

## FEATURES

- 320 x 240 x 3 dot active resolution (230,400 dots)
- 324 x 244 x 3 dot total resolution (237,168 dots)
- 5 μm (H) x 15 μm (V) dot pitch
- Ultra-compact (0.24" diagonal)
- Active pixel area (4.8 mm x 3.6 mm)
- Parallel RGB analog input
- Simple 3.3-volt interface for CMOS compatible driver chip
- Power-saving sleep mode
- Integrated low-voltage detect
- Integrated horizontal and vertical scanners
- Bidirectional horizontal and vertical scanning

### BLOCK DIAGRAM

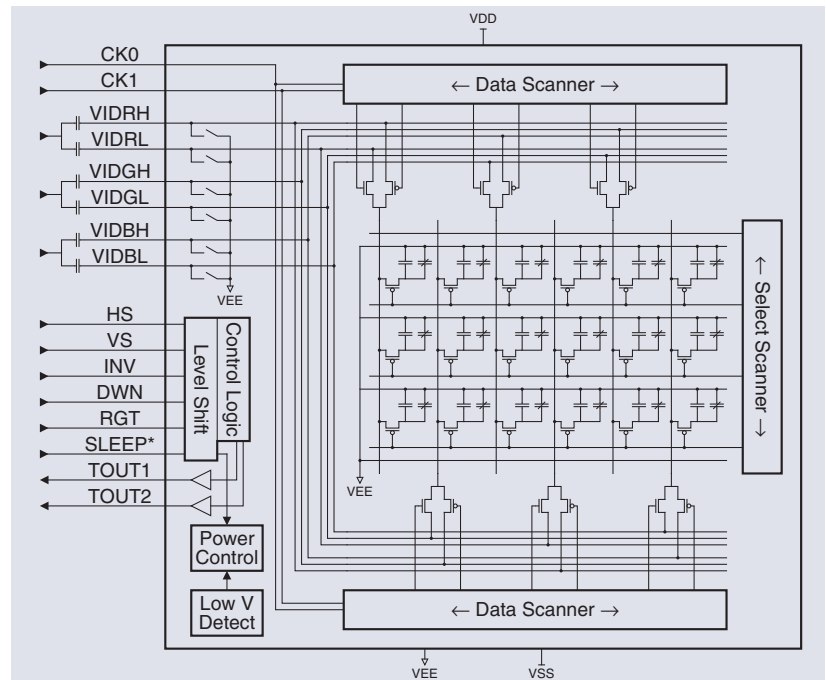


The CyberDisplay® 230K LV is a color-filter active-matrix liquid crystal display (AMLCD) with 230,400 (320 x 240 x 3) color dot resolution. The display utilizes high-performance single-crystal silicon transistors, and is the smallest (0.24" diagonal) transmissive AMLCD for the resolution. The transmissive CyberDisplay 230K LV with color filter has the same display architecture as the industry standard LCD monitor or TV. The ultra-compact CyberDisplay 230K LV is ideal for camcorder and digital camera viewfinders or entry-level portable consumer and industrial applications.

### Functional Description

The CyberDisplay 230K LV features Kopin's patent-pending low-voltage architecture for low power consumption and compatibility with CMOS driver ICs. Bidirectional horizontal and vertical scanner circuits are integrated along with a sleep mode. The active array of 960 x 240 dots is surrounded by opaque dummy pixels, for a total array size of 972 x 244 dots. Each full color square pixel is composed of three primary color dots.

The CyberDisplay 230K LV can be driven by the A220 or A221 controller IC.



