

# Kyocera LCD Minispecs

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*Should be printed on the true-to-nature theme paper, with "fit to page" box unchecked.*

*P and boldface indicate best-value LCD panels to be promoted.*

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### **Kyocera Industrial Ceramics Corp.**

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### Sales Offices

Illinois 847-981-9671 Florida 904-461-3373  
Texas 512-336-1725 Washington 360-750-6124

Or contact the Kyocera Customer Service Center at 800-826-0527.

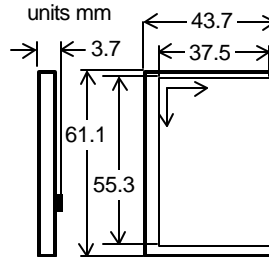
Effective 7/19/2001.

# KRS025EV0AB-B26

## Kyocera Liquid Crystal Display 2.5" Reflective Color STN LCD

### FEATURES

- ⇒ Extremely thin profile
- ⇒ Wide viewing angles
- ⇒ Extremely low power
- ⇒ Very light weight



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### TECHNICAL

Dot format	160 x (RGB) x 240 dots
Dot pitch	0.222 x 0.222 mm
Effective viewing area	37.5 x 55.3 mm
Horizontal viewing angle	-50, +50
Vertical viewing angle	-30, +40
Response time	400 ms
Contrast ratio	10:1
Reflectance	35 %
Logic supply voltage	3.3 V
Module power	31 mW
Operating temperature	0 ~ 50 °C
Weight	16 g
Interface data	8 bits; 1/240 duty
Interface connector, matching	0.5 mm pitch 22 pin FPC or FFC
Control LSI's -- Epson	S1D13504,5,6 / 13704,5,6 / 13806

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Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1CWS07-00 )

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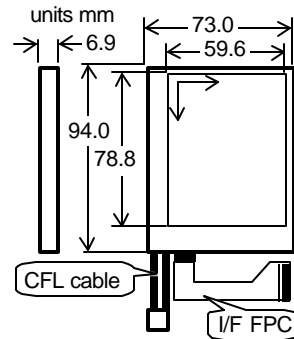
# KCS038AA1AJ-G21

## Kyocera Liquid Crystal Display

### 3.8" Transmissive Color STN LCD

#### FEATURES

- ⇒ Wide horizontal viewing angle
- ⇒ Wide vertical viewing angle
- ⇒ Long life backlight



#### TECHNICAL

Dot format	240 x (RGB) x 320 dots
Dot pitch	0.24 x 0.24 mm
Effective viewing area	59.6 x 78.8 mm
Horizontal viewing angle	-50, +50
Vertical viewing angle	-50, +50
Response time	400 ms
Contrast ratio	17:1
Brightness	100 nit
Backlight / life hrs	1 CFL tube / 40k
Backlight power each tube	675 mW
Inverter	PH-BLC08-K3
Logic supply voltage	3.3 V
LCD driving voltage	30.5 V
Module power	36 mW
Operating temperature	0 ~ 50 °C
Weight	65 g
Interface data	8 bits; 1/320 duty
Interface connector, matching	any for 22 pin 0.5 pitch FPC
Control LSI's -- Epson	S1D13504,5,6 / 13704,5,6 / 13806

Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1CWP01-00 )

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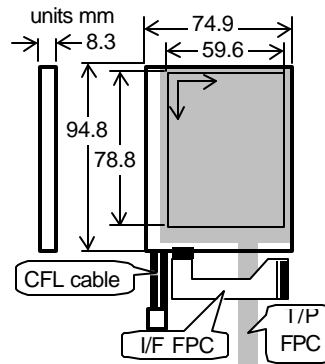
# KCS038AA1AK-G21

## Kyocera Liquid Crystal Display

### 3.8" Transmissive Color STN LCD

#### FEATURES

- ⇒ Analog touch panel
- ⇒ Wide horizontal viewing angle
- ⇒ Wide vertical viewing angle
- ⇒ Long life backlight



#### TECHNICAL

Dot format	240 x (RGB) x 320 dots
Dot pitch	0.24 x 0.24 mm
Effective viewing area	59.6 x 78.8 mm
Horizontal viewing angle	-50, +50
Vertical viewing angle	-50, +50
Response time	400 ms
Contrast ratio	17:1
Brightness	80
Backlight / life hrs	1 CFL tube / 40k
Backlight power each tube	675 mW
Inverter	PH-BLC08-K3
Logic supply voltage	3.3 V
LCD driving voltage	30.5 V
Module power	36 mW
Operating temperature	0 ~ 50 °C
Weight	85 g
Interface data	8 bits; 1/320 duty
Interface connector, matching	any for 22 pin 0.5 pitch FPC
Touch panel conn, matching	4 pin Elco 6216 or JST FE/FFS
Control LSI's -- Epson	S1D13504,5,6 / 13704,5,6 / 13806

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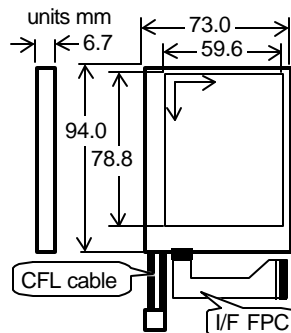
# KHS038AA1AJ-L89

## Kyocera Liquid Crystal Display

### 3.8" Transflective Color STN LCD

#### FEATURES

- ⇒ Sunlight readable
- ⇒ Long life backlight
- ⇒ Wide horizontal viewing angle
- ⇒ Scattering layer technology



