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PRODUCT SPECIFICATION

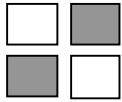
MONOCHROME LCD MODULE

PART NUMBER : FDG128064A

DESCRIPTION : 64x128Graphic

REVISION : Rev A

	Approval for Specification only		Approval for Sample Only
	Approval for Pre-production	x	Approval for Mass Production



FDG128064A (128 DOTS X 64 DOTS)

FEATURES

- ◆ BUILT-IN CONTROLLER (KS0107 OR EQUIVALENT)
- ◆ +5 V POWER SUPPLY
- ◆ 1/64 DUTY CYCLE
- ◆ 8-BIT PARALLEL INTERFACE
- ◆ 4.2 V LED FORWARD VOLTAGE

MECHANICAL DATA

ITEM	DIMENSIONS	UNIT
Module Size (W x H x T)	93.0 x 70.0 x 8.8 (12.7 LED)	mm
Viewing Area (W x H)	72.0 x 40.0	mm
Active Area (W x H)	66.52 x 33.24	mm
Dot Size (W x H)	0.48 x 0.48	mm
Dot Pitch (W x H)	0.52 x 0.52	mm

INTERFACE PIN CONNECTIONS

NO.	SYMBOL	LEVEL	FUNCTION
1	Vss	0V	Power Supply Ground
2	VDD	5V	Power Supply Voltage
3	Vo	-	Contrast Adjustment Voltage
4	D/I	H/L	H : Data, L : Instruction Code
5	R/W	H/L	H : Read / L : Write
6	E	H→L	Enable Signal
7-14	DB0-DB7	H/L	Data Bus Line
15	CS1	H	Chip Select Signal For IC1
16	CS2	H	Chip Select Signal For IC2
17	/RES	L	Reset Signal
18	Vout	-	Power Supply Voltage For LCD
19	A	4.2V	LED Power (+)
20	K	0V	LED Power (-)

