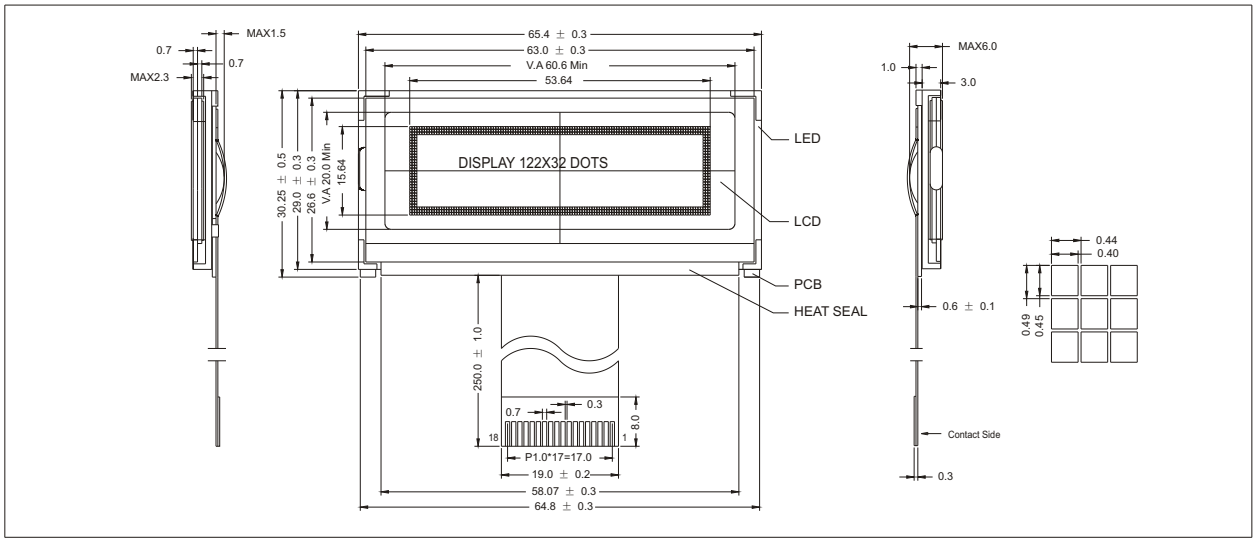
STANDARD GRAPHIC MODULES

OLG122032AY03

122 x 32 DOTS
1/32 DUTY, 1/5 BIAS

1 EXTERNAL DIMENSION AND DISPLAY PATTERN



2 MECHANICAL DATA

ITEM	SPECIFICATION	UNIT
Module Size(W*H*T)	65.4.0×30.25×6.0	mm
Viewing Area(W*H)	60.6×20.0	mm
Number of Dots	122×32 with Cursor	mm
Dot Pitch (W*H)	0.40×0.45	mm
Dot Size (W*H)	0.44×0.49	mm

3 PIN CONNECTIONS(1)

PIN No.	SYMBOL	FUNCTION
1	Vdd	Logic Supply Voltage(+5.0v)
2	Vss	Ground(0v)
3	Vo	Power Supply For LCD Driving.
4	RES	Reset Signal
5	E1	Enable Clock
6	E2	Enable Clock
7	R/W	Read/Write Select
8	A0	Identify The Data or a Command.
9-16	DB0~DB7	Data Bus Line
17-18	LED+,LED-	LED Backlight

4 ABSOLUTE MAXIMUM RATINGS

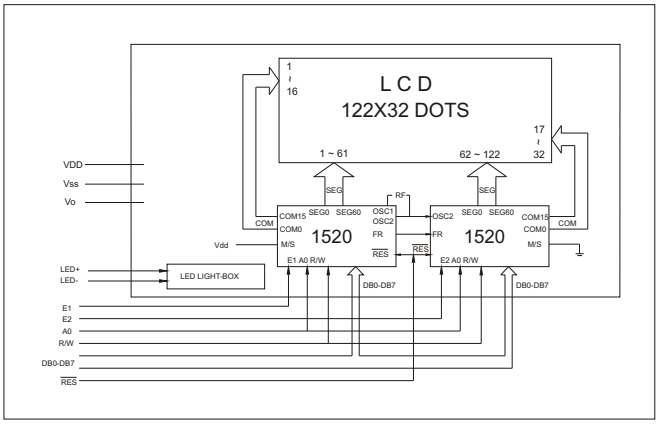
PARAMETER	SYMBOL	MIN	MAX	UNIT
Supply Voltage Logic	VDD-VSS	-0.3	8.0	V
Supply Voltage Driver	VDD-VEE	-0.3	13.5	V
Intut Voltage	VIN	-0.3	Vdd+0.3	V

Operating Temp	See page 9
Storage Temp	

5 ELECTRICAL CHARACTERISTICS(Ta=25 ℃)

ITEM		SYMBOL	CONDITION	SPEC.VALUE			UNIT
				MIN.	TYP.	MAX.	
Supply Voltage (Logic)		V_{DD}-V_{SS}		4.5	5.0	5.5	V
Supply Current (Logic)		I_{DD}	V_{DD}=5V	–	0.5	1.0	mA
Input Voltage	HIGH	V_{IH}	–	0.8V_{DD}	–	V_{DD}	V
	LOW	V_{IL}	–	V_{SS}	–	0.3V_{DD}	V
Output Voltage	HIGH	V_{OH}	I_{OH}=3.0mA	V_{DD}+2.4	–	–	V
	LOW	V_{OL}	I_{OL}=3.0mA	–	–	V_{DD}+0.4	V
LCD Operating Voltage		V_{DD}-V_0	V_{DD}=5V Ta=25 ℃	–	5.0	–	V
Supply Voltage LCD Drive		I_{EE}		–	1.0	1.5	mA

