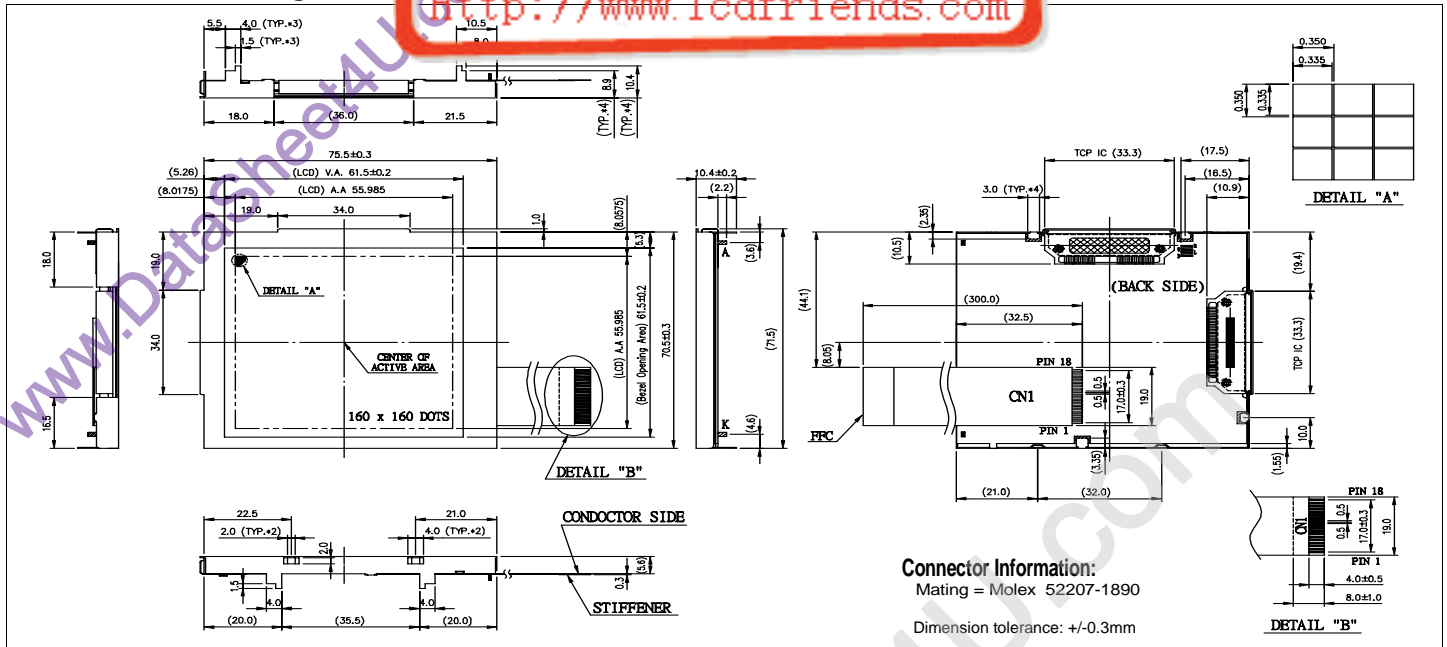


# HDM 160GS16L-A

## Dimensional Drawing

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<http://www.lcdfriends.com>

160 X 160 Dots Graphic LCD, LED backlight w/Touch Screen



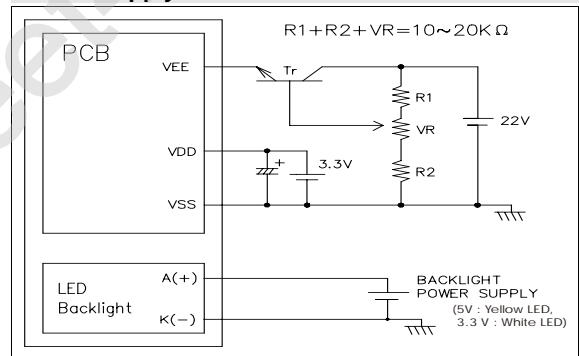
### Features

- Backlight..... White or Yellow LED
- Options.....FSTN, Positive mode display
- Top/ Bottom viewing
- Normal/ Extended temperature
- Touch Screen
- Built-in Controller.....None

### Physical Data

- Module Size.....75.5W x 71.5H x 10.4T mm
- Viewing Area Size.....61.5W x 61.5H mm
- Dot Pitch.....0.35W x 0.35H mm
- Dot Size.....0.335W x 0.335H mm
- Weight.....50g

### Power Supply



### Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN	MAX	UNIT
SUPPLY VOLTAGE for Logic	$V_{DD}-V_{SS}$	-0.3	7.0	V
INPUT VOLTAGE for LCD	$V_{EE}-V_{SS}$	-0.3	30.0	V
OPERATING TEMPERATURE	$T_{OP}$	-20	70	°C
STORAGE TEMPERATURE	$T_{STG}$	-30	80	°C

### Electrical Characteristics (VDD=3.3±0.25V 25°C)

PARAMETER	SYM	CONDITION	MIN	TYP	MAX	UNIT
OPERATING VOLTAGE	$V_{DD}$	-	3.0	3.3	3.6	V
POWER FOR LCD	$V_{EE}-V_{SS}$	-	19.6	20.0	20.4	V
INPUT HIGH VOLTAGE	$V_{IH}$	-	$0.8V_{DD}$	-	$V_{DD}$	V
INPUT LOW VOLTAGE	$V_{IL}$	-	0	-	$0.2V_{DD}$	V
Power Supply Current	$I_{DD}$	$V_{DD}=3.3V$	-	0.8	0.12	mA
	$I_{LCD}$	-	-	0.7	1.4	
White LED forward Vtg.	$V_{AK}$	$I_{AK}=80\text{ mA}$	-	5.0	-	V
Yellow LED forward Vtg.	$V_{AK}$	$I_{AK}=90\text{ mA}$	-	3.3	-	V
DRIVE METHOD	1/160 Duty					

### Pin Connections

PIN NO.	SYMBOL	FUNCTION	
1	$V_{SS}$	0V	Ground
2	FLM	H	First line marker
3	CL1	H,H→L	Display data latch clock
4	CL2	H/L	Latch Pulse
5	M (FR)	H/L	AC driving control signal
6	$V_{DD}$	Power supply for logic +3.3v	
7	NC	No Connection	
8	$V_{EE}$	Power supply for LCD	
9	DB3	H/L	Data bus
10	DB2	H/L	
11	DB1	H/L	
12	DB0	H/L	
13	LEFT	Touch Panel Connections	
14	UP		
15	RIGHT		
16	DOWN		
17	A	Power Supply for LED Backlight	
18	K	Power Supply for LED Backlight	