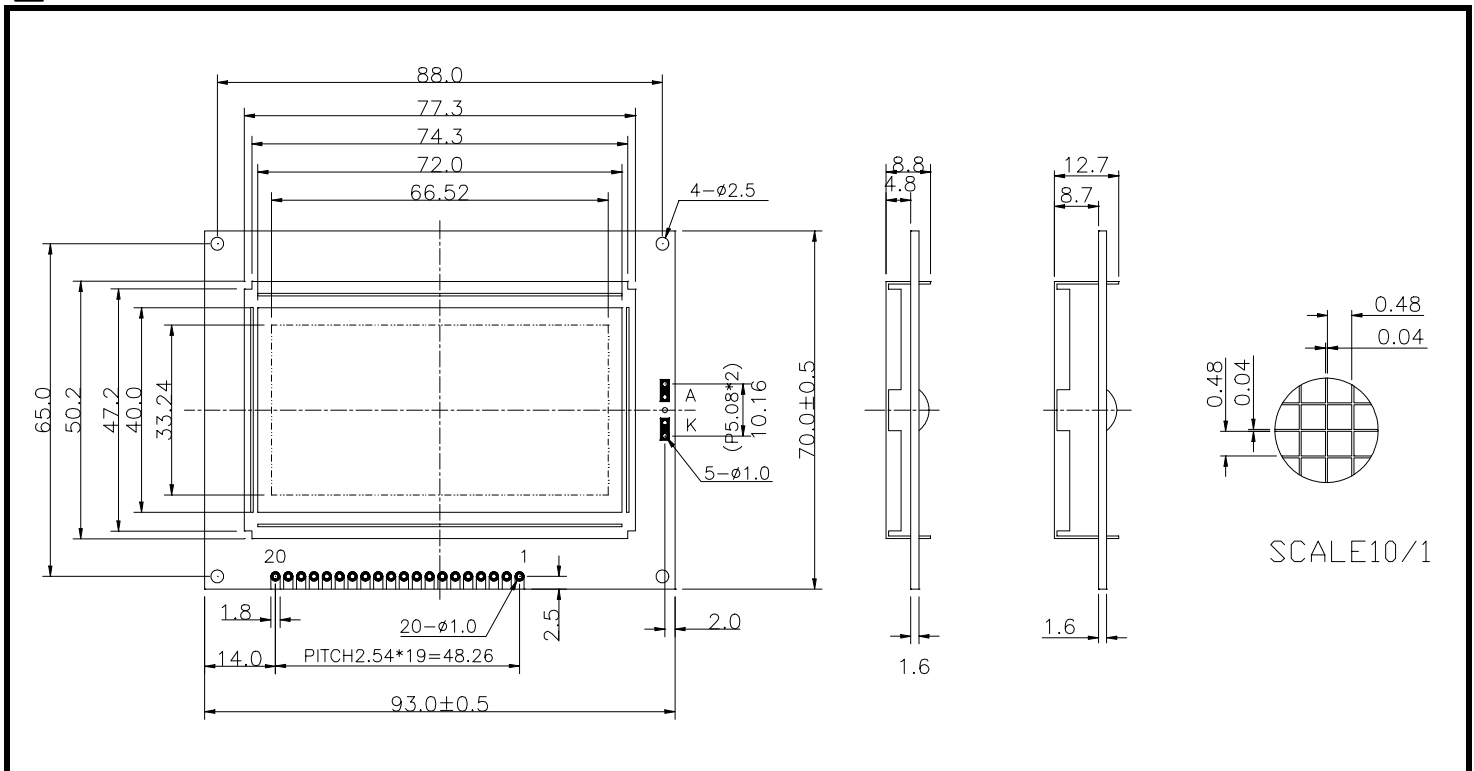
ABSOLUTE MAXIMUM RATINGS

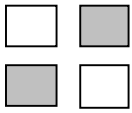
ITEM	SYMBOL	MIN.	TYP.	MAX.	UNIT
Supply Voltage For Logic	VDD-Vss	0	-	7	V
Supply Voltage For LCD Drive	VDD-Vo	0	-	14	V
Input Voltage	Vi	Vss	-	VDD	V

ELECTRICAL CHARACTERISTICS

ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT	
Supply Voltage For Logic	VDD-Vss	-	4.5	5	5.5	V	
Supply Voltage For LCD	VDD-Vo	VDD=5V Ta=25°C	7.6	8.3	9.2	V	
Supply Current	IDD	VDD=5V	-	4.5	10	mA	
Input Voltage	"HIGH" Level	V _{IH}	-	2.2	-	V _{DD}	V
	"LOW" Level	V _{IL}	-	-	-	0.6	V
Output Voltage	"HIGH" Level	V _{OH}	-	2.4	-	-	V
	"LOW" Level	V _{OL}	-	-	-	0.4	V

EXTERNAL DIMENSIONS





FDG128064A (128 DOTS X 64 DOTS)

TIMING CHARACTERISTICS

ITEM	SYMBOL	MIN.	TYP.	MAX.	UNIT.	FIG
E Cycle Time	t_{CYC}	1000	-	-	ns	1,2
E High Level Width	P_{WEH}	450	-	-	ns	1,2
E Low Level Width	P_{WEL}	450	-	-	ns	1,2
E Rise Time	t_r	-	-	25	ns	1,2
E Fall Time	t_f	-	-	25	ns	1,2
Address Setup Time	t_{AS}	140	-	-	ns	1,2
Address Hold Time	t_{AH}	10	-	-	ns	1,2
Data Setup Time	t_{DSW}	200	-	-	ns	1
Data Delay Time	t_{DDR}	-	-	320	ns	2
Data Hold Time	Write	t_{DHW}	10	-	ns	1
Data Hold Time	Read	t_{DHR}	20	-	ns	2

