

AZ DISPLAYS, INC.

COMPLETE LCD SOLUTIONS

SPECIFICATIONS FOR LIQUID CRYSTAL DISPLAY

PART NUMBER:

AGM1264H Series

REVISED:

MAY 14, 2003

1.0 MECHANICAL SPECIFICATIONS

ITEM	STANDARD VALUE	UNIT
DOTS	128X64 DOTS	-
DOT SIZE	0.48X0.48	mm
MODULE DIMENSION	77.5(W) × 51.3(H) × 2.8(T)	mm
VIEWING AREA	70.7(W) × 38.8(H)	mm
APPROX. WEIGHT	30	G
LCD TYPE	FSTN (Positive / Transflective)	
DUTY, BIAS	1/64, 1/9	
VIEWING DIRECTION	12 O'clock	

2.0 ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	MIN.	TYP.	MAX.	UNIT
OPERATING TEMPERATURE	Top	-20	25	70	C
STORAGE TEMPERATURE	Tst	-20	-	80	C
INPUT VOLTAGE	VI	VSS	-	VDD	V
SUPPLY VOLTAGE FOR LOGIC	VDD-VSS	VSS-0.3	-	5.5	V
SUPPLY VOLTAGE FOR LCD	VDD-V0	VSS-0.3	9.2	18.0	V
STATIC ELECTRICITY	Be certain you are grounded when handing LCM				