#### TECHNICAL

Dot format	240 x (RGB) x 320 dots	
Dot pitch	0.24 x 0.24 mm	
Effective viewing area	59.6 x 78.8 mm	
	<u>Transmissive</u>	<u>Reflective</u>
Horizontal viewing angle	-50, +45	
Vertical viewing angle	-20, +30	
Response time	400 ms	400 ms
Contrast ratio	15:1	5:1
Brightness / reflectance	60 nit	6 %
Backlight / life hrs	1 CFL tube / 40k	
Backlight power each tube	688 mW	
Inverter	PH-BLC08-K3	
Logic supply voltage	3.3 V	
LCD driving voltage	( 30.2 V )	
Module power	36 mW	
Operating temperature	0 ~ 50 °C	
Weight	65 g	
Interface data	8 bits; 1/320 duty	
Interface connector, matching	any for 22 pin 0.5 pitch FPC	
Control LSI's -- Epson	S1D13504,5,6 / 13704,5,6 / 13806	

Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1CWN23-01 )

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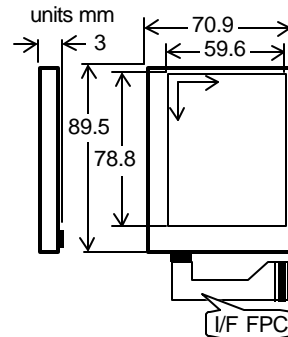
Effective 7/19/2001.

# KRS038AA0AL-G25

## Kyocera Liquid Crystal Display 3.8" Reflective Color STN LCD

### FEATURES

- ⇒ Thin profile
- ⇒ Improved reflector technology
- ⇒ Extremely low power



### TECHNICAL

Dot format	240 x (RGB) x 320 dots
Dot pitch	0.24 x 0.24 mm
Effective viewing area	59.6 x 78.8 mm
Horizontal viewing angle	-30, +40
Vertical viewing angle	-50, +50
Response time	400 ms
Contrast ratio	7:1
Reflectance	16 %
Logic supply voltage	3.3 V
LCD driving voltage	30.1 V
Module power	35 mW
Operating temperature	0 ~ 50 °C
Weight	27 g
Interface data	8 bits; 1/320 duty
Interface connector, matching	any for 22 pin 0.5 pitch FPC
Control LSI's -- Epson	S1D13504,5,6 / 13704,5,6 / 13806

Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1CWO02-00 )

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Effective 7/19/2001.

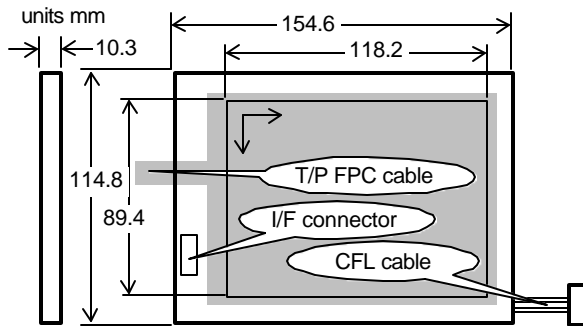
# KCS057QV1AD-G23

## Kyocera Liquid Crystal Display

### 5.7" QVGA Transmissive Color STN LCD

#### FEATURES

- ⇒ Analog touch panel
- ⇒ Wide horizontal viewing angle
- ⇒ Long life backlight
- ⇒ Replaceable lamp unit
- ⇒ High brightness



#### TECHNICAL

Dot format	320 x (RGB) x 240 dots
Dot pitch	0.36 x 0.36 mm
Effective viewing area	118.2 x 89.4 mm
Horizontal viewing angle	-50, +50
Vertical viewing angle	-30, +30
Response time	330 ms
Contrast ratio	40:1
Brightness	160 nit
Backlight / life hrs	1 CFL tube / 40k
Backlight power each tube	1.60 W
Inverter	PH-BLC08-K3
Logic supply voltage	5.0 V
LCD driving voltage	25.4 V
Module power	210 mW
Operating temperature	0 ~ 50 °C
Weight	240 g
Interface data	8 bits; 1/240 duty
Interface connector, matching	Molex 51021-1500
Touch panel conn, matching	4 pin Elco 6216 or JST FE/FFS
Control LSI's -- Epson	S1D13504,5,6 / 13704,5,6 / 13806
-- Chips & Technology	65545 / 48 / 50 / 54 / 55
Includes bias voltage & randomizing circuits.	

Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1CWC30-00 )

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Effective 7/19/2001.

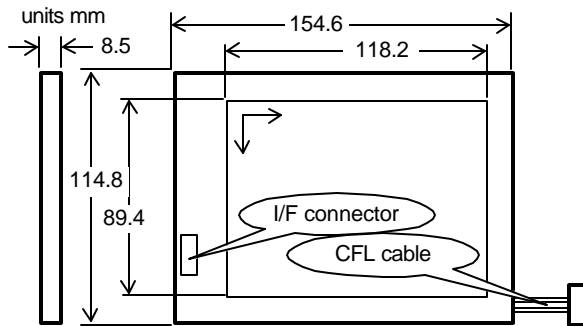
# KCS057QV1AJ-G32

## Kyocera Liquid Crystal Display

### 5.7" QVGA Transmissive Color STN LCD

#### FEATURES

- ⇒ Wide horizontal viewing angle
- ⇒ Long life backlight
- ⇒ Replaceable lamp unit
- ⇒ High brightness



#### TECHNICAL

Dot format	320 x (RGB) x 240 dots
Dot pitch	0.36 x 0.36 mm
Effective viewing area	118.2 x 89.4 mm
Horizontal viewing angle	-50, +50
Vertical viewing angle	-50, +40
Response time	330 ms
Contrast ratio	40:1
Brightness	200 nit
Backlight / life hrs	1 CFL tube / 40k
Backlight power each tube	1.60 W
Inverter	PH-BLC08-K3
Logic supply voltage	5.0 V
LCD driving voltage	25.4 V
Module power	210 mW
Operating temperature	0 ~ 60 °C
Weight	200 g
Interface data	8 bits; 1/240 duty
Interface connector, matching	Molex 51021-1500
Control LSI's -- Epson	S1D13504,5,6 / 13704,5,6 / 13806
-- Chips & Technology	65545 / 48 / 50 / 54 / 55

Includes bias voltage & randomizing circuits.

Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1CWC02-01 )

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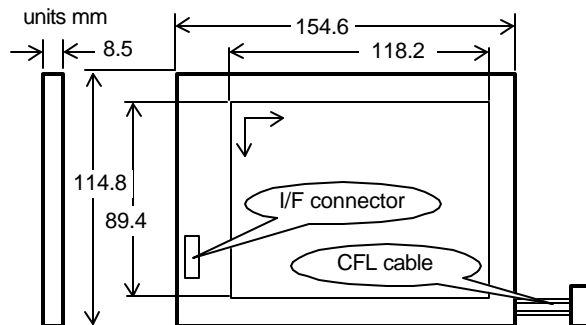
Effective 7/19/2001.

# KHS057QV1AJ-L89

## Kyocera Liquid Crystal Display 5.7" QVGA Transflective Color STN LCD

### FEATURES

- ⇒ Sunlight readable
- ⇒ Scattering layer technology
- ⇒ Long life backlight
- ⇒ Wide horizontal viewing angle



### TECHNICAL

Dot format	320 x (RGB) x 240 dots	
Dot pitch	0.36 x 0.36 mm	
Effective viewing area	118.2 x 89.4 mm	
	<u>Transmissive</u>	<u>Reflective</u>
Horizontal viewing angle	-30, +40	-30, +40
Vertical viewing angle	-50, +50	-50, +50
Response time	350 ms	350 ms
Contrast ratio	16:1	6:1
Brightness / reflectance	150 nit	TBD
Backlight / life hrs	1 CFL tube / 40k	
Backlight power each tube	1.60 W	
Inverter	PH-BLC08-K3	
Logic supply voltage	5.0 V	
LCD driving voltage	26.1 V	
Module power	211 mW	
Operating temperature	0 ~ 50 °C	
Weight	200 g	
Interface data	8 bits; 1/240 duty	
Interface connector, matching	Molex 51021-1500	
Control LSI's -- Epson	SED1354 / 55 / 56 / 86	
-- Chips & Technology	S1D13504,5,6 / 13704,5,6 / 13806	
Includes bias voltage & randomizing circuits.		

Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1CWG05-00 )

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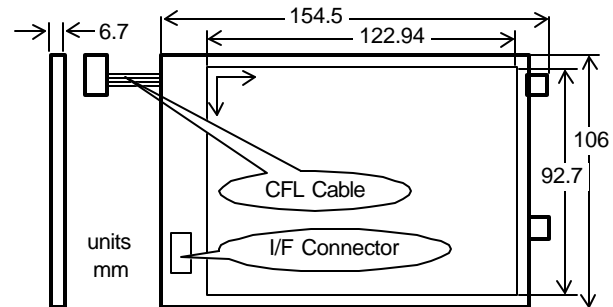
Effective 7/19/2001.

# KCB060VG1CB-A02

## Kyocera Liquid Crystal Display 6.0" VGA Transmissive Color STN LCD

### FEATURES

- ⇒ Low power consumption
- ⇒ ASDM drivers for low cross talk
- ⇒ Interlaced data for no flicker



### TECHNICAL

Dot format	640 x (RGB) x 480 dots
Dot pitch	0.189 x 0.189 mm
Effective viewing area	122.94 x 92.70 mm
Horizontal viewing angle	-45, +45
Vertical viewing angle	-20, +35
Response time	500 ms
Contrast ratio	20:1
Brightness	70 nit
Backlight / life hrs	1 CFL tube / 20k
Backlight power each tube	1.23 W
Inverter	PH-BLC08-K1
Logic supply voltage	3.3 V
Module power	304 mW
Operating temperature	0 ~ 50 °C
Weight	137 g
Interface data	16 bits interlaced; 1/480 duty
Interface connector, matching	Molex 53885-0301
Control LSI's -- Epson	S1D13504,5,6 / 13806
-- Chips & Technology	65545 / 50 / 54 / 55

Includes DC/DC conversion, bias voltage & randomizing circuits.

Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1FGYP15-00 )

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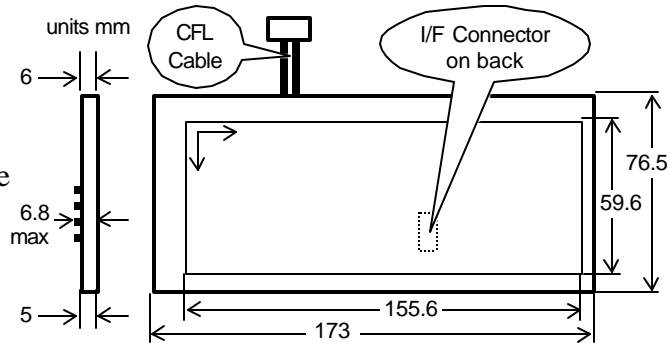
Effective 7/19/2001.

