QVio™ Technology within reach.	**Q-Solar LCD**	**Production Release**

QK150XI96-00

15” XGA (1024x768)

1050 nits

Customer Specification Approval

Customer acknowledges and approves of the data and cosmetic specifications provided in this document and other addendums.

Signature: _____ **Date:** _____

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Record of Revision

Edition	Document Number	Description	Issue Date
1	QK150XI96-00 _RevA_5014.1	Production Release	12/12/2014

Contents

1. Outline

1.1. Scope

This data sheet is to introduce the specification of QK150XI96-00 active matrix TFT LCD based on the SHARP: LQ150X1LX96 module. This panel is capable of displaying up to 16M colors. The 15” display area contains 1024x3 (RGB) x 768 pixels.

1.2. Application

For digital equipment which requires a color display, for example: marine, kiosk, industrial, and military applications.

2. General Description

No.	Item	Specification			Unit
1	Size	15.0			Inch
2	Resolution XGA	1024 x (RGB) x 768			-
3	Interface	LVDS			-
4	Contrast Ratio	1500 (typical)			-
5	Viewing Angle	Angle	Min	Typical	degree
		Horizontal	70	85	
			70	85	
		Vertical	70	85	
			70	85	
6	Pixel pitch (H x V)	0.297 (per one triad) x 0.297			mm
7	Pixel configuration	RGB Vertical stripe			-
8	Active Viewing Area (H x V)	304.1 x 228.1			mm
9	Outline Dimension (W x H x D)	326.5 x 253.5 x 9.6			mm
10	Weight	950			g
11	Display Mode	Normally Black			-
12	Surface Treatment	Anti-glare and hard-coating 3H, Haze 3%			-
13	Operation Temperature	-10 to +65			°C
14	Storage Temperature	-25 to +65			°C
15	Backlight Type	LED			-

3. Optical Characteristics

3.1. Luminance: 1050 cd/m²

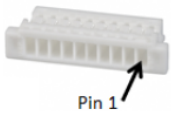
Parameter	Minimum	Typical	Maximum	Units	Note
Luminance	-	1050	1350	cd/m²	1
Luminance Uniformity	-	84.4	9 point	%	2, 3

Note 1: Maximum luminance requires backlight cooling. Improper thermal management beyond 900 cd/m^2 or 450mA may cause damage to the unit.
Note 2: OEM typically varies 20% from minimum to typical luminance.
Note 3: The luminance uniformity of 9 points is defined by dividing the minimum luminance values by the maximum test point luminance.

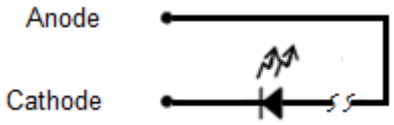
$$\delta_{W9} = \frac{\text{Minimum Luminance of 9 points}}{\text{Maximum Luminance of 9 points}} X\ 100\%$$

4. LED Backlight

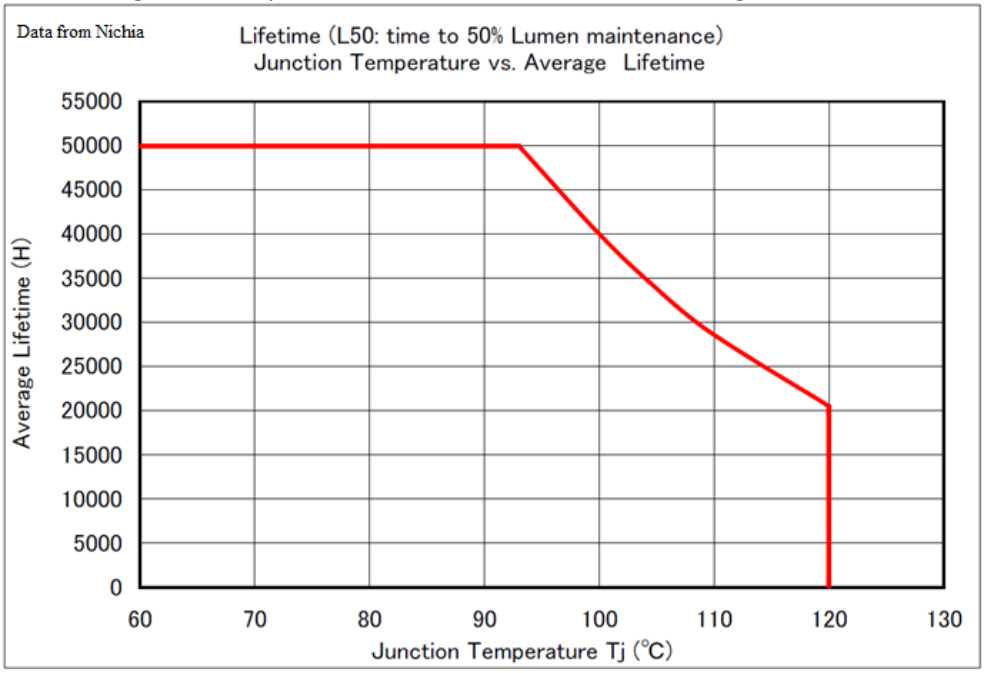
- Flex Connector: SM10B-SRSS-TB
- Backlight Wire Connection Optional – P/N: QCWA-069
- Pin Arrangement:



  - Pin 8–10 : Anode
  - Pin 1-7 : Cathode



- LED Backlight Presumption Lifetime: 50,000 hours to 50% brightness



Note: The chart shows how heat has an effect on the presumption lifetime. The better the system cooling, the more light and longer presumption of the life of the product.

