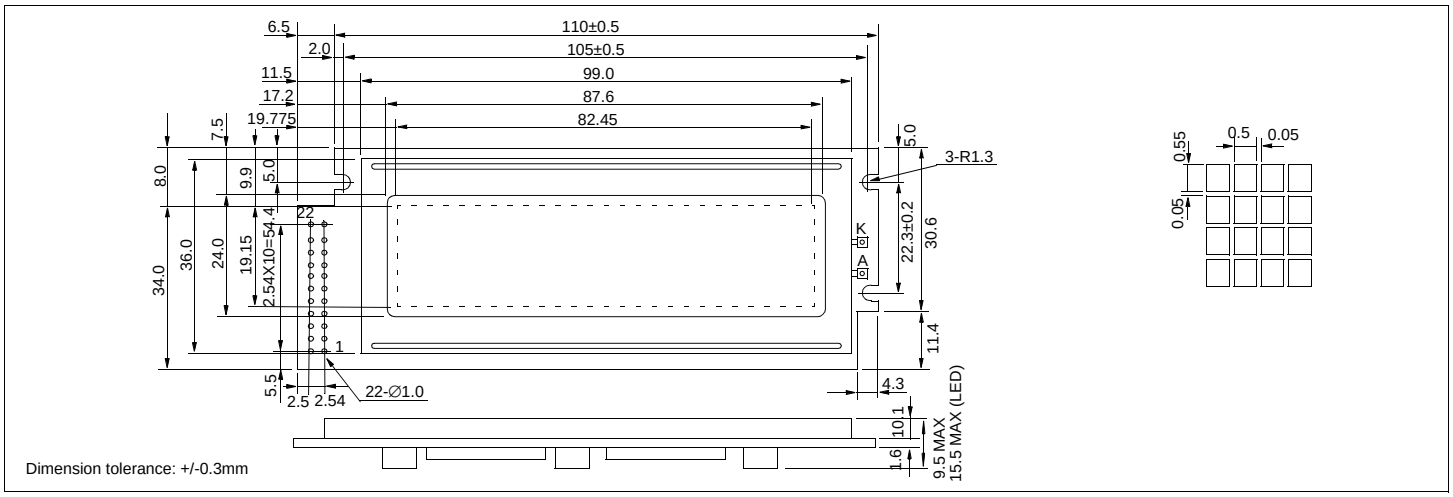
HDM150GS32

Dimensional Drawing

150 x 32 Dots Graphic



Features

Backlight.....EL or LED Optional
Options.....Gray STN / Yellow STN
Normal/Extended Temperature
Bottom / Top Viewing
Built-in Controller.....Toshiba T7932

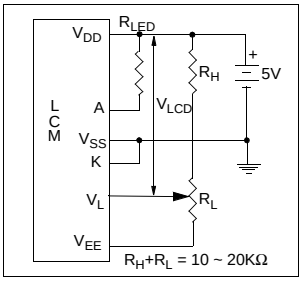
Physical Data

Module Size.....(None or EL) 116.5W x 42.0H x 9.5T mm
(LED) 116.5W x 42.0H x 15.5T mm
Viewing Area Size.....87.6W x 24.0H mm
Dot Pitch.....0.55W x 0.60H mm
Dot Size.....0.50W x 0.55H mm
Weight.....70g

Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN	MAX	UNIT
SUPPLY VOLTAGE	V_{DD}-V_{SS}	0	6.5	V
INPUT VOLTAGE	V_{IN}	0	6.5	V
OPERATING TEMPERATURE	T_{OP}	0	50	°C
STORAGE TEMPERATURE	T_{STG}	-20	60	°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
POWER SUPPLY FOR LCD	V_{DD}-V_L	-	6.2	7.2	8.2	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} -0.4	-	V_{DD}	V
OUTPUT LOW VOLTAGE	V_{OL}	I_{OL}=1.2mA	0	-	0.4	V
LED CURRENT	I_{LED}	-	-	-	180	mA
POWER SUPPLY CURRENT	I_{DD}	V_{DD}=5.0V	-	-	2.8	mA
DRIVE METHOD	1/32 Duty					

Pin Connections

PIN NO.	SYMBOL	FUNCTION	
1	V_{SS}	0V	Ground
2	V_{DD}	5V	Power supply for logic
3	V_L	-	Operating voltage for LC
4	D/I	H/L	1=Data, 0=Instruction
5	R/W	H/L	1=Read, 0=Write
6	E	H/H→L	Enable
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	CS1	H	Chip select
16	CS2	H	
17	CS3	H	
18	RESET	L	Reset
19	V_{EE}	OUTPUT	#
20	N/C	No connection	
21	N/C		
22	N/C		

Has built-in inverter for negative power supply