# KCB065HV1AC-G40

## Kyocera Liquid Crystal Display 6.5" Half-VGA Transmissive Color STN LCD

### FEATURES

- ⇒ Long life CFL
- ⇒ Low backlight power
- ⇒ Wide horizontal viewing angle
- ⇒ Very thin profile



### TECHNICAL

Dot format	640 x (RGB) x 240 dots
Dot pitch	0.24 x 0.24 mm
Effective viewing area	155.6 x 59.6 mm
Horizontal viewing angle	-55, +55
Vertical viewing angle	-25, +35
Response time	330 ms
Contrast ratio	30:1
Brightness	100 nit
Backlight / life hrs	1 CFL tube / 40k
Backlight power each tube	1.04 W
Inverter	PH-BLC08-K2
Logic supply voltage	3.3 V
LCD contrast voltage	(1.95 V)
Module power	116 mW
Operating temperature	0 ~ 40 °C
Weight	101 g
Interface data	8 bits; 1/240 duty
Interface connector, matching	18 pin 0.5mm pitch FFC or FPC
Control LSI's -- Epson	S1D13504,5,6 / 13705,6 / 13806
-- Chips & Technology	65545 / 48 / 50 / 54 / 55
Includes temperature compensation, DC/DC conversion, bias voltage & randomizing circuits.	

Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1AASD16-02 )

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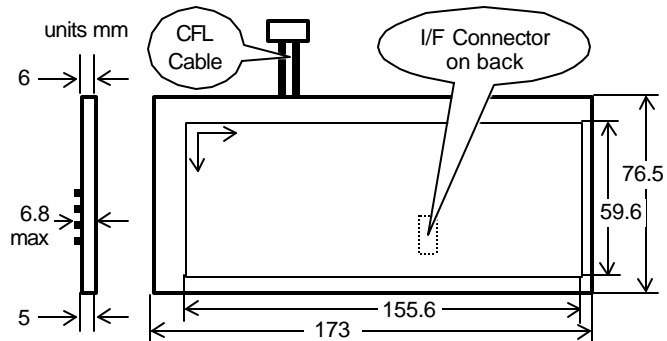
Effective 7/19/2001.

# KHB065HV1AC-G83

## Kyocera Liquid Crystal Display 6.5" Half-VGA Transflective Color STN LCD

### FEATURES

- ⇒ Improved internal half mirror
- ⇒ Long life CFL
- ⇒ Low backlight power
- ⇒ Wide horizontal viewing angle
- ⇒ Very thin profile



### TECHNICAL

Dot format	640 x (RGB) x 240 dots	
Dot pitch	0.24 x 0.24 mm	
Effective viewing area	155.6 x 59.6 mm	
	<u>Transmissive</u>	<u>Reflective</u>
Horizontal viewing angle	-50, +50	-50, +50
Vertical viewing angle	-30, +40	-30, +40
Response time	( 350 ms )	( 350 ms )
Contrast ratio	15:1	5:1
Brightness / reflectance	TBD	TBD
Backlight / life hrs	1 CFL tube / 40k	
Backlight power each tube	0.95 W	
Inverter	PH-BLC08-K2	
Logic supply voltage	3.3 V	
LCD contrast voltage	(1.95 V)	
Module power	116 mW	
Operating temperature	0 ~ 50 °C	
Weight	101 g	
Interface data	8 bits; 1/240 duty	
Interface connector, matching	18 pin 0.5mm pitch FFC or FPC	
Control LSI's -- Epson	S1D13504,5,6 / 13705,6 / 13806	
-- Chips & Technology	65545 / 48 / 50 / 54 / 55	
Includes DC/DC conversion, bias voltage & randomizing circuits.		

Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1AAZT07-00 )

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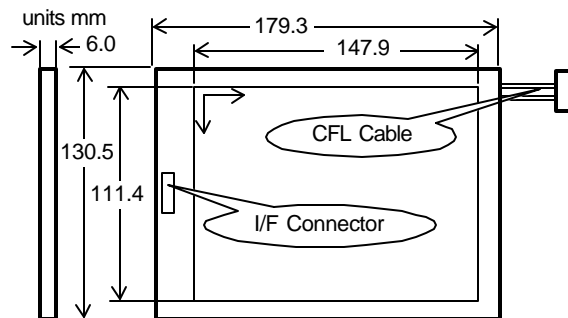
Effective 7/19/2001.

# KCS072VG1MB-G40

## Kyocera Liquid Crystal Display 7.2" VGA Transmissive Color STN LCD

### FEATURES

- ⇒ Very thin profile
- ⇒ High contrast



### TECHNICAL

Dot format	640 x (RGB) x 480 dots
Dot pitch	0.228 x 0.228 mm
Effective viewing area	147.9 x 111.4 mm
Horizontal viewing angle	-45, +50
Vertical viewing angle	-20, +35
Response time	330 ms
Contrast ratio	30:1
Brightness	100 nit
Backlight / life hrs	1 CFL tube / 20k
Backlight power each tube	1.85 W
Inverter	PH-BLC08-K2
Logic supply voltage	3.3 V
LCD contrast voltage	1.95 V
Module power	396 mW
Operating temperature	0 ~ 40 °C
Weight	170 g
Interface data	8 bits x 2; 1/240 duty
Interface connector, matching	Hirose DF9B-31S-1V
Control LSI's -- Epson	S1D13504,5,6 / 13806
-- Chips & Technology	65545 / 48 / 50 / 54 / 55

Includes DC/DC conversion, bias voltage & randomizing circuits.

Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1FDYN58-00 )

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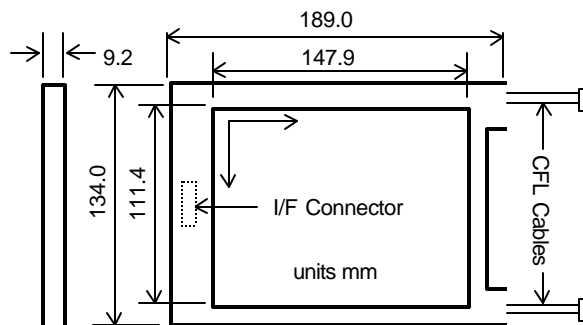
Effective 7/19/2001.