4.1. Electrical Characteristics:

Parameter	Typ.	Max.	Unit	Note
Forward Current	430	600	mA	4, 5
Forward Voltage	33.9	34.4	V	
Luminance	1050	1350	cd/m²	

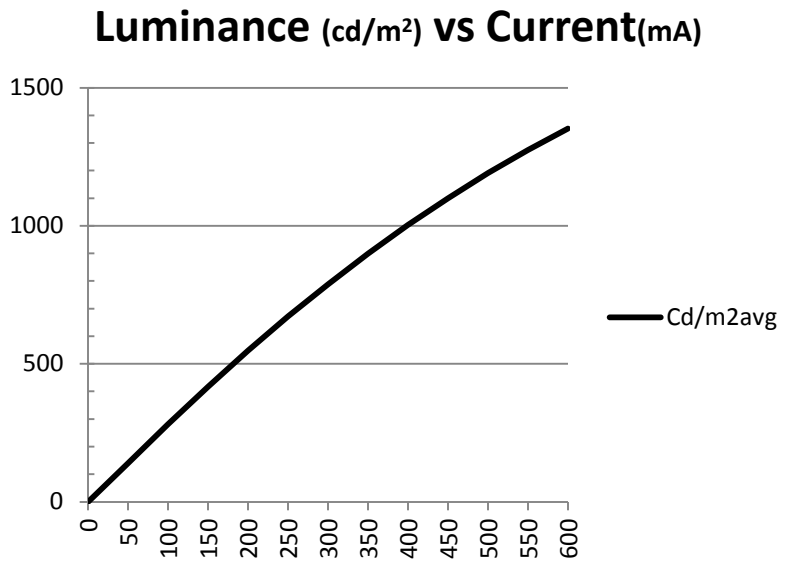
Note 4: There is 1 LED flex string with 7 channels
Note 5: Absolute maximum rating for backlight. Exceeding may cause permanent damage to module without proper thermal management.

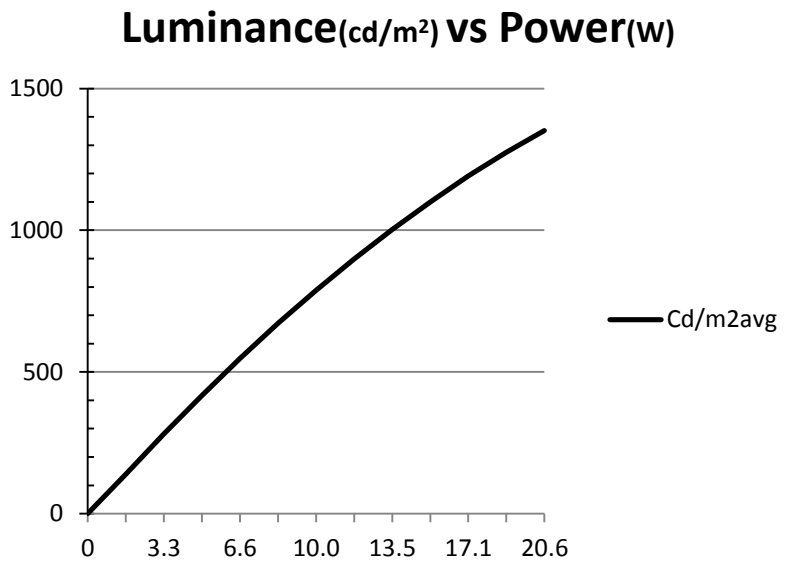
4.2. Backlight Performance:

Current (mA) per channel	Total Current (mA)	Voltage (V)	Σ Power (W)	Luminance (cd/m²)	Center of Front Bezel, LED side °C	Top center of ridge °C	Center corner of ridge and backer °C	Back, Center of panel °C	Note
7.14	50	31.7	1.6	139	22	23	23	22	4, 6, 7, 8
14.28	100	32.8	3.3	281	23	25	24	23	
21.42	150	32.7	4.9	417	25	27	27	24	
28.57	200	33.0	6.6	548	27	29	29	25	
35.71	250	33.3	8.3	672	28	32	31	26	
42.85	300	33.5	10.0	788	30	34	34	27	
50	350	33.7	11.8	899	32	37	36	28	
57.14	400	33.8	13.5	1003	34	40	39	29	
64.28	450	34.0	15.3	1100	36	42	42	30	4, 5, 6, 7, 8, 9, 10
71.42	500	34.1	17.1	1192	38	45	250	31	
78.57	550	34.3	18.8	1275	40	48	47	32	
85.71	600	34.4	20.6	1352	42	50	50	33	

