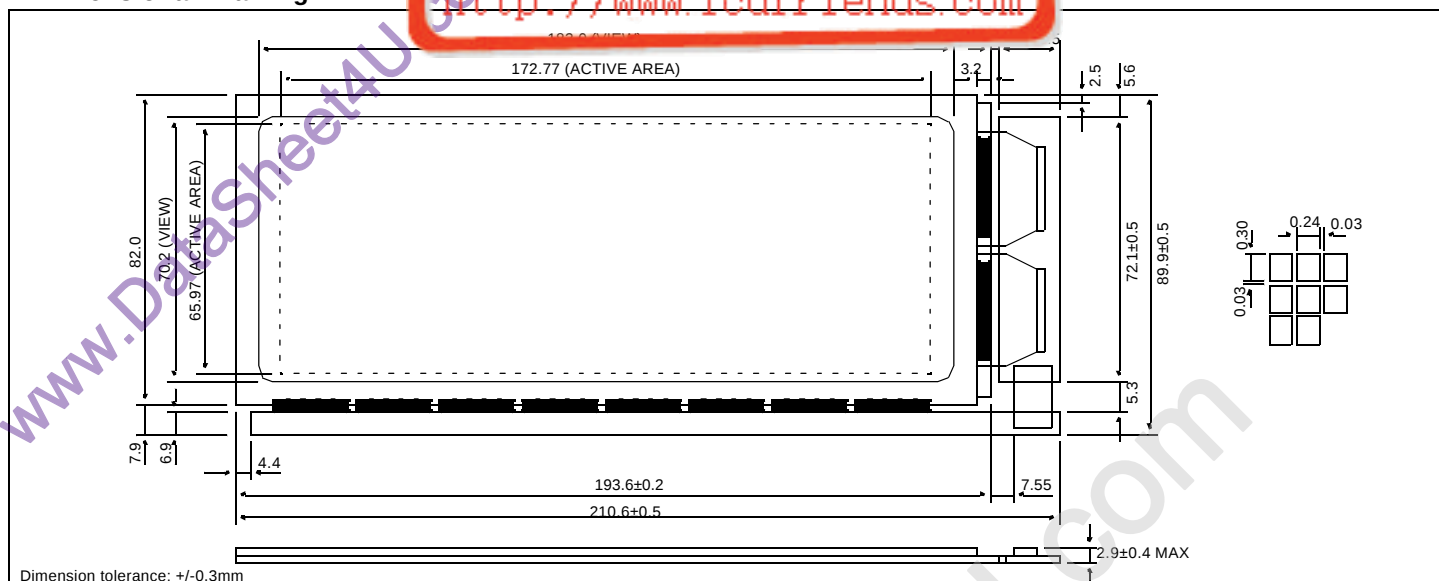


# HDM 64GS20

## Dimensional Drawing



### Features

Backlight.....None  
 Options.....FSTN  
 Normal Temperature  
 Bottom Viewing  
 Built-in Controller.....None

### Absolute Maximum Ratings

| PARAMETER             | SYMBOL          | MIN  | MAX  | UNIT               |
|-----------------------|-----------------|------|------|--------------------|
| SUPPLY VOLTAGE        | $V_{DD}-V_{SS}$ | -0.3 | 6.5  | V                  |
| INPUT VOLTAGE         | $V_{DD}-V_5$    | 0    | 27.0 | V                  |
| OPERATING TEMPERATURE | $T_{OP}$        | 0    | 50   | $^{\circ}\text{C}$ |
| STORAGE TEMPERATURE   | $T_{STG}$       | -20  | 70   | $^{\circ}\text{C}$ |

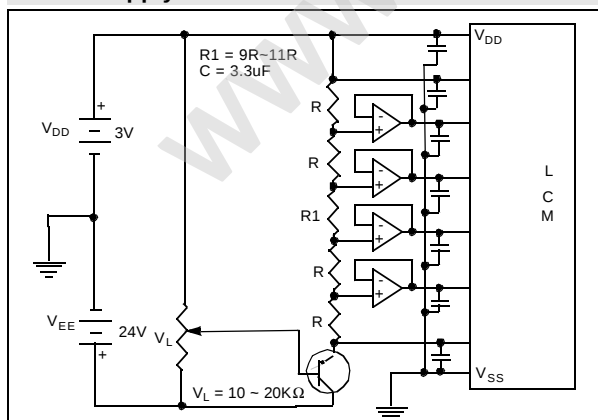
### Physical Data

Module Size.....210.6W x 89.9H x 2.9T mm  
 Viewing Area Size.....183.0W x 70.2H mm  
 Dot Pitch.....0.27W x 0.33H mm  
 Dot Size.....0.24W x 0.30H mm  
 Weight.....102g

### Electrical Characteristics ( $V_{DD}=3.0\pm 0.25\text{V}$ 25 $^{\circ}\text{C}$ )

| PARAMETER            | SYM          | CONDITION              | MIN         | TYP  | MAX         | UNIT |
|----------------------|--------------|------------------------|-------------|------|-------------|------|
| OPERATING VOLTAGE    | $V_{DD}$     | -                      | 2.7         | 3.0  | 5.25        | V    |
| POWER SUPPLY FOR LCD | $V_{DD}-V_5$ | -                      | 21.3        | 21.7 | 22.1        | V    |
| INPUT HIGH VOLTAGE   | $V_{IH}$     | -                      | $0.8V_{DD}$ | -    | $V_{DD}$    | V    |
| INPUT LOW VOLTAGE    | $V_{IL}$     | -                      | GND         | -    | $0.2V_{DD}$ | V    |
| POWER SUPPLY CURRENT | $I_{DD}$     | $V_{DD} = 5.0\text{V}$ | -           | 9.6  | -           | mA   |
| POWER SUPPLY CURRENT | $I_{LCD}$    | $V_{DD} = 5.0\text{V}$ | -           | 7.0  | -           | mA   |

### Power Supply



### Pin Connections

| PIN NO. | SYMBOL   | FUNCTION                                     |
|---------|----------|----------------------------------------------|
| 1       | $V_{DD}$ | 5V Power supply for logic                    |
| 2       | $V_{SS}$ | 0V Ground                                    |
| 3       | FLM      | H First line marker                          |
| 4       | CL1      | H,H $\rightarrow$ L Display data latch clock |
| 5       | CL2      | H,H $\rightarrow$ L Display data shift clock |
| 6       | M        | H/L AC driving control signal                |
| 7       | DB0      | H/L                                          |
| 8       | DB1      | H/L                                          |
| 9       | DB2      | H/L                                          |
| 10      | DB3      | H/L                                          |
| 11      | V0       | LCD Power supply (COM, SEG selected level)   |
| 12      | V1       | LCD Power supply (COM non-selected level)    |
| 13      | V2       | LCD Power supply (SEG non-selected level)    |
| 14      | V3       | LCD Power supply (SEG non-selected level)    |
| 15      | V4       | LCD Power supply (COM non-selected level)    |
| 16      | V5       | LCD Power supply (COM, SEG selected level)   |