### DISPLAY MARKETING

Tel: 508-870-5959 Fax: 508-870-0660

### HONG KONG

Tel: 852-2607-4151 Fax: 852-2607-4156

### JAPAN

Tel: 81-3-5325-3549 Fax: 81-3-5322-2929

### KOREA

Tel: 82-31-337-2451 Fax: 82-31-335-7680

cyberdisplay@kopin.com

\*Specifications subject to change without notice

DS KCD-QDNF-AA Rev. A 8/3/06

The Low Voltage

CyberDisplay® 230K LV

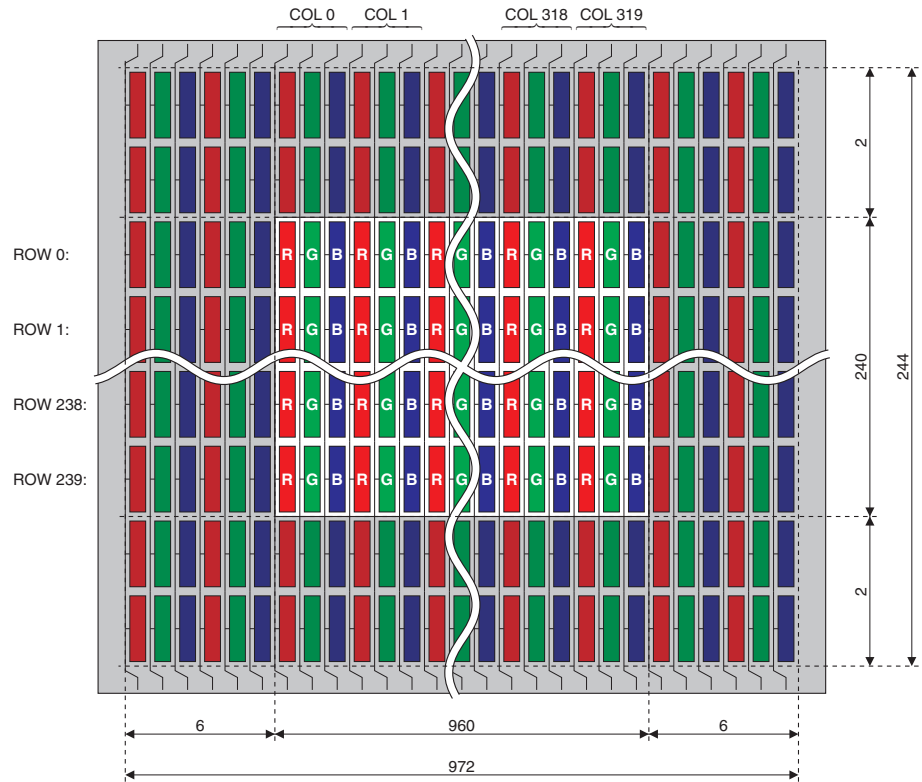
is a color-filter active

matrix liquid crystal

display with 320 x 240

spatial resolution.

PIXEL LAYOUT



## ELECTRICAL

	TYPICAL
<b>POWER</b>	
Supply Interface	3.3 volt
Operating Current	0.4 mA
Operating Current Interface	100 µA
<b>OPERATING ENVIRONMENT</b>	
Temperature	-20° to 60°C
<b>DIMENSIONS</b> <i>frameless</i>	
Height*	6.0 mm
Width*	9.8 mm
Depth*	1.4 mm
Weight	0.28 grams
Flex Cable Length	51.16mm

\* Display die dimensions

## INTERFACE

PIN	SYMBOL	DESCRIPTION
1	VEE	Supply = 0V
2	VIDRH	High Red Video Input
3	VIDGH	High Green Video Input
4	VIDBH	High Blue Video Input
5	VIDRL	Low Red Video Input
6	VIDGL	Low Green Video Input
7	VIDBL	Low Blue Video Input
8	HS	Horizontal Sync
9	VS	Vertical Sync
10	INV	Inversion Polarity
11	DWN	Vertical Scan Direction
12	RGT	Horizontal Scan Direction
13	SLEEP*	Sleep Mode
14	CK0	Clock
15	CK1	Clock
16	VDD	Supply = +3.3 volt
17	VSS	Supply = -5 volt
18	TOUT1	Test Output 1
19	TOUT2	Test Output 2
20	VEE	Supply = 0V

\* Signal is active low