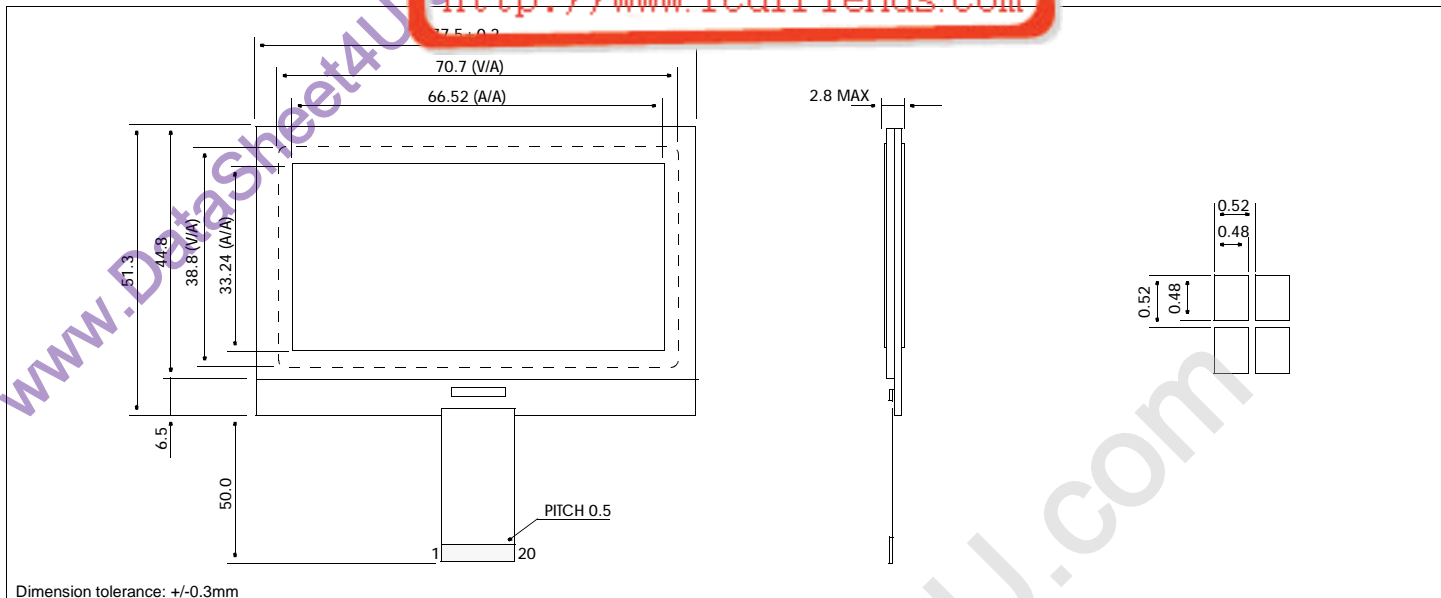


# HDG12864F-1

## Dimensional Drawing



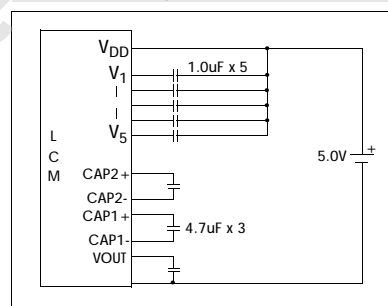
128 X 64 Dots Graphic



### Features

Back light .....None  
 Connection .....Flat Flex Cable  
 Options.....STN/FSTN, Transflective or Reflective Polarizer  
 Built-in Controller.....Epson/S-MOS SED1565

### Power Supply



### Physical Data

Module Size.....77.5W x 51.3H x 2.8T 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.....23 g

### Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN	MAX	UNIT
SUPPLY VOLTAGE	$V_{DD}-V_{SS}$	-0.3	5.5	V
INPUT VOLTAGE	$V_{IN}$	$V_{SS}-0.3$	$V_{DD}$	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
INPUT HIGH VOLTAGE	$V_{IH}$	-	$0.8V_{DD}$	-	$V_{DD}$	V
INPUT LOW VOLTAGE	$V_{IL}$	-	$V_{SS}$	-	$0.2V_{DD}$	V
OUTPUT HIGH VOLTAGE	$V_{OH}$	$I_{OH}=0.2mA$	$0.8V_{DD}$	-	$V_{DD}$	V
OUTPUT LOW VOLTAGE	$V_{OL}$	$I_{OL}=1.2mA$	$V_{SS}$	-	$0.2V_{DD}$	V
POWER SUPPLY CURRENT	$I_{DD}$	$V_{DD}=5V$	-	0.7	1.1	mA
POWER SUPPLY FOR LCD	$V_{DD}-V_L$	$T_A=25°C$	8.8	8.2	9.6	V
DRIVE METHOD	1/64 Duty					

### Pin Connections

PIN NO.	SYMBOL	LEVEL	FUNCTION
1	V5	-	Intermediate voltages
2	V4	-	
3	V3	-	
4	V2	-	
5	V1	-	
6	VR	-	Voltage regulator
7	CAP2+	-	Inverter capacitors
8	CAP2-	-	
9	CAP1-	-	
10	CAP1+	-	
11	VOUT #	Output	Voltage for contrast control
12	$V_{SS}$	0V	Power supply
13	$V_{DD}$	+5V	
14	SI	H/L	Serial data input
15	SCL	L→H	Shift clock
16	RD	L	Read serial data
17	WR	L	Write serial data
18	A0	H/L	H = Data, L = Command
19	RES	L	Reset
20	CS1	L	Chip select

#Has built-in inverter for negative power supply