# KCS072VG2MA-G16

## Kyocera Liquid Crystal Display 7.2" VGA Transmissive Color STN LCD

### FEATURES

- ⇒ High brightness
- ⇒ High contrast
- ⇒ Two extra long life CFL
- ⇒ Field replaceable CFL tubes



### TECHNICAL

Dot format	640 x (RGB) x 480 dots
Dot pitch	0.228 x 0.228 mm
Effective viewing area	147.9 x 111.4 mm
Horizontal viewing angle	-50, +45
Vertical viewing angle	-20, +35
Response time	240 ms
Contrast ratio	30:1
Brightness	250 nit
Backlight / life hrs	2 CFL tube / 54k
Backlight power each tube	1.95 W
Inverter	KCI-12
Logic supply voltage	3.3 V
LCD contrast voltage	1.95 V
Module power	396 mW
Operating temperature	0 ~ 50 °C
Weight	370 g
Interface data	8 bits x 2; 1/240 duty
Interface connector, matching	Hirose DF9B-31S-1V
Control LSI's -- Epson	S1D13504,5,6 / 13806
-- Chips & Technology	65545 / 48 / 50 / 54 / 55

Includes DC/DC conversion, bias voltage & randomizing circuits.

Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1CYN04-01 )

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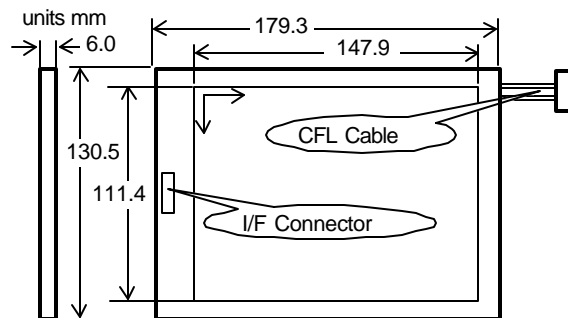
Effective 7/19/2001.

# KHS072VG1MB-L89

## Kyocera Liquid Crystal Display 7.2" VGA Transflective Color STN LCD

### FEATURES

- ⇒ Sunlight readable
- ⇒ Scattering layer technology
- ⇒ Long life CFL
- ⇒ Wide horizontal viewing angle
- ⇒ Very thin profile



### TECHNICAL

Dot format	640 x (RGB) x 480 dots	
Dot pitch	0.228 x 0.228 mm	
Effective viewing area	147.9 x 111.4 mm	
	<u>Transmissive</u>	<u>Reflective</u>
Horizontal viewing angle	-50, +50	-50, +50
Vertical viewing angle	-30, +40	-30, +40
Response time	350 ms	350 ms
Contrast ratio	20:1	10:1
Brightness / reflectance	80 nit	TBD
Backlight / life hrs	1 CFL tube / 40k	
Backlight power each tube	1.93 W	
Inverter	PH-BLC08-K2	
Logic supply voltage	3.3 V	
LCD contrast voltage	1.95 V	
Module power	416 mW	
Operating temperature	0 ~ 50 °C	
Weight	170 g	
Interface data	8 bits x 2; 1/240 duty	
Interface connector, matching	Hirose DF9B-31S-1V	
Control LSI's -- Epson	S1D13504,5,6 / 13806	
-- Chips & Technology	65545 / 48 / 50 / 54 / 55	
Includes DC/DC conversion, bias voltage & randomizing circuits.		

Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1CWJ09-00 )

#### Kyocera Industrial Ceramics Corp.

5713 East Fourth Plain Boulevard  
Vancouver, WA 98661

#### Sales Offices

Illinois 847-981-9671 Florida 904-461-3373  
Texas 512-336-1725 Washington 360-750-6124

Or contact the Kyocera Customer Service Center at 800-826-0527.

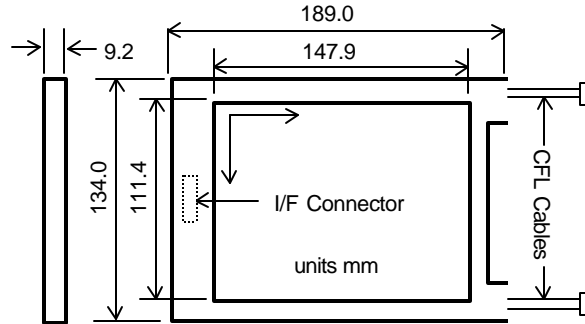
Effective 7/19/2001.

# KHS072VG2MA-L89

## Kyocera Liquid Crystal Display 7.2" VGA Transflective Color STN LCD

### FEATURES

- ⇒ Sunlight readable
- ⇒ Scattering layer technology
- ⇒ Two extra long life CFLs
- ⇒ Wide horizontal viewing angle



### TECHNICAL

Dot format	640 x (RGB) x 480 dots	
Dot pitch	0.228 x 0.228 mm	
Effective viewing area	147.9 x 111.4 mm	
	<u>Transmissive</u>	<u>Reflective</u>
Horizontal viewing angle	-50, +50	-50, +50
Vertical viewing angle	-30, +40	-30, +40
Response time	350 ms	350 ms
Contrast ratio	20:1	10:1
Brightness / reflectance	160 nit	5%
Backlight / life hrs	2 CFL tubes / 54k	
Backlight power each tube	1.96 W	
Inverter	KCI-12	
Logic supply voltage	3.3 V	
LCD contrast voltage	1.95 V	
Module power	416 mW	
Operating temperature	0 ~ 50 °C	
Weight	370 g	
Interface data	8 bits x 2; 1/240 duty	
Interface connector, matching	Hirose DF9B-31S-1V	
Control LSI's -- Epson	S1D13504,5,6 / 13806	
-- Chips & Technology	65545 / 48 / 50 / 54 / 55	
Includes DC/DC conversion, bias voltage & randomizing circuits.		

Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1CWJ13-00 )

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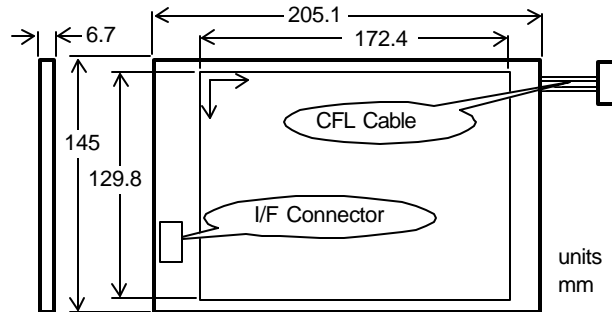
Effective 7/19/2001.

# KCB084SV1AE-G40

## Kyocera Liquid Crystal Display 8.4" SVGA Transmissive Color STN LCD

### FEATURES

- ⇒ Wide horizontal viewing angle
- ⇒ High brightness



### TECHNICAL

Dot format	800 x (RGB) x 600 dots
Dot pitch	0.213 x 0.213 mm
Effective viewing area	172.4 x 129.8 mm
Horizontal viewing angle	-55, +50
Vertical viewing angle	-20, +35
Response time	550 ms
Contrast ratio	30:1
Brightness	150 nit
Backlight / life hrs	1 CFL tube / 30k
Backlight power each tube	2.5 W
Inverter	PH-BLC08-K1
Logic supply voltage	3.3 V
Module power	396 mW
Operating temperature	0 ~ 50 °C
Weight	225 g
Interface data	8 bits x 2; 1/300 duty
Interface connector, matching	Hirose DF9B-31S-1V
Control LSI's -- Epson	S1D13504,5,6 / 13806
-- Chips & Technology	65545 / 48 / 50 / 54 / 55

Includes DC/DC conversion, bias voltage & randomizing circuits.

Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1AAZL10-01 )

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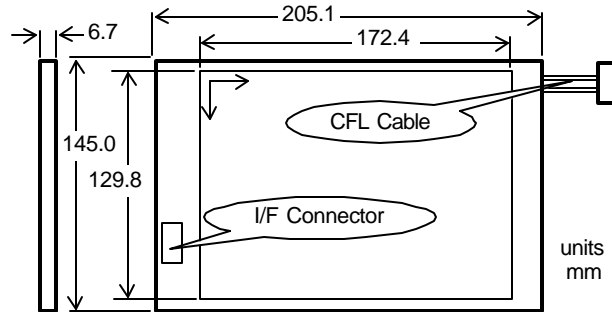
Effective 7/19/2001.

# KHB084SV1AE-G83

## Kyocera Liquid Crystal Display 8.4" SVGA Transflective Color STN LCD

### FEATURES

- ⇒ Sunlight readable
- ⇒ Improved internal half mirror
- ⇒ Long life CFL
- ⇒ Wide horizontal viewing



### TECHNICAL

Dot format	800 x (RGB) x 600 dots	
Dot pitch	0.213 x 0.213 mm	
Effective viewing area	172.4 x 129.8 mm	
	<u>Transmissive</u>	<u>Reflective</u>
Horizontal viewing angle	-45, +50	
Vertical viewing angle	-25, +40	
Response time	400 ms	400 ms
Contrast ratio	15:1	5:1
Brightness / reflectance	40 nit	6.0 %
Backlight / life hrs	1 CFL tube / 30k	
Backlight power each tube	2.5 W	
Inverter	PH-BLC08-K1	
Logic supply voltage	3.3 V	
Module power	396 mW	
Operating temperature	0 ~ 50 °C	
Weight	225 g	
Interface data	8 bits x 2; 1/300 duty	
Interface connector, matching	Hirose DF9B-31S-1V	
Control LSI's -- Epson	S1D13504,5,6 / 13806	
-- Chips & Technology	65545 / 48 / 50 / 54 / 55	

Includes DC/DC conversion, bias voltage & randomizing circuits.

Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1AAZM21-01 )

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Or contact the Kyocera Customer Service Center at 800-826-0527.

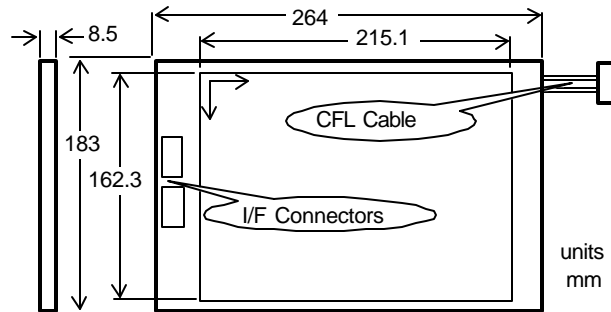
Effective 7/19/2001.