3.0 ELECTRICAL CHARACTERISTICS

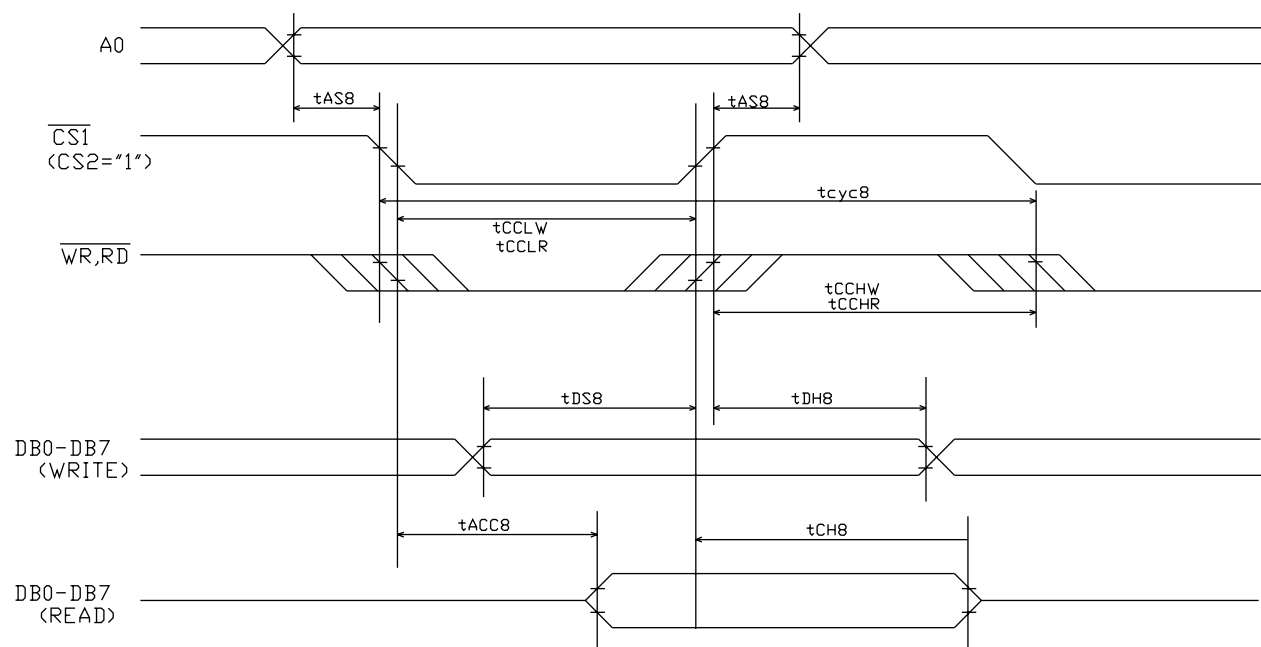
3.1 DC Characteristics

Ta=0~45C ,VDD=2.7~5.5V, VSS=0V

Items	Symbol	Condition	Standard Value			Unit
			Min.	Typ.	Max.	
Power Supply Voltage	VDD -VSS		1.8	3.0 or 5.0	5.5	V
	VDD-V0		8.7	9.2	9.7	V
Input Voltage	VIH		0.8*VDD	-	VDD	V
	VIL		VSS	-	0.2*VDD	
Output Voltage	VOH	IOH= -0.5mA	0.8*VDD	-	VDD	V
	VOL	IOL= 0.5mA	VSS	-	0.2*VDD	
Supply Current	IDD	VDD = 3.3V	-	1.6	2.4	mA

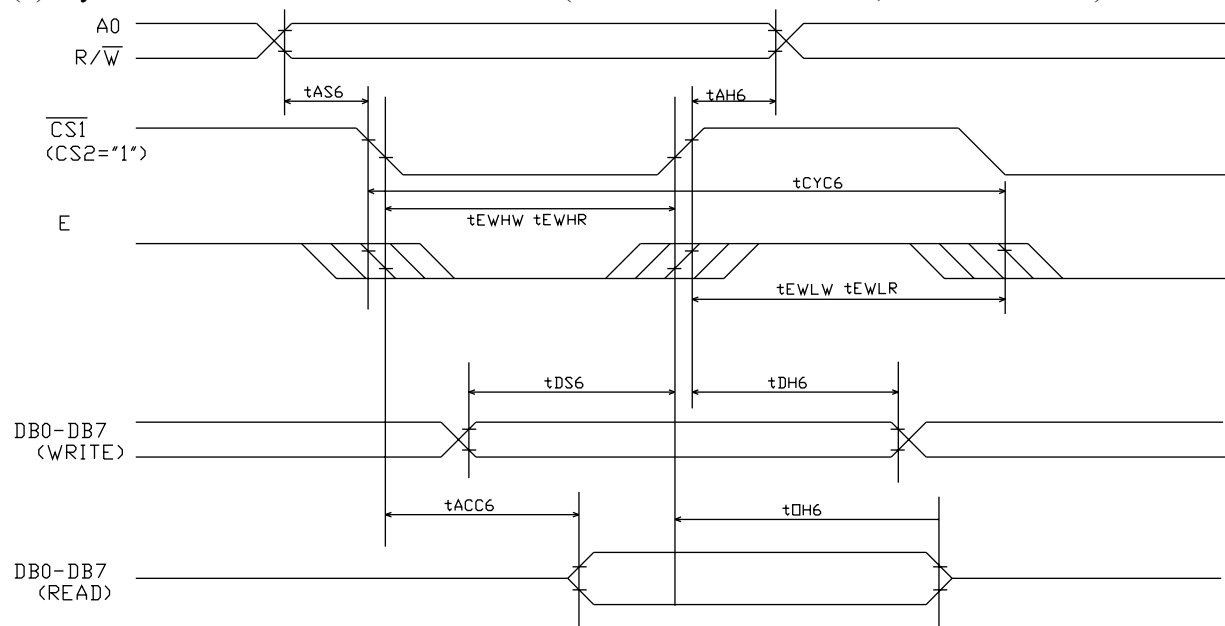
3.2 AC Characteristics

(1) System bus Read/Write characteristics (For the 8080 Series MPU,VDD= 2.7~ 4.5V)



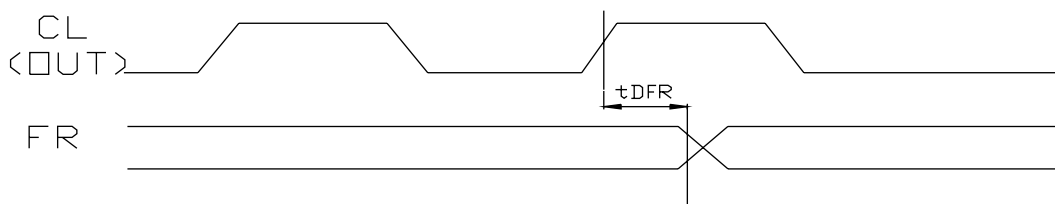
Symbol	Parameter	Min.	Typ.	Max.	Unit	Condition
T _{AH8}	Address hold time	0			ns	A0
T _{AS8}	Address setup time	0			ns	A0
T _{CYC8}	System cycle time	300			ns	
T _{CCLW}	Control L pulse width(WR)	60			ns	/WR
T _{CCLR}	Control L pulse width(RD)	120			ns	/RD
T _{CCHW}	Control H pulse width(WR)	60			ns	/WR
T _{CCHR}	Control H pulse width(RD)	60			ns	/RD
T _{DS8}	Data setup time	40			ns	D0 T0 D7
T _{DH8}	Data hold time	15			ns	D0 T0 D7
T _{ACC8}	RD access time			140	ns	C _L =100pF
T _{CH8}	Output disable time	10		100	ns	C _L =100pF