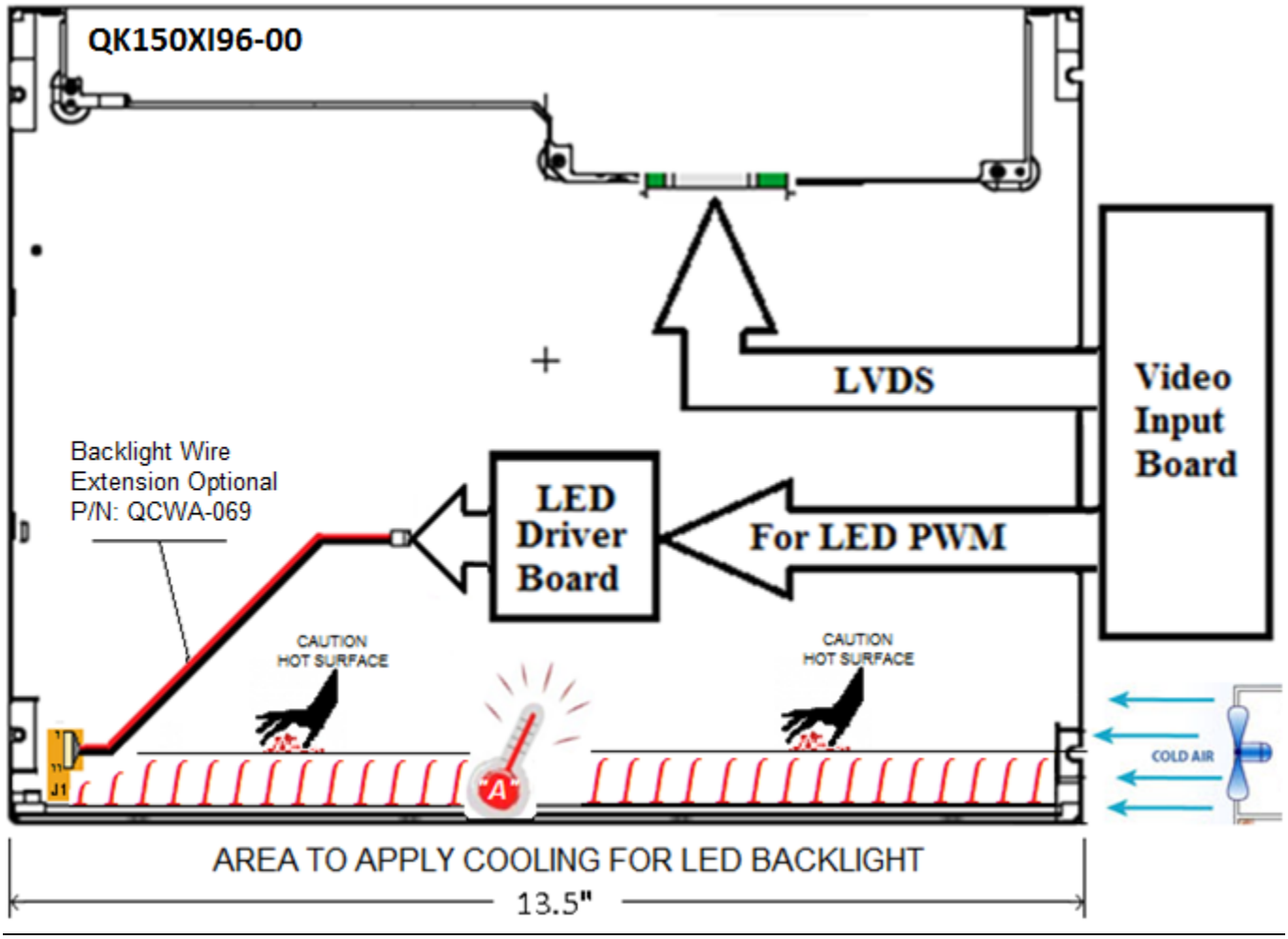
Note 6: Power is total (Σ) backlight power consumption.
Note 7: These are typical measurements.
Note 8: Measure against a brightness and contrast calibrated LCD module; See Block Diagram.
Note 9: YELLOW level Backlight Performance – cooling is highly recommended.
Note 10: Luminance values recorded on a white screen using a Konica Minolta LS-110 Luminance Meter in a dark room, 90 degrees perpendicular, and 1 meter from the display in an open air environment at 25˚C.

4.3. Luminance / Σ Power Graph:





5. Block Diagram:



For full detail of dimensions, see page 31 of the OEM specification.

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