6 BLOCK DIAGRAM



7 BACKLIGHTING CHARACTERISTICS(Ta=25 ℃)

LED

ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIX
Supply Voltage	V_{LED}	If=140mA		2.1	2.3	V
Power Consumption	P_{LED}	If=140mA		0.29		W
Luminous	I_V	If=140mA		25		cd/m²

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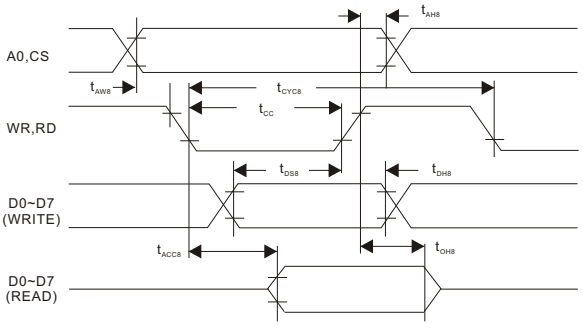
YMC12232-03

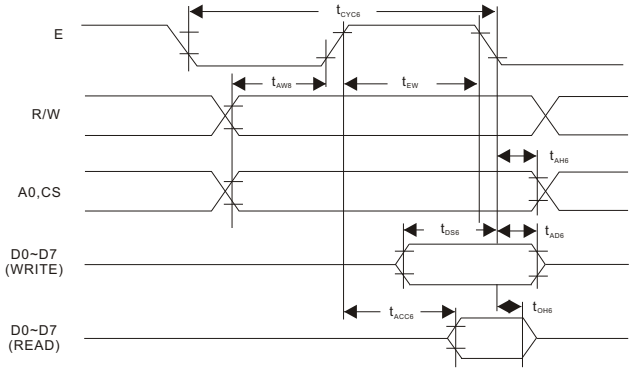
122x32DOTS
1/32DUTY, 1/5BIAS

8 TIMING CHART

READ/WRITE TIMING FOR THE 80-PORT MPU



READ/WRITE TIMING FOR THE 68-PORT MPU



9 READ/WRITE TIMING FOR THE 80-PORT MPU (TA=-20~75 °)

PARAMETER	SIGNAL	SYMBOL	CONDITION	RATING MIN.	RATING TYP.	RATING MAX.	UNIT
Address hold time	A0,CS	tAHB	VSS=-5V	10	-	-	ns
			VSS=-3V	20	-	-	ns
Address set-up time		tAWB	VSS=-5V	20	-	-	ns
			VSS=-3V	40	-	-	ns
System cycle time	WR,RD	tCYC8	VSS=-5V	1000	-	-	ns
			VSS=-3V	2000	-	-	ns
Control pulse width		tCC	VSS=-5V	200	-	-	ns
			VSS=-3V	400	-	-	ns
Data set-up time	D0~D7	tDS8	VSS=-5V	80	-	-	ns
			VSS=-3V	160	-	-	ns
Data hold time		tDH8	VSS=-5V	10	-	-	ns
			VSS=-3V	20	-	-	ns
RD access time		tACC8	VSS=-5V	-	-	90	ns
			VSS=-3V	-	-	180	ns
Output disable time		tOH8	CL=100pF	10	-	60	ns
			CL=100pF, VSS=-3V	20	-	120	ns

10 READ/WRITE TIMING FOR THE 68-PORT MPU (TA=-20~75 °)

PARAMETER	SIGNAL	SYMBOL	CONDITION		RATING MIN.	RATING TYP.	RATING MAX.	UNIT
System cycle time	A0,CS R/W	tCYC6	VSS=-5V		1000	-	-	ns
			VSS=-3V		2000	-	-	ns
Address set-up time		tAW6	VSS=-5V		20	-	-	ns
			VSS=-3V		40	-	-	ns
Address hold time		tAH6	VSS=-5V		10	-	-	ns
			VSS=-3V		30	-	-	ns
Control pulse width	D0~D7	tDS6	VSS=-5V		80	-	-	ns
			VSS=-3V		160	-	-	ns
Data set-up time		tDH6	VSS=-5V		10	-	-	ns
			VSS=-3V		20	-	-	ns
Data hold time		tOH6	CL=100pF, VSS=-5V		10	-	60	ns
			CL=100pF, VSS=-5V		20	-	120	ns
RD access time		tACC6	CL=100pF, VSS=-5V		-	-	90	ns
			CL=100pF, VSS=-5V		-	-	180	ns
Enable disable time	READ	E	tew	VSS=-5V	100	-	-	ns
				VSS=-3V	200	-	-	ns
	WRITE			VSS=-5V	80	-	-	ns
				VSS=-3V	160	-	-	ns

tCYC6 indicates the cycle during which CS/E are high; it does not indicate are cycle of the E signal.