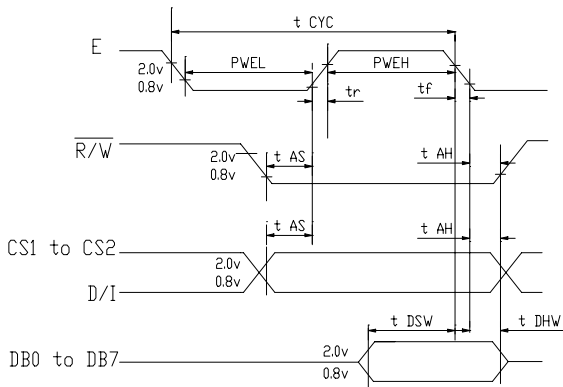


Fig1:CPU Write Timing

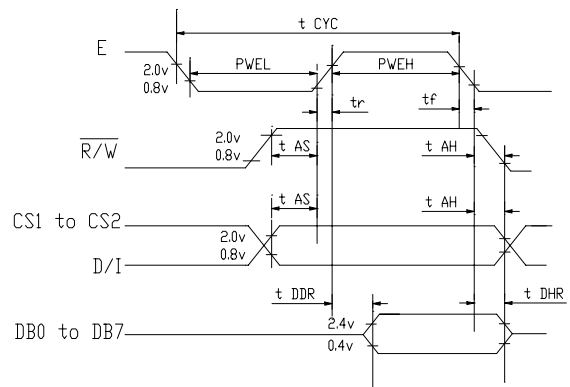
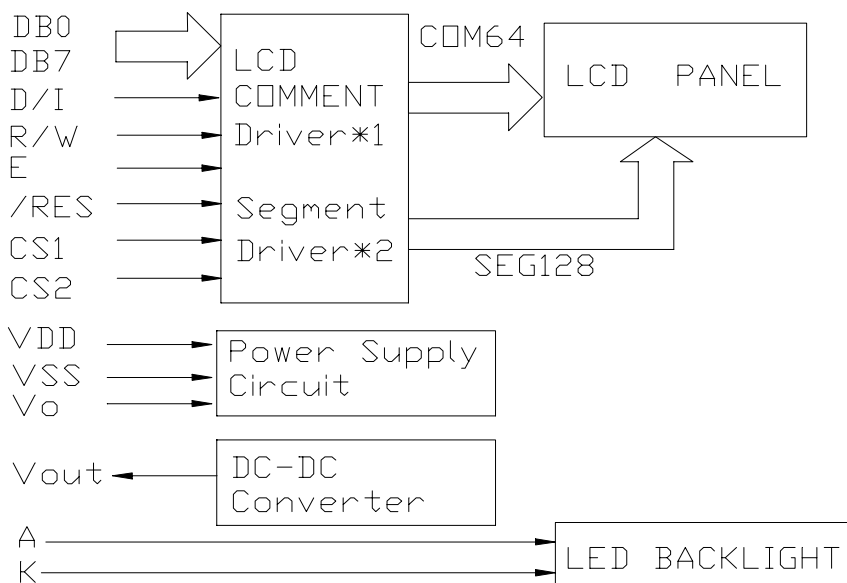
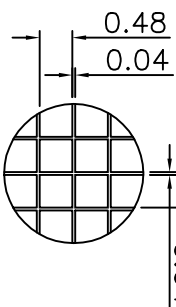
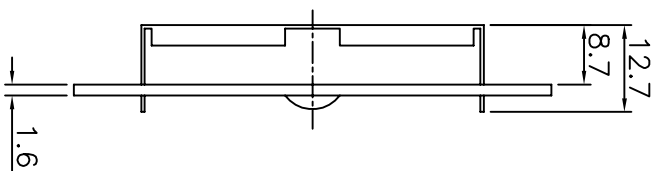
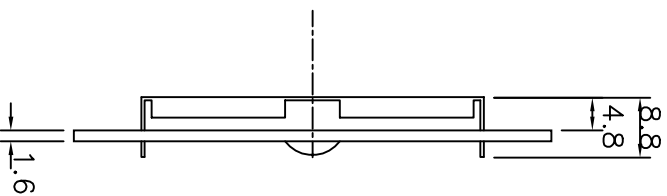
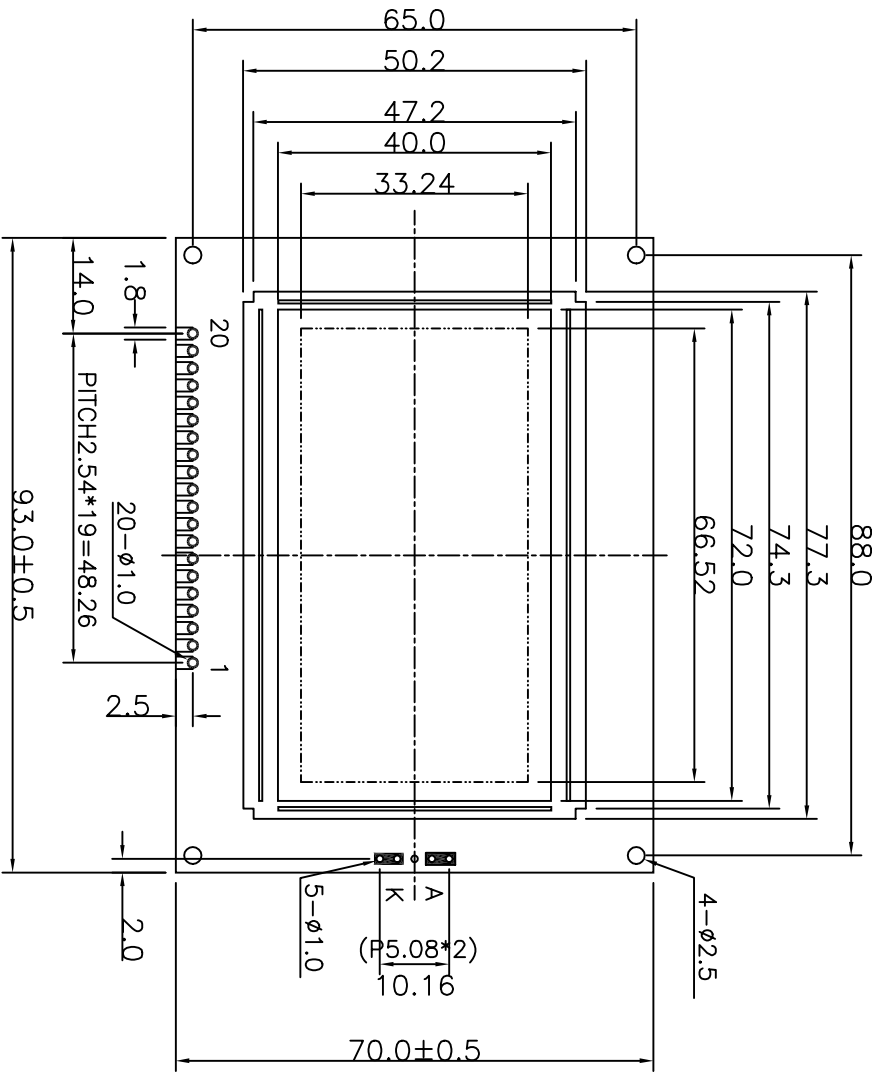


Fig2:CPU Read Timing

BLOCK DIAGRAM



PIN NO	SIGNAL
1	VSS
2	VDD
3	VO
4	D/I
5	R/W
6	E
7	DB0
8	DB1
9	DB2
10	DB3
11	DB4
12	DB5
13	DB6
14	DB7
15	CS1
16	CS2
17	RST
18	VOUT
19	A
20	K



SCALE 10:1

NOTE	ITEM	CONTENT	DATA	REV	TOLERANCE	SCALE	UNIT	DWYN	DATE	CUSTOMER	APVL	TITLE	MODEL	DWG NO	PAGE
		CHANGE NUMBER	2004.03.01	0	X. ±0.30 X. ±0.20 .XX±0.05	1/1	mm	G111	2004.03.01			MODULE	SG12864A	A-A2-0007	1/1
SUNLIKE DISPLAY															