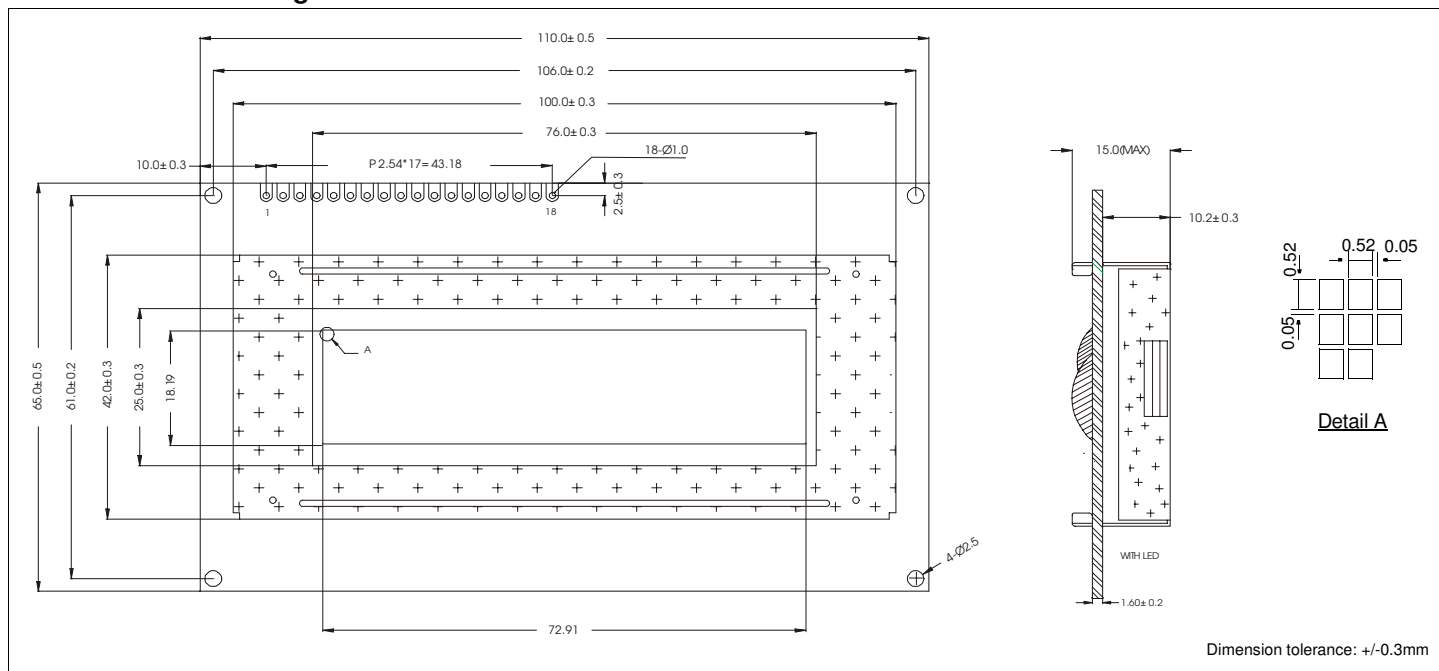


# HDM32GS12\_-8

## Dimensional Drawing

128 X 32 Dots Graphic



### Features

Backlight.....LED or None  
 Options.....Yellow STN / Gray STN, FSTN  
 Normal / Extended Temperature  
 Top / Bottom Viewing  
 Built-in Controller.....Samsung KS108B

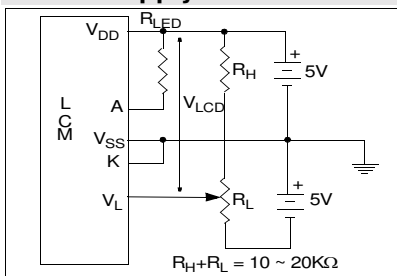
### Physical Data

Module Size.....110.0W x 65.0H x 15.0T mm  
 Viewing Area Size.....76.0W x 25.0H mm  
 Dot Pitch.....0.57W x 0.57H mm  
 Dot Size.....0.52W x 0.52H mm  
 Weight.....78g

### Electrical Characteristics (VDD=5.0±0.25V 25°C)

PARAMETER	SYM	CONDITION	MIN	TYP	MAX	UNIT
INPUT HIGH VOLTAGE	V <sub>IH</sub>	-	.8V <sub>DD</sub>	-	V <sub>DD</sub>	V
INPUT LOW VOLTAGE	V <sub>IL</sub>	-	GND	-	.2V <sub>DD</sub>	V
POWER FOR LCD	V <sub>DD</sub> -V <sub>L</sub>	T <sub>A</sub> = 25°C	-	9.0	-	V
POWER SUPPLY CURRENT	I <sub>DD</sub>	V <sub>DD</sub> = 5.0V	-	3.0	4.5	mA
POWER SUPPLY CURRENT	I <sub>L</sub>	V <sub>L</sub> = -9.0V	-	2.0	3.0	mA
LED FORWARD VOLTAGE	V <sub>F</sub>	I <sub>F</sub> = 240mA	-	4.2	4.6	V
LED FORWARD CURRENT	I <sub>F</sub>	V <sub>F</sub> = 4.2V	-	240	-	mA
BRIGHTNESS	L	-	-	200	-	cd/m <sup>2</sup>
DRIVE METHOD	1/32 DUTY					

### Power Supply



### Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN	MAX	UNIT
SUPPLY VOLTAGE	V <sub>DD</sub> -V <sub>SS</sub>	-0.3	7.0	V
LCD SUPPLY VOLTAGE	V <sub>L</sub>	-0.3	18.0	V
OPERATING TEMPERATURE	T <sub>OP</sub>	0	50	°C
STORAGE TEMPERATURE	T <sub>STG</sub>	-20	70	°C

### Pin Connections

PIN NO.	SYMBOL	LEVEL	FUNCTION
1	V <sub>SS</sub>	0V	Ground
2	V <sub>DD</sub>	5V	Power supply for logic
3	V <sub>L</sub>	-	Power supply for LCD
4	E	H,H→L	Enable signal
5	RS	H/L	Register Select
6	R/W	H/L	H= Read/L= Write
7	RST	H/L	Reset Signal
8	CSB	H/L	Chip Select
9	DB0	H/L	Data bus
10	DB1	H/L	
11	DB2	H/L	
12	DB3	H/L	
13	DB4	H/L	
14	DB5	H/L	
15	DB6	H/L	
16	DB7	H/L	
17	A	-	Anode for LED Backlight
18	K	-	Cathode for LED Backlight