



GM (Graphic LCM) Series

GM201200 200 x 128 dots

FSTN

Reflective / LED Backlight

DIMENSIONAL DATA

Item	Measurement (W) x (H) x (T)	Unit
Module Dimension	128 x 74 x 14.5 Max. (LED B/L)	mm
Viewing Area	94 x 60	mm
Dot Pitch	0.45 x 0.45	mm
Dot Size	0.42 x 0.42	mm
Weight		g
Controller/Driver	T6963C/KS0086	

ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Condition	Min.	Max.	Unit
Supply Voltage (Logic)	$V_{DD} - V_{SS}$	Ta = 25°C	0	7.0	V
Supply Voltage(LCD)	$V_{DD} - V_{EE}$		0	30.0	V
Input Voltage	V_I		V_{SS}	V_{DD}	V
Operating Temp.	T_{opr}		0	50	°C
Storage Temp.	T_{stg}		-20	70	°C

ELECTRICAL CHARACTERISTIC

Item	Symbol	Condition	Value			Unit
			Min.	Typ.	Max.	
Supply Voltage (Logic)	$V_{DD}-V_{SS}$	--	4.5	5.0	5.5	V
Supply Voltage (LCD)	$V_{DD}-V_O$	--	--	14.6	--	V
Supply Current	I_{DD}	$V_{DD}=5V$	--	20.0	--	mA
	I_{EE}		--	--	--	mA
Input Voltage "H" Level	V_{IH}		$V_{DD}-2.2$	--	V_{DD}	V
Input Voltage "L" Level	V_{IL}		0	--	0.8	V
Frame Frequency	F_f	Ta = 25°C	--	70	--	Hz
Supply Voltage for LCD Drive(1/240 duty)	$V_{DD}-V_O$	Ta = 0°C	14.6	15.1	15.6	V
		Ta = 25°C	14.1	14.6	15.0	
		Ta = 50°C	13.5	14.0	14.5	
Viewing Angle	$\theta 1 - \theta 2$	Ta = 25°C	-40	--	40	Deg.
	$\phi 1, \phi 2$	CR ≥ 3	50	--	--	

PIN ASSIGNMENT

Pin	Symbol	Level	Function
1	VSS	--	Ground(0V)
2	VDD	--	Logic Power Supply (+5V)
3	V_O	--	LCD Contrast Control Input
4	/WR	--	Data Write
5	/RD	--	Data Read
6	/CE	--	Chip Enable, Active LOW
7	C/D	--	Code / Data
8	/RST	--	Reset, Active LOW
9~16	DB0~DB7	H/L	Data Bus Line 0~7
17	FS	--	Font Select, L = 8 x 8, H = 6 x 8
18	V_{EE}	--	Negative Voltage Output for LCD
19	LED A	--	LED Anode (Power Supply +)
20	LED K	--	LED Cathode (Power Supply -)

OUTLINE DIMENSION

