM08C351S					199.5 x 149.5 x 11.5	FLX2	200					370	120	100		○						
LTA084C270F	21(8.4)	800 x 600 [SVGA]	□0.213	170.4 x 127.8	203.0 x 143.5 x 8.0		250	3.3				290				—						
LTA084C190F					203.0 x 143.5 x 6.5		350					275	140	120		○						
LTA084C191F							280					204	120	100		—						
LTA075A361F	19(7.5)	640 x 480 [VGA]	□0.237	151.68 x 113.76	195.2 x 137.5 x 8.0max	FLX1	350	3.1	3.3			240				—						
LTA070A320F		800 x 480 [W-VGA]	□0.1905	152.4 x 91.44	170.8 x 110.0 x 8.2		280					240	120	100		—						
LTA070A321F	18(7.0)				170.8 x 110.0 x 9.5		400					205		90		—						
LTA065A043F			□0.2055	131.52 x 98.64	151.0 x 115.5 x 10.0		500	4.2				250	140	120		○						
LTA065B000F		640 x 480 [VGA]					250					150	120	100		○						
LTA065B003F	17(6.5)		□0.207	132.48 x 99.36	153.0 x 118.0 x 10.5	FLX2	300					150				○						
LTA065B005F							320	1.4				TBD				—						
LTA057A341F					144.0 x 104.6 x 7.8		400					150	140	120		—						
LTA057A344F	14(5.7)	320 x 240 [QVGA]	□0.36	115.2 x 86.4	144.0 x 104.6 x 9.5	LED	320					TBD				—						
LTA057A345F					144.0 x 104.6 x 7.8		150					150				—						
LTA035A350F	9.0(3.5)		□0.22	71.04 x 53.28	90.0 x 72.0 x 7.0		350	0.83				60				—						
LTA090A149A	A		0.4125 x 0.4775	198.0 x 111.74	215.0 x 126.4 x 6.95		370	3.2				247	120			○						
LTA090B320A	A	480 x 234 [W-QVGA]	0.395 x 0.425	175.68 x 99.45	187.0 x 113.0 x 6.7		350	2.9	3.3/5.0/17.0/13.0	Analog		185				○						
LTA070B0N0A	A	18(7.0)	0.321 x 0.370	154.08 x 86.58	166.0 x 100.0 x 7.0		400					175				—						
TFD5B28MW	A	15(5.8)	400 x 234 [W-QVGA]	0.318 x 0.307	127.2 x 71.8	FLX1	350	7.5	9	Composite	Full color	200	110	90		—						
LTA055B0R0A	A	14(5.5)	480 x 234 [W-QVGA]	0.2535 x 0.2925	121.68 x 68.45		450	3.4				117.5	120			○						
LTA050B352A	A	13(5.0)	400 x 234 [W-QVGA]	0.276 x 0.266	110.4 x 62.244	LED	240	0.4	3.3/5.0/17.0/13.0	Analog		67				—						
LTA154C240F	S	39(15.4)	1280 x 800 [W-XGA]	□0.2595	332.16 x 207.6		225	10.1				570	100	90		—						
LTD133ECKS	S	33.7(13.3)	1024 x 768 [XGA]	□0.264	270.336 x 202.752		200	4.7				350				—						
LTD121EX1S	S		1280 x 768 [W-XGA]	□0.2055	263.04 x 157.824		250	4.8				250				—						
LTD121EC5S	S				275.0 x 173.5 x 5.2max		200	4.5				255				—						
LTD121KA0S	S	31(12.1)		□0.24	245.76 x 184.32	FLX1	260	4.4				280	80			—						
LTD104EA5R	S		1024 x 768 [XGA]		237.1 x 173.2 x 4.9max		170	3.31	3.3	LVDS		195		50		—						
LTD104EA5S	S	26(10.4)		□0.2055	210.432 x 157.824		180	3.7				190				—						
LTD104KA1S	S				237.5 x 173.2 x 4.9max		170	3.3				195	90			—						
LTD089EXWS	S		1280 x 768 [W-XGA]	□0.1515	193.920 x 116.352																	