

VIDEOLOGY

IMAGING SOLUTIONS INC.
Original Equipment Manufacturer

Instruction Manual 45S023 2.36" TFT LCD Module



Prior to Using This Document: Videology reserves the right to modify the information in this document as necessary and without notice. It is the user's responsibility to be certain they possess the most recent version of this document by going to www.videologyinc.com, searching for the model number, and comparing revision letters on the respective document, located in the document's footer.

For technical assistance with this product, please contact the supplier from whom the product was purchased.

Videology Imaging Solutions, Inc. USA
37M Lark Industrial Parkway
Greenville, RI 02828
Tel: 401-949-5332
Fax: 401-949-5276
www.videologyinc.com



Videology Imaging Solutions, B.V. Europe
Neutronenlaan 4
NL-5405 NH Uden, Netherlands
Tel: +31 (0) 413-256261
Fax: +31 (0) 413-251712
www.videology.nl

Table of Contents

1.	Document History	3
2.	Scope of Work	3
3.	Specifications	3
4.	Pin assignment	4
5.	Out Look of Driver Board.....	5
5.1.	J1: ISP Interface	7
5.2.	J2: Signal Interface.....	7
5.3.	J3: Power Interface.....	7
5.4.	VR.....	7
5.5.	SW	7
6.	Panel's Dimensions.....	8
7.	Contact Information	9

1. Document History

Revision	Issue Date	Reason	CN#
Rev A	11-05-09	Initial release	09-015?

2. Scope of Work

This specification shall be applied to model: 45S023, 2.36" color TFT LCD module.

3. Specifications

Electrical	45S023
Operating System	NTSC/ PAL auto switchable
Picture Size	2.36" diagonal
Resolution (H x V)	480 x 234 pixels
LCD Type	TFT active matrix, R.G.B. Delta
Color Configuration	R.G.B. Delta
Active Area (HxV)	48 x 35.685
Dot Pitch (W x H)	0.1 x 0.1525
Brightness	250 cd/m ²
Contrast Ratio	250: 1
Response Time	Tr: 15ms Tf: 35ms
Backlight	LED
Input Signal	1Vp-p composite video at 75 Ohms
Video Angle	Left 45 ⁰ , Right 45 ⁰ , Up 15 ⁰ , Down 35 ⁰
Lamp Life-time	10,000hr min.
Power Source	7 ~ 12VDC
Power Consumption	1.7W (max)

Environmental

Operation Temperature	0° C ~ 50° C (32° F ~ 122° F)
Storage Temperature	-20° C ~ 70° C (-4° F ~ 158° F)
Operating Humidity	Max. 85% RH
Storage Humidity	Max. 85% RH

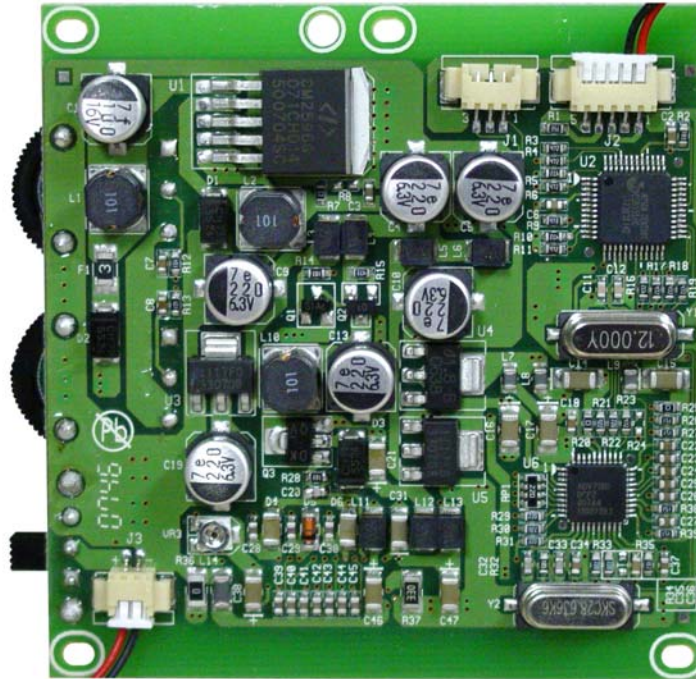
Mechanical

Dimensions W x H x D (Panel)	55.2mm x 47.55mm x 2.9mm (2.17" x 1.87" x 0.11")
Weight	16g (0.035 lb) panel only
External Controls	Brightness, Color
Safety Standards	FCC, CE, UL

