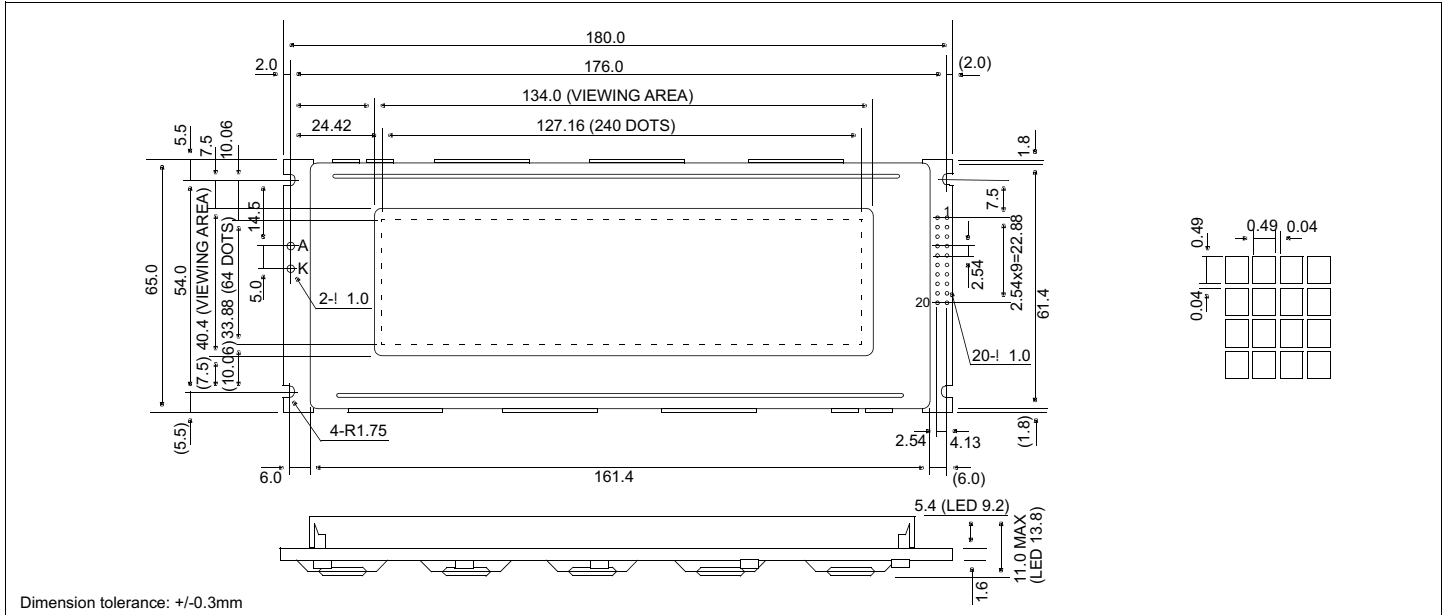


# HDM 64GS24\_-2

## Dimensional Drawing

240 X 64 Dots Graphic, Single Power Supply



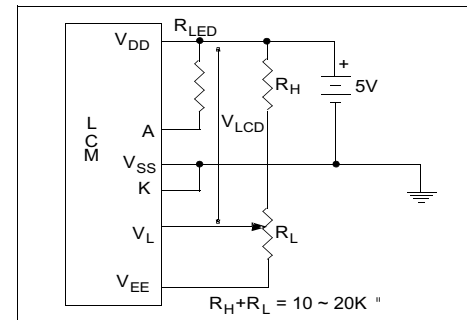
### Features

- Backlight.....(White) LED, EL or None Optional
- Options.....FSTN, Gray or 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 11.0T mm
- (LED backlight) 180.0W x 65.0H x 13.8T 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

### Power Supply



### Absolute Maximum Ratings

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

### 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
POWER SUPPLY CURRENT	$I_{DD}$	$V_{DD}=5.0V$	-	9.84	-	mA
POWER SUPPLY VOLTAGE	$V_L$	$T_a=25^{\circ}C$	-	11.8	-	V
LED Forward Voltage (White)	$V_F$	$I_F=60mA$	2.9	3.2	3.5	V
(Yellow)		$I_F=675mA$	-	4.1	-	V
LED Forward Current (White)	$I_F$	$V_F=3.2V$	-	60	-	mA
(Yellow)		$V_F=4.1V$	-	675	-	mA
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
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