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# PRODUCT SPECIFICATION

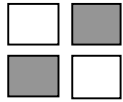
MONOCHROME LCD MODULE

PART NUMBER : FDG122032P

DESCRIPTION : 32x122Graphic

REVISION : Rev A

Approval for Specification only		Approval for Sample Only
Approval for Pre-production	<b>x</b>	Approval for Mass Production



# FDG122032P ( 122 DOTS X 32 DOTS )

## FEATURES

- ◆ BUILT-IN CONTROLLER (SED1520 OR EQUIVALENT)
- ◆ +5 V POWER SUPPLY
- ◆ 1/32 DUTY CYCLE
- ◆ 8-BIT PARALLEL INTERFACE
- ◆ EDGE LIGHTING TYPE LED RGB

## MECHANICAL DATA

ITEM	DIMENSIONS	UNIT
Module Size ( W x H x T )	117.0 x 39.0 x 12.7	mm
Viewing Area ( W x H )	84.0 x 27.0	mm
Active Area ( W x H )	79.62 x 20.76	mm
Dot Size ( W x H )	0.61 x 0.61	mm
Dot Pitch ( W x H )	0.65 x 0.65	mm

## INTERFACE PIN CONNECTIONS

NO.	SYMBOL	LEVEL	FUNCTION
1	V <sub>SS</sub>	0V	Power Supply Ground
2	V <sub>DD</sub>	5V	Power Supply Voltage
3	V <sub>o</sub>	-	Contrast Adjustment Voltage
4	A <sub>o</sub>	H/L	Data Type Select Signal
5	R/W	H/L	H : Read / L : Write
6	E1	H,H→L	Chip Select Singal for IC1
7	E2	H,H→L	Chip Select Singal for IC2
8~15	DB0-DB7	H/L	Data Bus Line
16	/RES	L	Reset Signal
17	A	4.2V	LED Power (+)
18	K1	L	Red LED power supply
19	K2	L	Green LED power supply
20	K3	L	Blue LED power supply