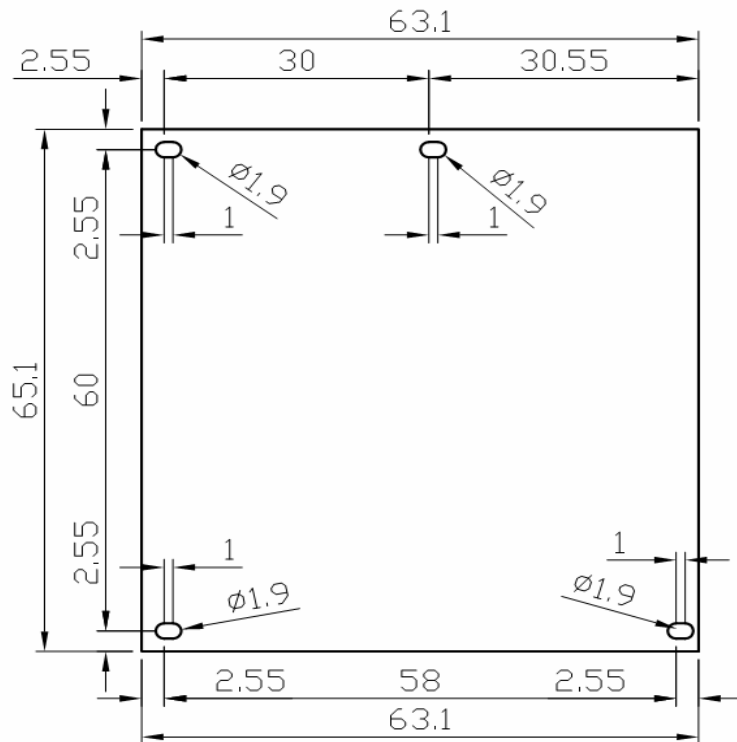
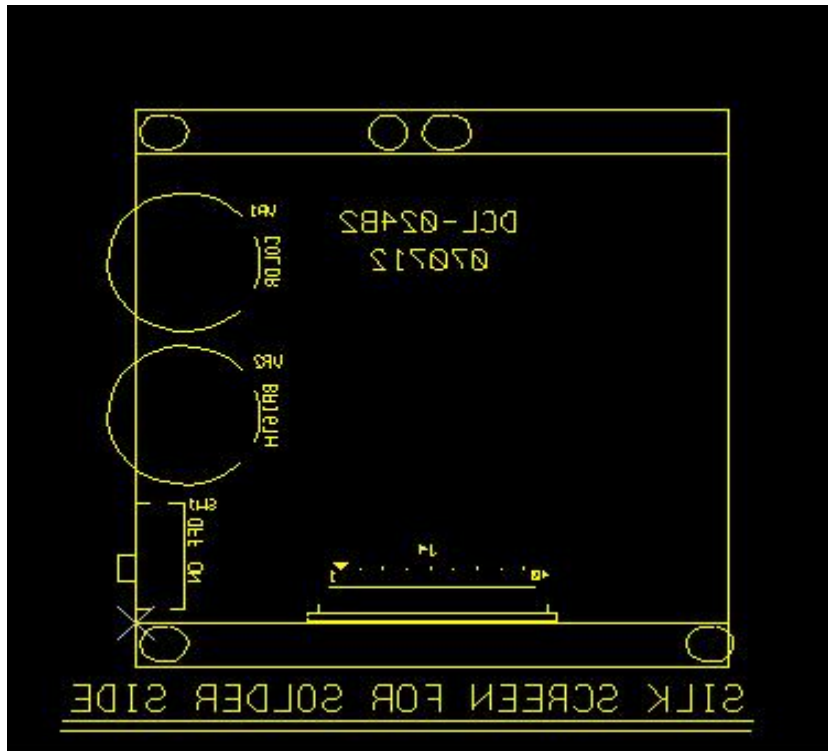
4. Pin assignment

