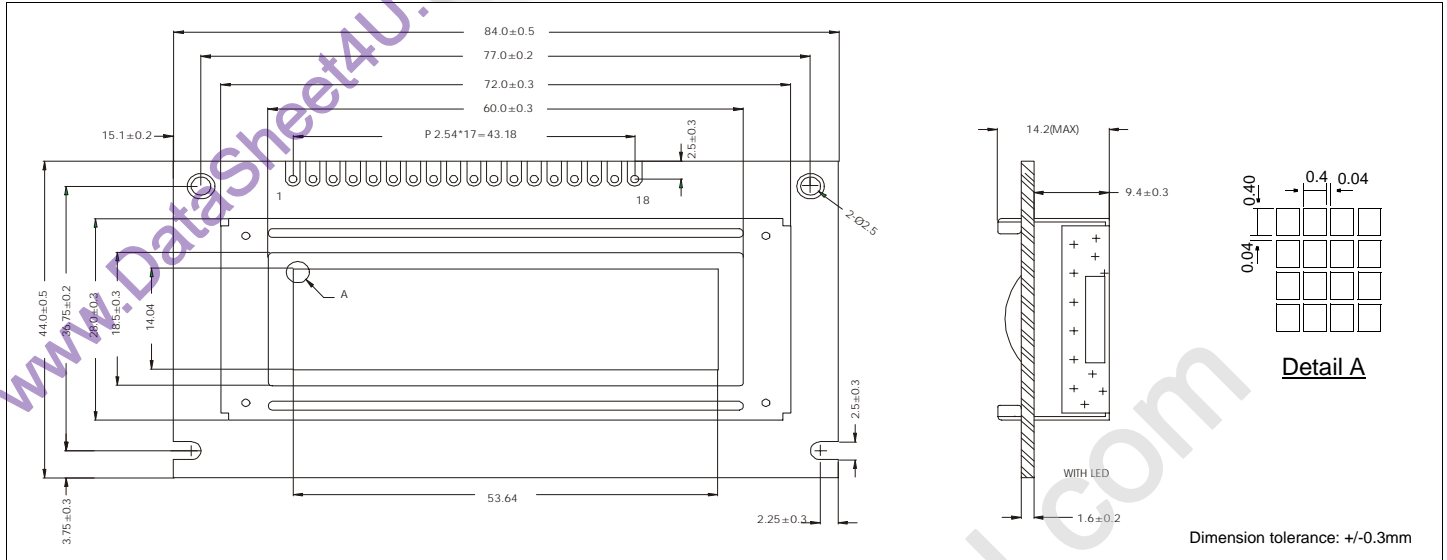


# HDM32GS12\_-B

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## Dimensional Drawing

122 X 32 Dots Graphic



### Features

- Backlight.....LED or None
- Options.....Yellow STN / Gray STN , FSTN
- Normal / Extended Temperature
- Top / Bottom Viewing
- Built-in Controller.....SED1520D0A

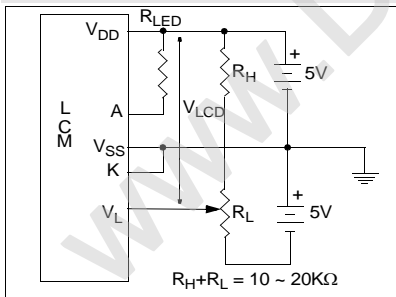
### Physical Data

- Module Size.....84.0W x 44.0H x 14.2T mm
- Viewing Area Size.....60.0W x 18.5H mm
- Dot Pitch.....0.44W x 0.44H mm
- Dot Size.....0.40W x 0.40H mm
- Weight.....28g

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

PARAMETER	SYM	CONDITION	MIN	TYP	MAX	UNIT
INPUT HIGH VOLTAGE	$V_{IH}$	-	$.8V_{DD}$	-	$V_{DD}$	V
INPUT LOW VOLTAGE	$V_{IL}$	-	$V_{SS}$	-	$.2V_{DD}$	V
POWER SUPPLY CURRENT	$I_{DD}$	$V_{DD}=5.0V$	-	0.5	1.0	mA
LCD POWER SUPPLY	$V_{DD}-V_L$	$T_A=25^{\circ}C$	-	4.8	-	V
LCD POWER CURRENT	$I_L$	$T_A=25^{\circ}C$	-	1.0	1.5	mA
LED FORWARD VOLTAGE	$V_F$	$I_F=90mA$	3.95	4.1	4.25	V
LED FORWARD CURRENT	$I_F$	$V_F=4.2V$	-	90	-	mA
DRIVE METHOD	1/32 DUTY					

### Power Supply



### Pin Connections

PIN NO.	SYMBOL		FUNCTION
1	$V_{SS}$	0V	Ground
2	$V_{DD}$	5V	Power supply for logic
3	$V_L$	-	Operating voltage for LC
4	$A_0$	H/L	L=Instruction, H=Data
5	E1	L	Chip select
6	E2	L	Chip select
7	WR (R/W)	-	WR (80 series), R/W (68 series)
8	DB0	H/L	Data bus
9	DB1	H/L	
10	DB2	H/L	
11	DB3	H/L	
12	DB4	H/L	
13	DB5	H/L	
14	DB6	H/L	
15	DB7	H/L	L=80 series, H=68 series
16	RES	H/L	
17	A	-	
18	K	-	Power supply for LED backlight

### Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN	MAX	UNIT
SUPPLY VOLTAGE	$V_{DD}-V_{SS}$	-0.3	7.0	V
LCD SUPPLY VOLTAGE	$V_{DD}-V_L$	$V_{DD}-13.5$	$V_{DD}+0.3$	V
INPUT VOLTAGE	$V_{IN}$	-	$V_{DD}+0.3$	V
OPERATING TEMPERATURE	$T_{OP}$	0	50	°C
STORAGE TEMPERATURE	$T_{STG}$	-20	70	°C