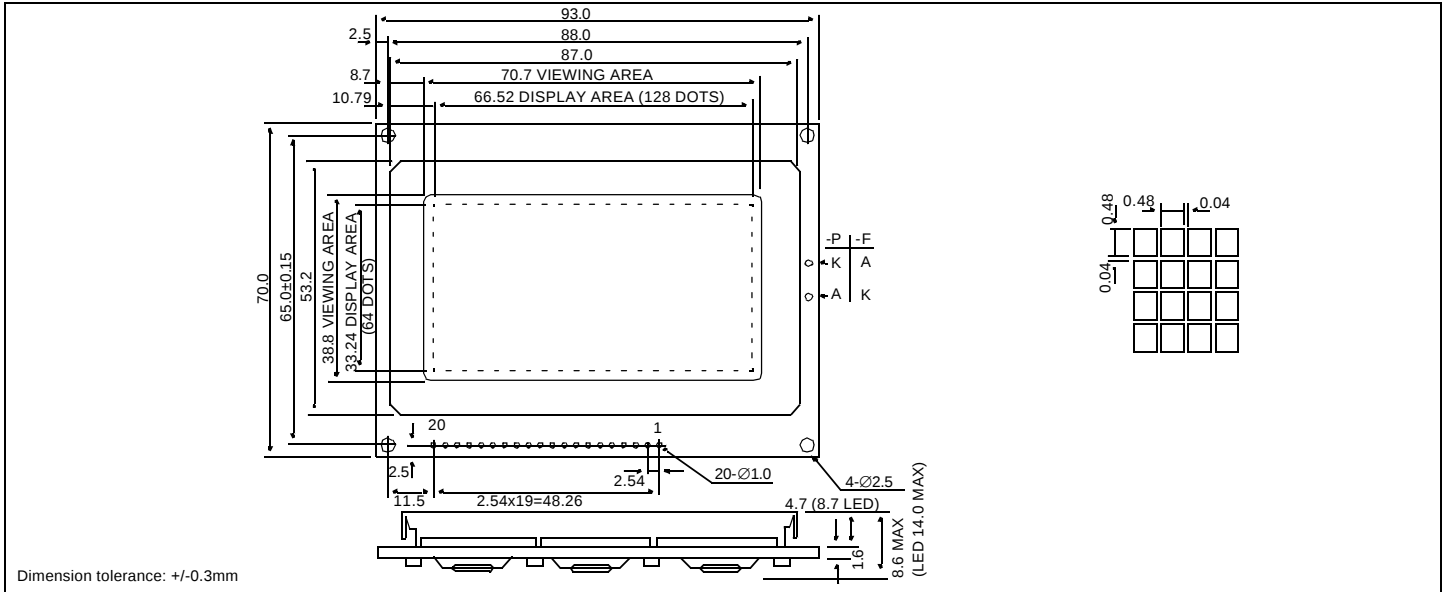


HDM 64GS12

Dimensional Drawing

128 X 64 Dots Graphic



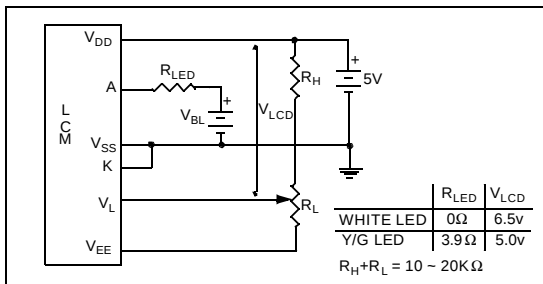
Features

Backlight.....LED or EL Optional
Options.....Gray STN / Yellow STN
Normal/Extended Temperature
Bottom / Top Viewing
Built-in Controller.....Samsung KS108B

Physical Data

Module Size (LED Backlight).....93.0W x 70.0H x 14.0T mm
(None or EL Backlight).....93.0W x 70.0H x 8.6T mm
Viewing Area Size.....70.7W x 38.8H mm
Dot Pitch.....0.52W x 0.52H mm
Dot Size.....0.48W x 0.48H mm
Weight.....60g

Power Supply



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

PARAMETER	SYM	CONDITION	MIN	TYP	MAX	UNIT
INPUT HIGH VOLTAGE	V_{IH}	-	0.7 V_{DD}	-	-	V
INPUT LOW VOLTAGE	V_{IL}	-	-	-	0.3 V_{DD}	V
OUTPUT HIGH VOLTAGE	V_{OH}	$I_{OH}=0.2mA$	2.4	-	-	V
OUTPUT LOW VOLTAGE	V_{OL}	$I_{OL}=1.6mA$	-	-	0.4	V
POWER SUPPLY CURRENT	I_{DD}	$V_{DD}=5.0V$	-	4.0	6.0	mA
LED FW. VOLTAGE (Y/G)	V_F	$I_F=200mA$	-	4.2	-	V
LED FW. VOLTAGE (WHT)	V_F	$I_F=20mA$	-	6.5	-	V
BRIGHTNESS (Y/G)	L	$I_F=200mA$	-	25	-	NIT
BRIGHTNESS (WHITE)	L	$I_F=20mA$	-	19.4	-	NIT
DRIVE METHOD	1/64 Duty					

Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN	MAX	UNIT
SUPPLY VOLTAGE	$V_{DD}-V_{SS}$	0	7.0	V
SUPPLY VOLTAGE FOR LCD	$V_{DD}-V_L$	0	19.0	V
INPUT VOLTAGE	V_{IN}	-	7.0	V
OPERATING TEMPERATURE	T_{OP}	0	50	°C
STORAGE TEMPERATURE	T_{STG}	-20	70	°C
LED POWER CONSUMPTION (Y/G)	P_D		2430	mW
LED POWER CONSUMPTION (WHT)	P_D		-	mW

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=Data read, 0=Data 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	Left Half Chip Select
16	CS2	H	Right Half Chip Select
17	RS	L	Reset
18	V_{EE}	Output	#
19	K	(-F TYPE)	LED Cathode
20	A	(-P TYPE)	LED Anode
	A	(-F TYPE)	LED Anode
	K	(-P TYPE)	LED Cathode

Has built-in inverter for negative power supply