Pin No	Symbol	I/O	Description	Remark
1	VCOM	I	Common Electrode Voltage.	
2	Vgoff_H	PO	Negative high power supply for gate driver output.	
3	Vgoff_L	PO	Negative low power supply for gate driver output.	
4	C4P	C	Pins to connect capacitance for power circuitry.	
5	C4M	C	Pins to connect capacitance for power circuitry	
6	VGH	PO	Gate output High Voltage.	
7	FRP	O	Frame polarity output for VCOM	
8	VCAC	C	Define the amplitude of the VCOM swing.	
9	Vint3	P	Intermediate voltage for charge Pump.	
10	C3P	C	Pins to connect capacitance for power circuitry.	
11	C3M	C	Pins to connect capacitance for power circuitry.	
12	Vint2	P	Intermediate voltage for charge Pump.	
13	C2P	C	Pins to connect capacitance for power circuitry.	
14	C2M	C	Pins to connect capacitance for power circuitry.	
15	Vint1	P	Intermediate voltage for charge Pump.	
16	C1P	C	Pins to connect capacitance for power circuitry	
17	C1M	C	Pins to connect capacitance for power circuitry	
18	PGND	P	Charge Pump Power GND.	
19	PVDD	P	Charge Pump Power VDD.	
20	DRV	PO	VLED boost transistor driving signal	
21	LED_A	I	Voltage of LED.	
22	GND	P	Ground for digital circuit	
23	FB	P	Ground of LED.	
24	AVDD	P	Analog power supply	
25	GND	P	Digital GND	
26	VCC	P	Digital power supply.	
27	CS	I	Serial communication chip select	
28	SDA	I	Serial communication data input.	
29	SCL	I	Serial communication clock input	
30	HSYNC	I	Horizontal sync input	
31	VSYNC	I	Vertical sync input	
32	SCLK	I	Clock Input.	
33	D7	I	Digital image data input(MSB).	
34	D6	I	Digital image data input.	
35	D5	I	Digital image data input.	
36	D4	I	Digital image data input.	
37	D3	I	Digital image data input.	
38	D2	I	Digital image data input.	
39	D1	I	Digital image data input.	
40	D0	I	Digital image data input(LSB).	

