SG320240B (320 DOTS X 240 DOTS)

■ FEATURES

- ◆ RECOMMENDED CONTROLLER
- ◆ (HD64646/MSM6225/SED1335)
- ◆ +5 V POWER SUPPLY
- ◆ 1/240 DUTY CYCLE
- ◆ EDGE LIGHTING TYPE CCFL BACKLIGHT

■ MECHANICAL DATA

ITEM	DIMENSIONS	UNIT
Module Size (W x H x T)	160.0 x 109.0 x 11.0	mm
Viewing Area (W x H)	122 .0 x 92.0	mm
Active Area (W x H)	115.19 x 86.39	mm
Dot Size (W x H)	0.35 x 0.35	mm
Dot Pitch (W x H)	0.36 x 0.36	mm

■ INTERFACE PIN CONNECTIONS

NO.	SYMBOL	LEVEL	FUNCTION
1	DB0	H/L	Data Bit0
2	DB1	H/L	Data Bit1
3	DB2	H/L	Data Bit2
4	DB3	H/L	Data Bit3
5	/DISPOFF	H/L	Display OFF . Active LOW .
6	FLM	H	Frame Start Signal
7	NC	-	No Connection .
8	CL1	H⟶L	Common Driver Data Shift Signal
9	CL2	H⟶L	Clock Pulse For Segment Shift Register
10	V_{DD}	5V	Power Supply Voltage
11	V_{SS}	0V	Power Supply Ground
12	V_{EE}	-	Power Supply Voltage For LCD
13	V_O	-	Contrast Adjustment Voltage
14	FGND	-	Frame Ground

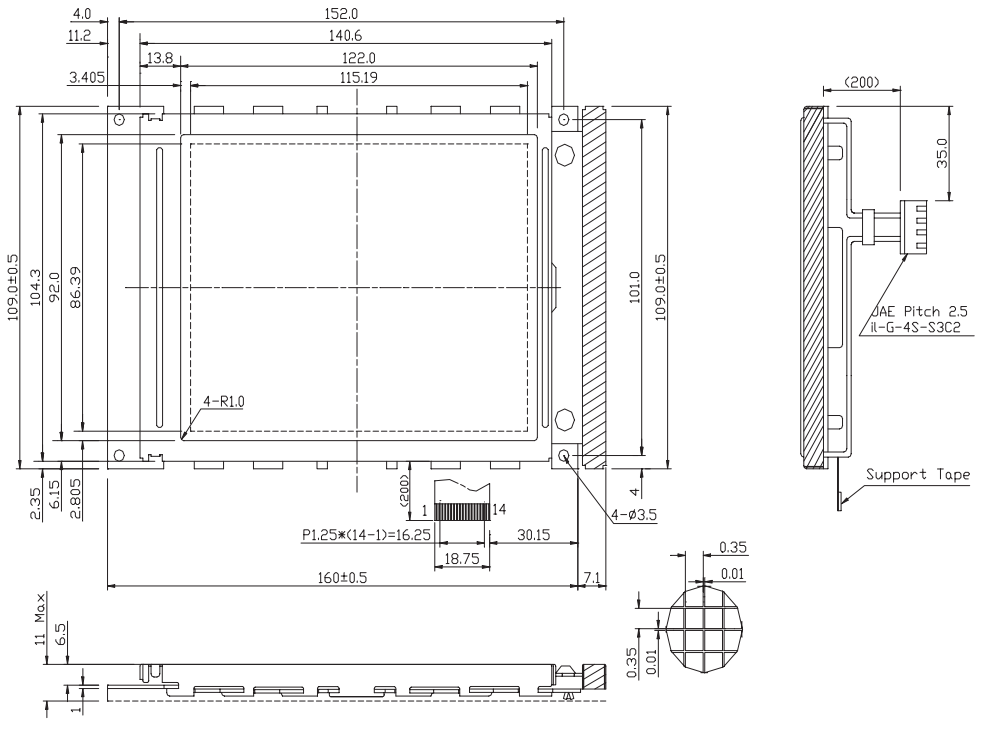
■ ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	MIN.	TYP.	MAX.	UNIT
Supply Voltage For Logic	V_{DD}-V_{SS}	0	-	7	V
Supply Voltage For LCD Drive	V_{DD}-V_o	0	-	30	V
Input Voltage	V_I	Vss	-	V_{DD}	V

■ ELECTRICAL CHARACTERISTICS

ITEM		SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage For Logic		V_{DD}-V_{SS}	-	4.5	5	5.5	V
LCD Supply Voltage		V_{DD}-V_o	V_{DD}=5V Ta=25°C	22.4	23.5	24.3	V
Supply Current		I_{DD}	V_{DD}=5V	-	16	25	mA
Input Voltage	"HIGH" Level	V_{IH}	-	2.2	-	VDD	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



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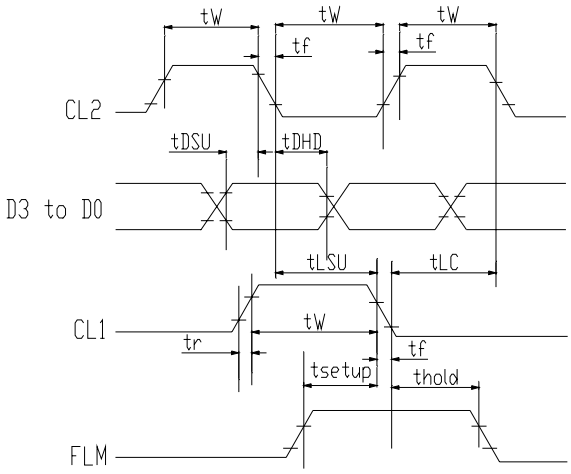
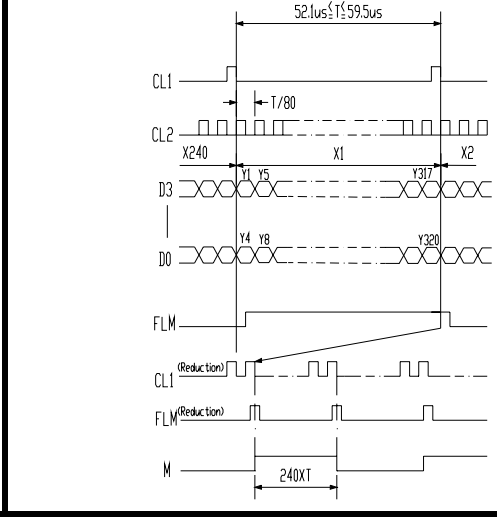
■ TIMING CHARACTERISTICS

ITEM	SYMBOL	MIN.	TYP.	MAX.	UNIT.
Frequency Of Maximum Clock	f_{CP}	-	-	8	MHZ
CL1 , CL2 , Pulse Width	t_W	45	-	-	ns
Rise , Fall Time	t_r , t_f	-	-	15	ns
Data Setup Time	t_{DSU}	20	-	-	ns
Data Hold Time	t_{DHD}	20	-	-	ns
CL1 Setup Time	t_{LSU}	80	-	-	ns
CL1 → CL2 Time	t_{LC}	80	-	-	ns
FLM Setup Time	t_{setup}	100	-	-	ns
FLM Hold Time	t_{hold}	100	-	-	ns
M Delay Time	t_{DF}	-	-	300	ns





■ BLOCK DIAGRAM