# KCB104VG1BB-A01

## Kyocera Liquid Crystal Display 10.4" VGA Transmissive Color STN LCD

### FEATURES

- ⇒ High speed
- ⇒ Long life backlight



### TECHNICAL

Dot format	640 x (RGB) x 480 dots
Dot pitch	0.33 x 0.33 mm
Effective viewing area	215.1 x 162.3 mm
Horizontal viewing angle	-45, +45
Vertical viewing angle	-20, +35
Response time	240 ms
Contrast ratio	20:1
Brightness	90 nit
Backlight / life hrs	1 CFL tube / 40k
Backlight power each tube	2.6 W
Inverter	PH-BLC08-K1
Logic supply voltage	5.0 V
Module power	340 mW
Operating temperature	0 ~ 40 °C
Weight	540 g
Interface data	8 bits x 2; 1/240 duty
Interface connector, matching	Molex 51021-1500 & 51021-1400
Control LSI's -- Epson	S1D13504,5,6 / 13806
-- Chips & Technology	65545 / 48 / 50 / 54 / 55

Includes DC/DC conversion, bias voltage & randomizing circuits.

Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1AAYM17-02 )

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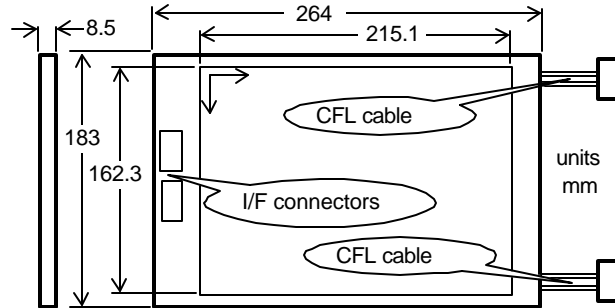
Effective 7/19/2001.

# KCB104VG2CA-A43

## Kyocera Liquid Crystal Display 10.4" VGA Transmissive Color STN LCD

### FEATURES

- ⇒ High speed
- ⇒ Dual backlights
- ⇒ Field replaceable backlights



### TECHNICAL

Dot format	640 x (RGB) x 480 dots
Dot pitch	0.33 x 0.33 mm
Effective viewing area	215.1 x 162.3 mm
Horizontal viewing angle	-45, +45
Vertical viewing angle	-20, +35
Response time	240 ms
Contrast ratio	30:1
Brightness	160 nit
Backlight / life hrs	2 CFL tubes / 40k
Backlight power each tube	2.6 W (x2)
Inverter	KCI-13
Logic supply voltage	5.0 V
Module power	340 mW
Operating temperature	0 ~ 50 °C
Weight	540 g
Interface data	8 bits x 2; 1/240 duty
Interface connector, matching	Molex 51021-1500 & 51021-1400
Control LSI's -- Epson	S1D13504,5,6 / 13806
-- Chips & Technology	65545 / 48 / 50 / 54 / 55

Includes DC/DC conversion, bias voltage & randomizing circuits.

Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1AAYM91-00 )

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Or contact the Kyocera Customer Service Center at 800-826-0527.

Effective 7/19/2001.

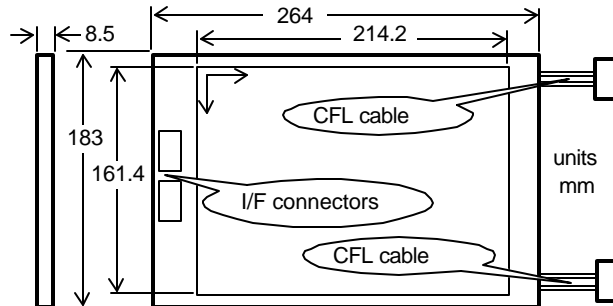
# KCB104SV2AA-A20

## Kyocera Liquid Crystal Display 10.4" SVGA Transmissive Color STN LCD

### FEATURES

- ⇒ High brightness
- ⇒ High contrast
- ⇒ Wide horizontal viewing angle

### TENTATIVE



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### TECHNICAL

Dot format	800 x (RGB) x 600 dots
Dot pitch	0.264 x 0.264 mm
Effective viewing area	214.2 x 161.4 mm
Horizontal viewing angle	-45, +65
Vertical viewing angle	-35, +20
Response time	420 ms
Contrast ratio	25:1
Brightness	185 nit
Backlight / life hrs	2 CFL tubes / 40k
Backlight power each tube	2.6 W x 2
Inverter	KCI-13
Logic supply voltage	3.0 / 5.0 V
Module power	430 / 550 mW
Operating temperature	0 ~ 40 °C
Weight	540 g
Interface data	8 bits x 2; 1/300 duty
Interface connector, matching	Molex 51021-1500 & 51021-1400
Control LSI's -- Epson	S1D13504,5,6 / 13806
-- Chips & Technology	65545 / 48 / 50 / 54 / 55

Includes DC/DC conversion, bias voltage & randomizing circuits.

Specifications subject to change without notice. ----- (TQ3C-8EAC0-E1AAZN19-00)

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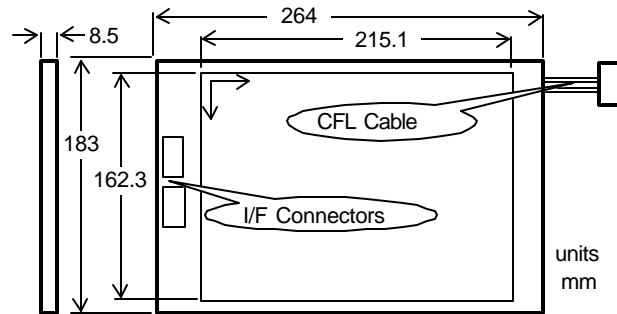
Effective 7/19/2001.

