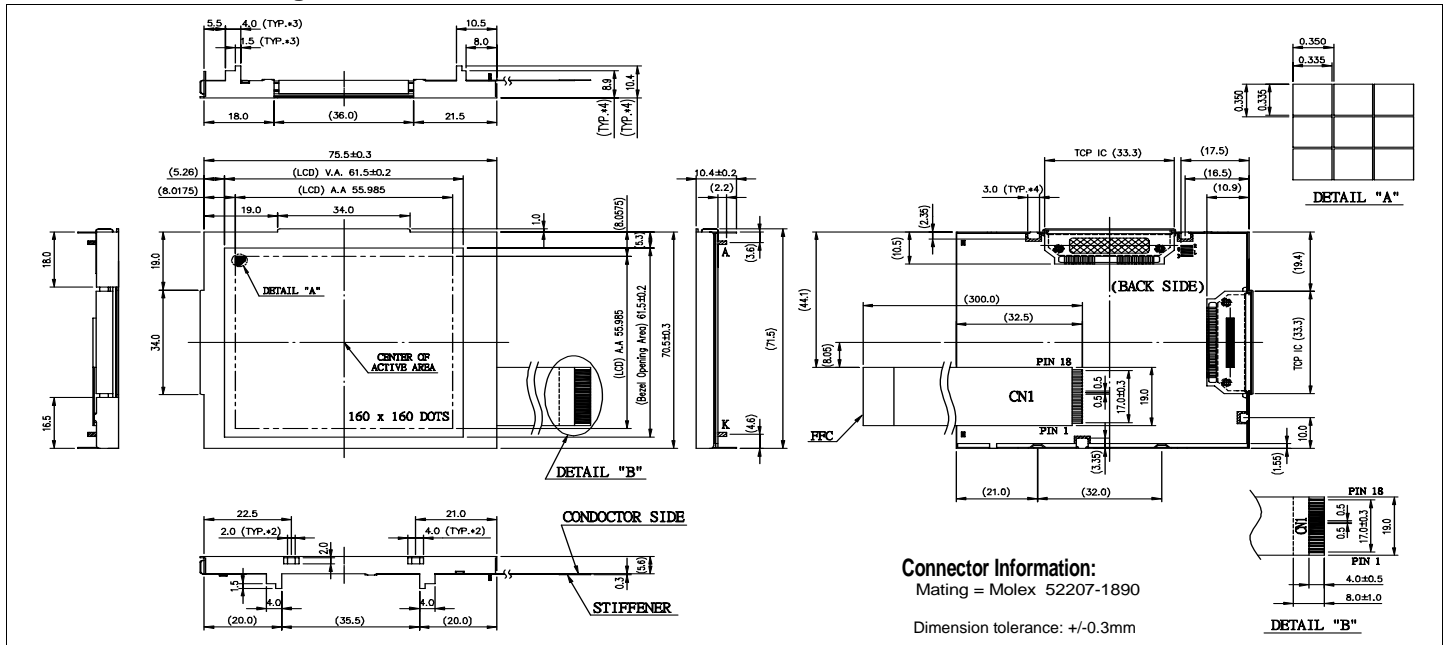


HDM 160GS16L-A

Dimensional Drawing

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



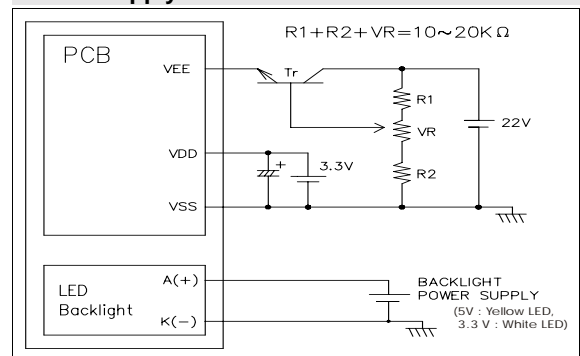
Features

- Backlight..... White or Yellow LED
- Options.....FSTN, Postive 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

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	

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}	-	0.8 V_{DD}	-	V_{DD}	V
INPUT LOW VOLTAGE	V_{IL}	-	0	-	0.2 V_{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					