5. Out Look of Driver Board



Top Component: H=5.6mm
Bottom Component: H=6.3mm
PCB T=1.6mm



5.1. J1: ISP Interface

PIN	FUNCTION	REMARK
1	ISDA	
2	GND	
3	ISCL	

5.2. J2: Signal Interface

PIN	FUNCTION	REMARK
1	VIDEO IN	
2	GND	
3	VIDEO IN	
4	75 OHM TO GND	
5	GND	

5.3. J3: Power Interface

PIN	FUNCTION	REMARK
1	DC POWER IN	
2	POWER GND	

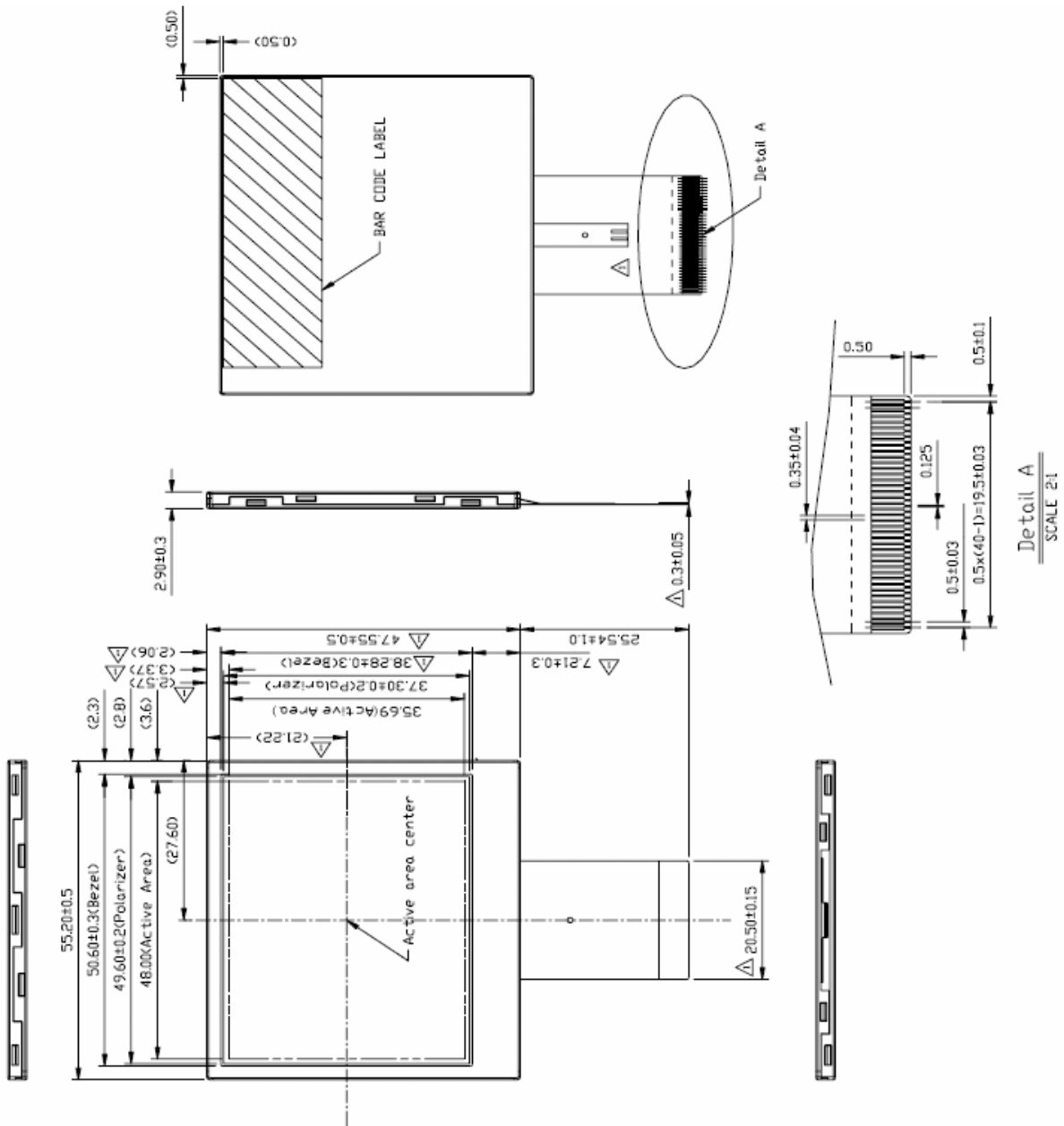
5.4. VR

NO.	FUNCTION	REMARK
VR1	COLOR ADJUSTMENT	
VR2	BRIGHTNESS ADJUSTMENT	
VR3	VCOM DC	
VR4	VCOM AC	

5.5. SW

NO.	FUNCTION	REMARK
SW1	POWER SWITCH	

6. Panel's Dimensions



7. Contact Information

For technical assistance with this product, please contact the supplier from whom the product was purchased.

For OEM inquiries, contact Videology Imaging Solutions:

North / South America:	Europe:
Videology Imaging Solutions Inc. 37M Lark Industrial Parkway Greenville, RI 02828 USA Tel: (401) 949-5332 Fax: (401) 949-5276	Videology Imaging Solutions Europe Neutronenlaan 4 NL-5405 NH Uden, Netherlands Tel: +31 (0) 413 256 261 Fax: +31 (0) 413 251 712

Please visit our website at: <http://www.videologyinc.com>

VIDEOLOGY IMAGING SOLUTIONS is an ISO 9001 registered video camera developer and manufacturer serving industrial, machine vision, biometric, security, and specialty OEM markets. Videology designs, develops, manufactures, and distributes video, image acquisition, and display technologies and products to OEMs worldwide.