# KHB104VG1BB-G82

## Kyocera Liquid Crystal Display 10.4" VGA Transflective Color STN LCD

### FEATURES

- ⇒ Sunlight readable
- ⇒ Improved internal half mirror
- ⇒ Long life backlight
- ⇒ Wide horizontal viewing angle



### TECHNICAL

Dot format	640 x (RGB) x 480 dots	
Dot pitch	0.33 x 0.33 mm	
Effective viewing area	215.1 x 162.3 mm	
	<u>Transmissive</u>	<u>Reflective</u>
Horizontal viewing angle	-50, +50	-50, +50
Vertical viewing angle	-30, +40	-30, +40
Response time	( 350 ms )	( 350 ms )
Contrast ratio	15:1	5:1
Brightness / reflectance	60 nit	TBD
Backlight / life hrs	1 CFL tube / 40k	
Backlight power each tube	2.6 W	
Inverter	PH-BLC08-K1	
Logic supply voltage	5.0 V	
Module power	340 mW	
Operating temperature	0 ~ 50 °C	
Weight	540 g	
Interface data	8 bits x 2; 1/240 duty	
Interface connector, matching	Molex 51021-1500 & 51021-1400	
Control LSI's -- Epson	S1D13504,5,6 / 13806	
-- Chips & Technology	65545 / 48 / 50 / 54 / 55	

Includes DC/DC conversion, bias voltage & randomizing circuits.

Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1AAZP11-00 )

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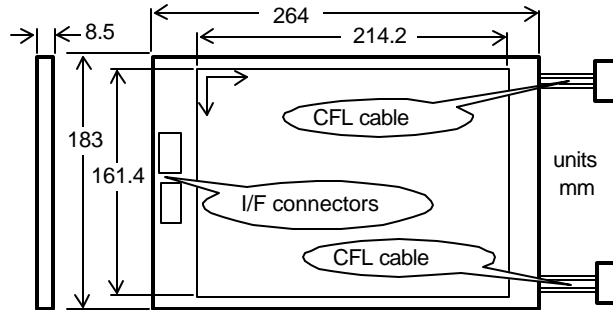
Effective 7/19/2001.

# KHB104SV2AA-G91

## Kyocera Liquid Crystal Display 10.4" SVGA Transflective Color STN LCD

### FEATURES

- ⇒ Sunlight readable
- ⇒ Improved internal half mirror
- ⇒ Wide operating temperature range



### TECHNICAL

Dot format	800 x (RGB) x 600 dots	
Dot pitch	0.264 x 0.264 mm	
Effective viewing area	214.2 x 161.4 mm	
	<u>Transmissive</u>	<u>Reflective</u>
Horizontal viewing angle	-40, +35	-45, +45
Vertical viewing angle	-40, +40	-60, +60
Response time	( 400 ms )	( 400 ms )
Contrast ratio	15:1	5:1
Brightness / reflectance	100 nit	TBD
Backlight / life hrs	2 CFL tubes / 10k	
Backlight power each tube	2.18 W (x2)	
Inverter	TBD	
Logic supply voltage	5.0 V	
Module power	550 mW	
Operating temperature	-20 ~ +70 °C	
Weight	540 g	
Interface data	8 bits x 2; 1/300 duty	
Interface connector, matching	Molex 51021-1500 & 51021-1400	
Control LSI's -- Epson	S1D13504,5,6 / 13806	
-- Chips & Technology	65545 / 48 / 50 / 54 / 55	

Includes DC/DC conversion, bias voltage & randomizing circuits.

Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1AAZS14-01 )

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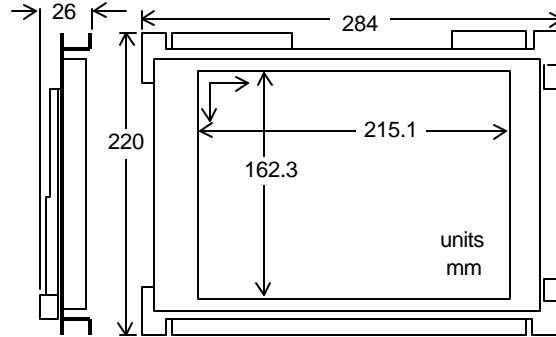
Effective 7/19/2001.

# KA5M-VGA-15 Module

Analog RGB Interface, Inverter, Power Supply,  
10.4" VGA Transmissive Color STN LCD and Chassis

## FEATURES

- ⇒ All-in-one unit for easy design
- ⇒ Perfect for industrial monitors
- ⇒ Compatible with many touch panels
- ⇒ Directly connects to CRT port
- ⇒ Dual long-life backlights
- ⇒ High contrast



## TECHNICAL

Display dot format	640 x (RGB) x 480 dots
Effective viewing area	215.1 x 162.3 mm
Contrast ratio / brightness (typ)	30:1 / 160 nit
Response time (typ)	240 ms
Backlight / life	2 CFL tubes / 40k hrs
Backlight inverter input	12 V / 9 W max
Power supply input	12 V / 3.3 W max
Output to optional touch panel	5 V / 130mA max
Area for t/p controller board	(consult drawing)
Operating temperature	0 ~ 50 °C
Standard ARGB input modes	VGA, VESA, Text
	512 colors / 8 levels each
Gain, contrast	2 adjustment pots
Horizontal shift adjustment	8 bits / 2 hex rotary switches
Vertical shift adjustment	5 bits / 2 hex rotary switches
PLL clock (width) adjustment	6 bits / 2 hex rotary switches
Clock adjustment	2 bits / 1 hex rotary switch
VGA (15 pin D-sub) receptacle	KHEY-15S-1A3A (JST)
For standard CRT cable	
Dual circuit 12 V header	S4B-EH (JST)
12 V matching connector	EHR-4 (JST)
Header for optional touch panel	S2B-EH (JST)

Specifications subject to change without notice. ----- ( TQ3C-8EAC0-E1ARA04-00 )

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