(2) System bus Read/Write characteristics (For the 6800 Series MPU, VDD= 2.7~4.5V)



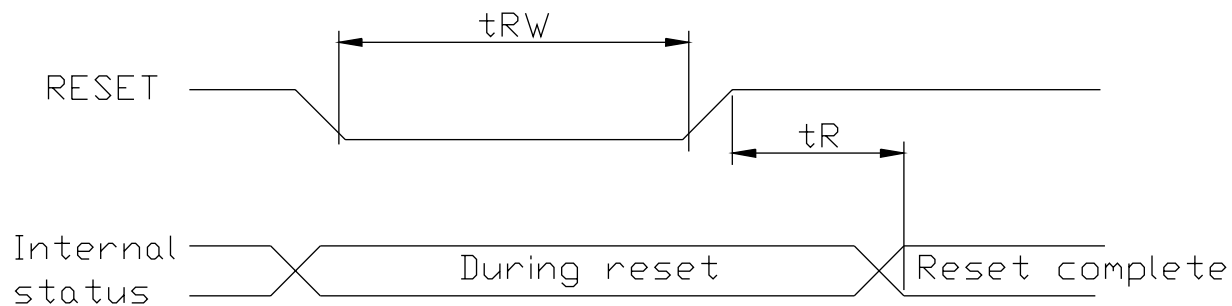
Symbol	Parameter	Min.	Typ.	Max.	Unit	Condition
T _{CYC6}	System cycle time	300			ns	
T _{AS6}	Address setup time	0			ns	A0
T _{AH6}	Address hold time	0			ns	A0
T _{DS6}	Data setup time	40			ns	D0 T0 D7
T _{DH6}	Data hold time	15			ns	D0 T0 D7
T _{OH6}	Output disable time	10		100	ns	C _L =100pF
T _{ACC6}	Access time			140	ns	C _L =100pF
T _{EWHR}	Enable H pulse width(Read)	120			ns	
T _{EWHW}	Enable H pulse width(Write)	60			ns	
T _{EWLW}	Enable L pulse width(Read)	60			ns	
T _{EWLW}	Enable L pulse width(Write)	60			ns	

(3) Display control timing



Symbol	Parameter	Min.	Typ.	Max.	Unit	Condition
TDFR	FR delay time		20	80	ns	CL=50pF