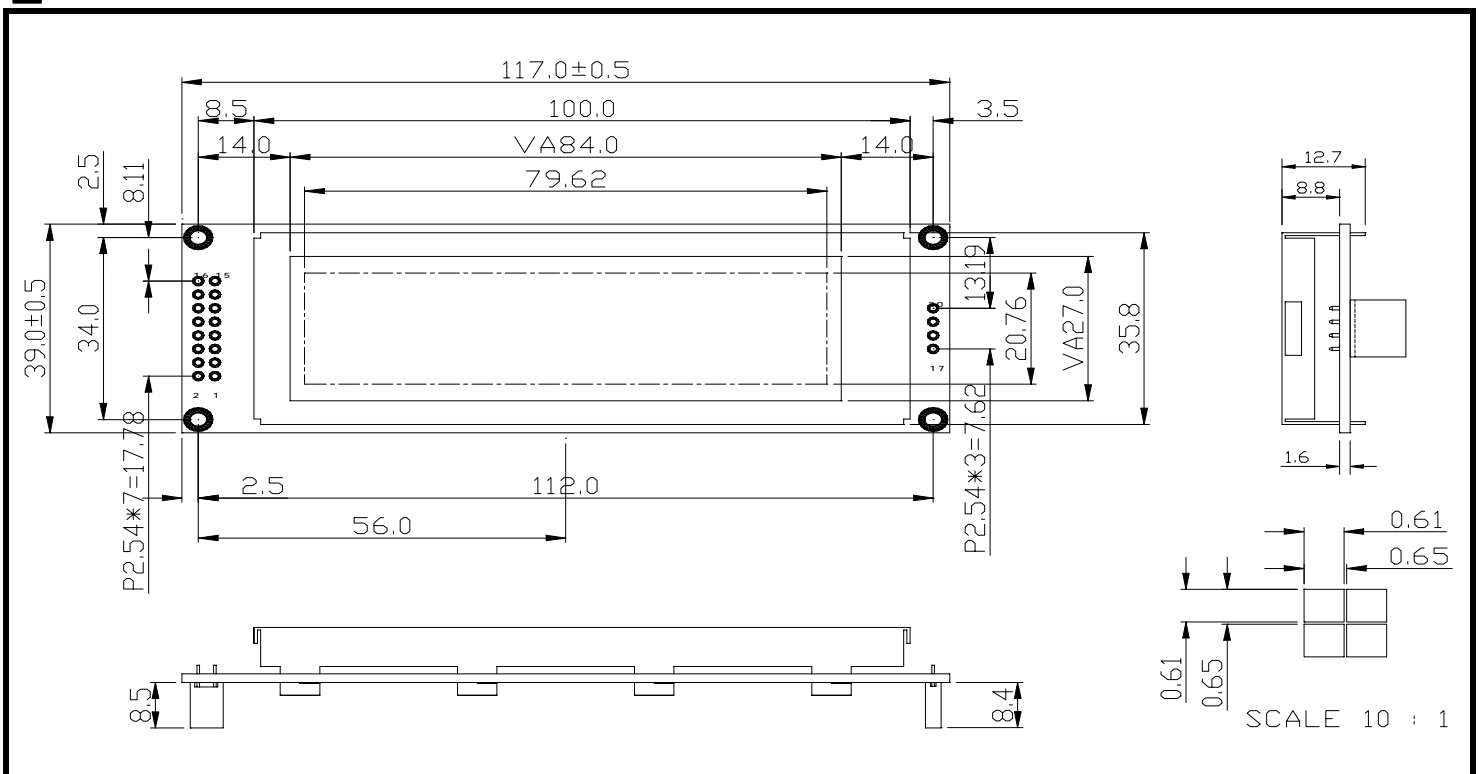
## ABSOLUTE MAXIMUM RATINGS

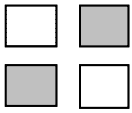
ITEM	SYMBOL	MIN.	TYP.	MAX.	UNIT
Supply Voltage For Logic	V <sub>DD</sub> -V <sub>SS</sub>	0	-	7	V
Supply Voltage For LCD Drive	V <sub>DD</sub> -V <sub>o</sub>	0	-	12	V
Input Voltage	V <sub>I</sub>	V <sub>SS</sub>	-	V <sub>DD</sub>	V

## ELECTRICAL CHARACTERISTICS

ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT	
Supply Voltage For Logic	V <sub>DD</sub> -V <sub>SS</sub>	-	4.5	5	5.5	V	
Supply Voltage For LCD	V <sub>DD</sub> -V <sub>o</sub>	V <sub>DD</sub> =5V Ta=25°C	4.4	4.8	5.2	V	
Supply Current	I <sub>DD</sub>	V <sub>DD</sub> =5V	-	2.5	4.5	mA	
Input Voltage	"HIGH" Level	V <sub>IH</sub>	-	2.2	-	V <sub>DD</sub>	V
	"LOW" Level	V <sub>IL</sub>	-	-	-	0.6	V
Output Voltage	"HIGH" Level	V <sub>OH</sub>	-	2.4	-	V	V
	"LOW" Level	V <sub>OL</sub>	-	-	-	0.4	V

## EXTERNAL DIMENSIONS

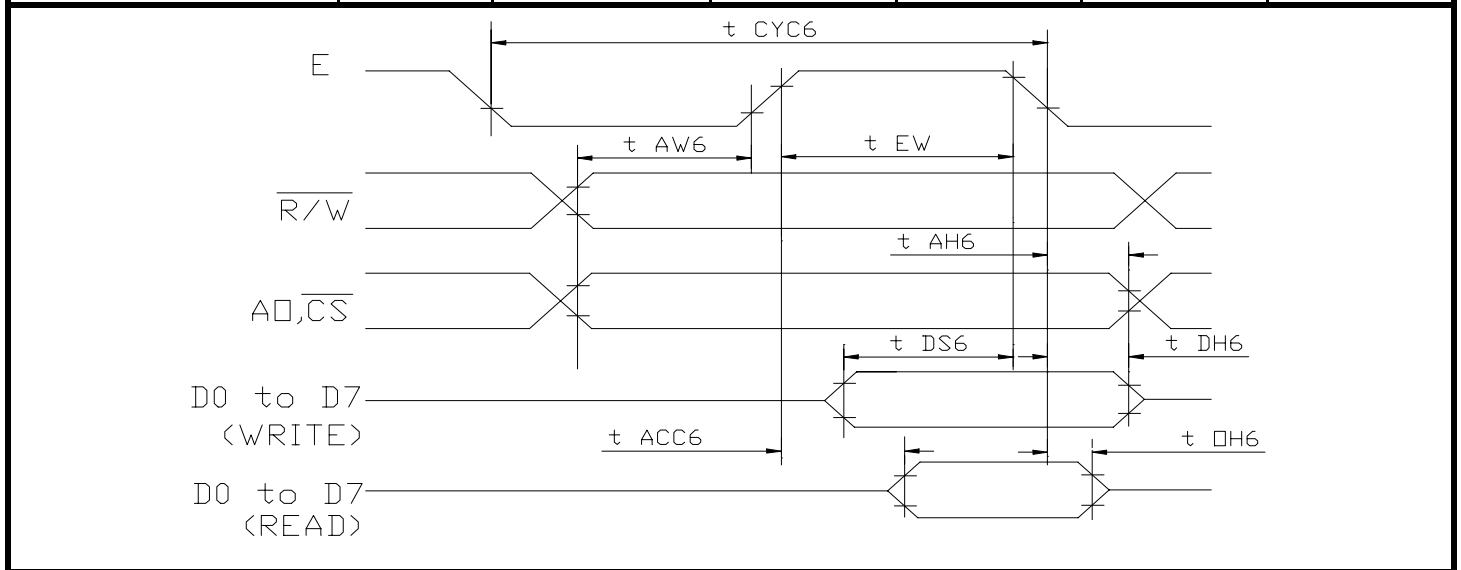




# FDG122032P ( 122 DOTS X 32 DOTS )

## ■ TIMING CHARACTERISTICS

ITEM	SYMBOL	MIN.	TYP.	MAX.	UNIT.
System Cycle Time	$t_{CYC6}$	1000	-	-	ns
Address Set-up Time	$t_{AW6}$	20	-	-	ns
Address Hold Time	$t_{AH6}$	10	-	-	ns
Data Set-up Time	$t_{DS6}$	80	-	-	ns
Data Hold Time	$t_{DH6}$	10	-	-	ns
Output Disable Time	$t_{OH6}$	10	-	60	ns
Access Time	$t_{ACC6}$	-	-	90	ns
Enable Pulse Width	Read	$t_{EW}$	-	-	ns
	Write				



## ■ BLOCK DIAGRAM

