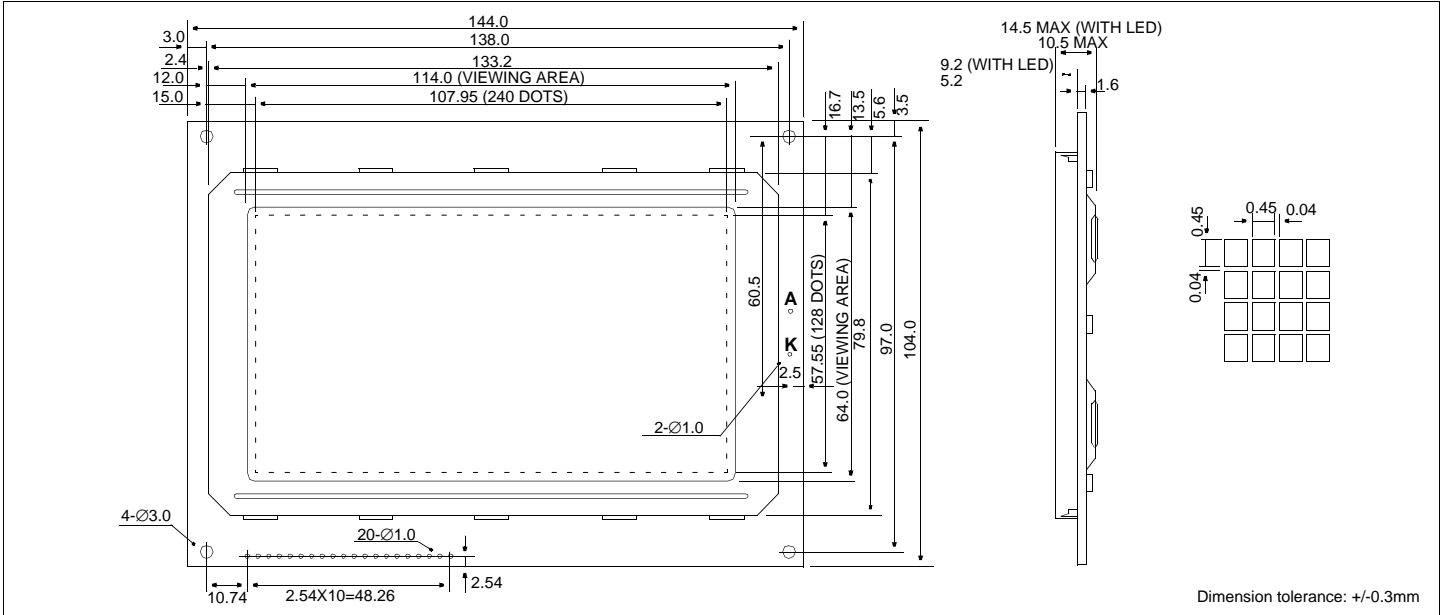


HDM 128GS24

240 X 128 Dots Graphic

Dimensional Drawing



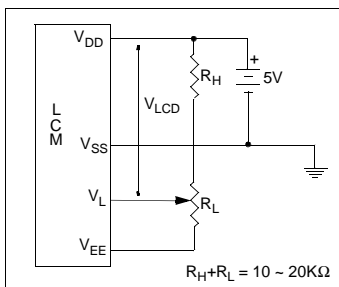
Features

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

Physical Data

Module Size.....144.0W x 104.0H x 12.5T mm
 Viewing Area Size.....114.0W x 64.0H mm
 Dot Pitch.....0.49W x 0.49H mm
 Dot Size.....0.45W x 0.45H mm
 Weight.....160g

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
POWER SUPPLY FOR LCD	V _{DD} -V _L	-	-	17.5	-	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} =0.2mA	V _{DD}	-	V _{DD}	V
OUTPUT LOW VOLTAGE	V _{OL}	I _{OL} =1.2mA	0	-	0.4	V
POWER SUPPLY CURRENT	I _{DD}	V _{DD} =5.0V	-	13.0	20.0	mA
DRIVE METHOD	1/128 Duty					

Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN	MAX	UNIT
SUPPLY VOLTAGE	V _{DD} -V _{SS}	0	7.0	V
POWER SUPPLY FOR LCD	V _L	-	-30.0	V
INPUT VOLTAGE	V _{IN}	0	7.0	V
LED FORWARD CURRENT	I _F		2250	mA
OPERATING TEMPERATURE	T _{OP}	0	50	°C
STORAGE TEMPERATURE	T _{STG}	-20	60	°C

Pin Connections

PIN NO.	SYMBOL	FUNCTION	
1	V _{SS}	0V	Ground
2	V _{DD}	5V	Power supply for logic
3	V _L	-12.5V	Operating voltage for LC
4	C/D	H/L	1=Command, 0=Data
5	RD	L	Data read
6	WR	L	Data write
7	DB0	H/L	Data bus
8	DB1	H/L	
9	DB2	H/L	
10	DB3	H/L	
11	DB4	H/L	
12	DB5	H/L	
13	DB6	H/L	
14	DB7	H/L	
15	CE	L	Chip enable
16	RESET	L	Reset
17	V _{EE}	OUTPUT	#
18	MD2	H/L	Column select 0=40, 1=32
19	FS1	H/L	Text cell size 0=8x8, 1=6x8
20	N/C	-	No connection

Has built-in inverter for negative power supply.