(4) Reset timing



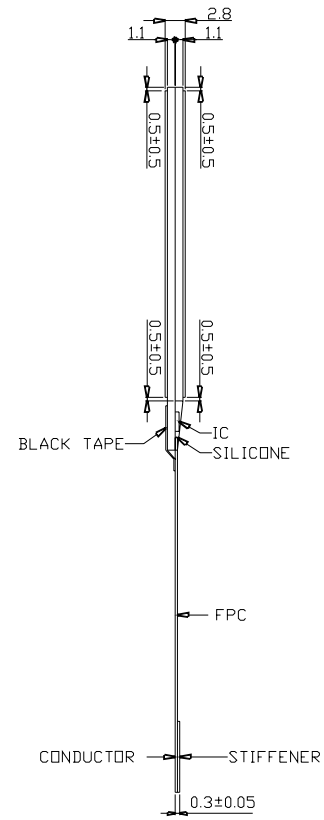
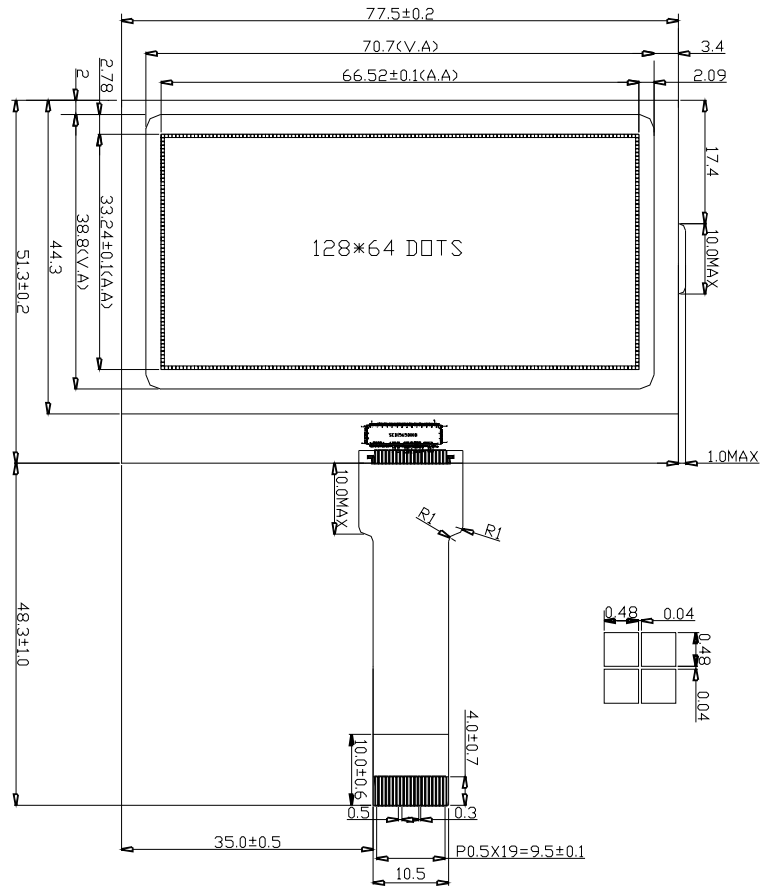
Symbol	Parameter	Min.	Typ.	Max.	Unit	Condition
TR	Reset time			1.0	us	
TW	Reset low pulse width	1.0			us	

4.0 OPTICAL CHARACTERISTICS

ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Viewing Angle	θ (B-F)	Cr>6.0 Ta=25 C	-50	-	30	DEG
	ϕ (R-L)		-40	-	40	DEG
Contrast ratio (Max)	Cr(Max)	$\theta = 0$ $\phi = 0$	-	9.0	-	
Response Time(Rise)	Ton	$\theta = 0$ $\phi = 0$ Vlcd=9.2V Ta=25C	-	-	250	ms
Response Time(Fall)	Toff		-	-	268	ms

5.0 INTERFACE

PIN NO.	SYMBOL	PIN NO.	SYMBOL
1	V5	11	VOUT
2	V4	12	VSS
3	V3	13	VDD
4	V2	14	D7(SI)
5	V1	15	D6(SCL)
6	NC	16	/RD
7	CAP2+	17	/WR
8	CAP2-	18	A0
9	CAP1-	19	/RES
10	CAP1+	20	/CS1



DISPLAY TYPE: FSTN POSITIVE
 DISPLAY MODE: TRANFLECTIVE
 VIEWING DIRECTION: 12:00
 DRIVING METHOD: 1/64 DUTY; 1/9 BIAS
 OPERATING VOLTAGE: 9.2V; VDD: 5.0V
 OPERATING TEMPERATURE: -20°C~+70°C
 STORAGE TEMPERATURE: -20°C~+80°C
 CONNECTOR: FPC
 DRIVER IC: SED1565 (Seiko-Epson)
 Unless otherwise specified, tolerance is +/-0.2mm

PIN NO.	1	2	3	4	5	6	7	8	9	10
SYMBOL	V5	V4	V3	V2	V1	NC	CAP2+	CAP2-	CAP1-	CAP1+
PIN NO.	11	12	13	14	15	16	17	18	19	20
SYMBOL	VOUT	VSS	VDD	D7<SI>	D6<SCL>	/RD	/WR	A0	/RES	/CS1

AZ DISPLAYS, INC.		
AGM1264H	1 OF 1	
DWG NO:ED-3713-LCM/A	UNIT: MM	