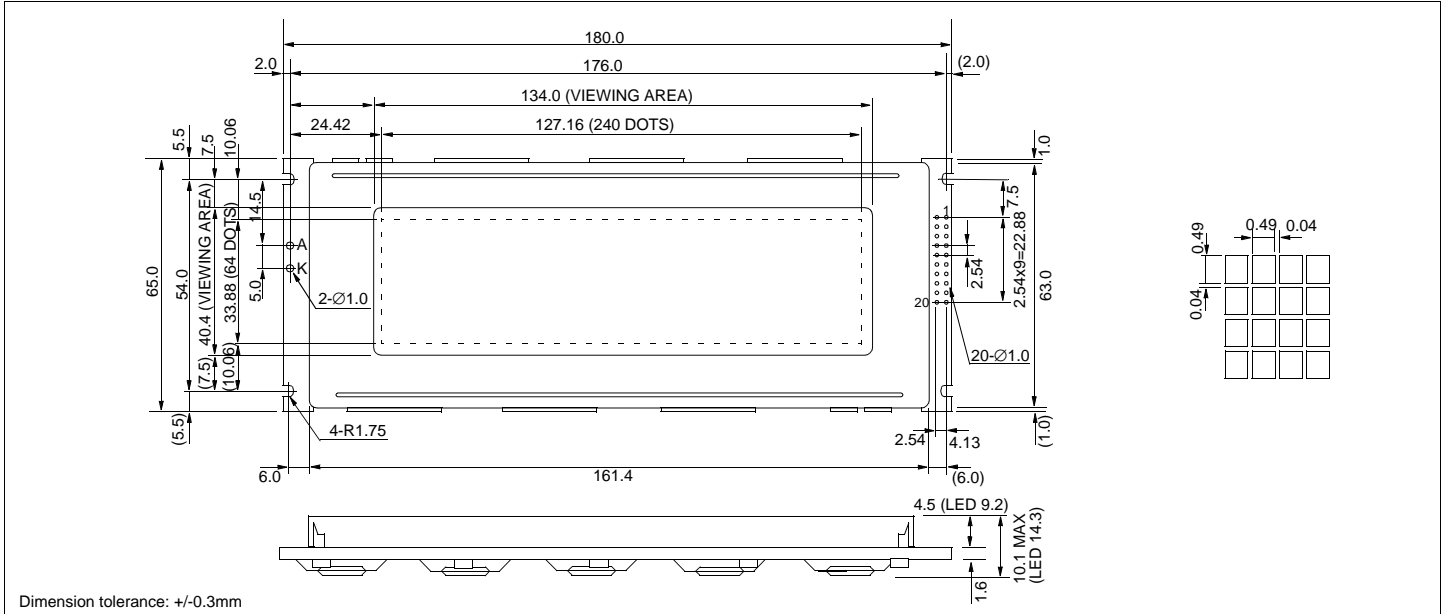


# HDM 64GS24\_-2

## Dimensional Drawing

240 X 64 Dots Graphic, Single Power Supply



### Features

- Backlight.....EL or LED Optional
- Options.....Gray STN / Yellow STN
- Normal/Extended Temperature
- Bottom / Top Viewing
- Built-in Controller.....Toshiba T6963C

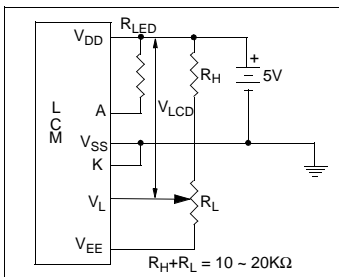
### Physical Data

- Module Size.(None or EL backlight) 180.0W x 65.0H x 10.1T mm
- (LED backlight) 180.0W x 65.0H x 14.3T mm
- Viewing Area Size.....134.0W x 40.4H mm
- Dot Pitch.....0.53W x 0.53H mm
- Dot Size.....0.49W x 0.49H mm

### Absolute Maximum Ratings

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

### Power Supply



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

PARAMETER	SYM	CONDITION	MIN	TYP	MAX	UNIT
OPERATING VOLTAGE	$V_{DD}$	-	4.5	5.0	5.5	V
INPUT HIGH VOLTAGE	$V_{IH}$	-	$V_{DD}$ -2.2	-	$V_{DD}$	V
INPUT LOW VOLTAGE	$V_{IL}$	-	0	-	0.8	V
OUTPUT HIGH VOLTAGE	$V_{OH}$	$I_{OH}=0.6mA$	$V_{DD}$ -0.3	-	$V_{DD}$	V
OUTPUT LOW VOLTAGE	$V_{OL}$	$I_{OL}=0.6mA$	0	-	0.4	V
POWER SUPPLY CURRENT	$I_{DD}$	$V_{DD}=5.0V$	-	10.0	20.0	mA
LED FORWARD VOLTAGE	$V_F$	$I_F=630mA$	-	4.2	-	V
DRIVE METHOD	1/64 Duty					

### Pin Connections

PIN NO.	SYMBOL	FUNCTION	
1	FG	Frame ground	
2	$V_{SS}$	0V	Ground
3	$V_{DD}$	5V	Power supply for logic
4	$V_L$	-	Operating voltage for LC
5	WR	L	Data write
6	RD	L	Data read
7	CE	L	Chip enable
8	CD	H/L	H=Command, L=Data
9	$V_{EE}$	Output #	
10	RESET	L	Reset
11	DB0	H/L	Data bus
12	DB1	H/L	
13	DB2	H/L	
14	DB3	H/L	
15	DB4	H/L	
16	DB5	H/L	
17	DB6	H/L	
18	DB7	H/L	
19	FS	H/L	Font select
20	N/C	No connection	

# Has built-in inverter for negative power supply