LCD GRAPHIC 122x32

INCL. CONTROLLER FOR 8 BIT BUS

blue-white: EA DIP122B-5NLW
Dimension 75 x 27 mm

no more mounting required

yellow/green: EA DIP122-5HNLED
Dimension 68 x 27 mm

amber: EA DIP122J-5NLA
Dimension 75 x 27 mm

FEATURES

* HIGH CONTRAST LCD DISPLAY AS STN AND FSTN
* CLASSIC LINE YELLOW/GREEN: EA DIP122-5HNLED
* OR BLUE-WHITE EA DIP122B-5NLW
* BUILT IN CONTROLLER PT6520 OR COMPATIBLE
* INTERFACE FOR 8 BIT DATA BUS
* POWER SUPPLY +2.7~5V / -6.3~-4V 800µA max.
* LED BACKLIGHT Y/G max. 150mA@+25°C
* LED BACKLIGHT AMBER AND WHITE max. 45mA@+25°C
* SOME MORE MODULES WITH SAME MECHANIC AND SAME PINOUT: DOTMATRIX 1x8, 2x16, 4x20 AND 128x64, 240x128 WITH LARGER OUTLINE
* NO SCREWS REQUIRED: SOLDER ON IN PCB ONLY
* DETACHABLE VIA 9-PIN SOCKET EA B200-9 (2 PCS. REQUIRED)
* OPERATING TEMPERATURE RANGE 0~+50°C OR
* -20~+70°C OPERATING TEMP. WITH BUILT-IN TEMP. COMP. CIRCUIT

ORDERING INFORMATION

LCD GRAPHIC MODULE 122x32, WITH BACKLIGHT Y/G	**EA DIP122-5NLED**
Y/G FOR -20~+70°C OPERATING TEMP. RANGE	**EA DIP122-5HNLED**
BLUE-WHITE FOR -20~+70°C, LOW POWER	**EA DIP122B-5NLW**
AMBER FOR -20~+70°C	**EA DIP122J-5NLA**
9-PIN SOCKET, HEIGHT 4.3mm (2 PCS. REQUIRED)	**EA B200-9**
HIGH-LEVEL-GRAPHICSCONTROLLER WITH RS-232C	**EA IC1520-1PGH**

ELECTRONIC ASSEMBLY
making things easy

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PINOUT

Pin	Symbol	Level	Function	Pin	Symbol	Level	Function
1	VSS	L	Power supply 0V (GND)	10	D3	H / L	Display Data
2	VDD	H	Power supply +5V	11	D4	H / L	Display Data
3	VEE	-	Contrast adjustment (-4 V)	12	D5	H / L	Display Data
4	A0	H / L	Command / Data	13	D6	H / L	Display Data
5	R/W	H / L	H=Read, L=Write	14	D7	H / L	Display Data, MSB
6	E1	H	Enable left side	15	E2	H	Enable right side
7	D0	H / L	Display Data, LSB	16	RES	L	Reset
8	D1	H / L	Display Data	17	A	-	LED Backlit+ (external RV !)
9	D2	H / L	Display Data	18	C	-	LED Backlit -

CONTROLLER PT6520

Graphic modules of EA DIP122-5 series do have 2 controller PT6520 (or compatible) built in: One for the left half of display and the other for the right one. From 61 columns each 0..60 are used only.

PT6520 do not have any character mode, so all character has to be set by graphic. Many different fonts are optionally available on disk with part numer EA DISKFONT1520.
A detailed description for all commands and interface timing you will find at the user manual for PT6520*).

Column address
0 - - - - - - - - - - - - - - - - - 79

D0 ~ D7	Page 0
D0 ~ D7	Page 1
D0 ~ D7	Page 2
D0 ~ D7	Page 3

Instructions	Code											Function
	A0	RD	WR	D7	D6	D5	D4	D3	D2	D1	D0	
Display ON/OFF	0	1	0	1	0	1	0	1	1	1	0/1	Turns Display on or off. 0=OFF; 1=ON;
Display start line	0	1	0	1	1	0	Display start address (0 - 31)					Specifies RAM line corresponding to top of display.
Set page address	0	1	0	1	0	1	1	1	0	Page (0-3)		Sets display RAM page.
Set Column address	0	1	0	0	Column address (0 - 79)							Sets display RAM column address.
Read Status	0	0	1	BUSY	ADC	ON/OFF	RESET	0	0	0	0	Read the following status: BUSY: 1=Busy; 0=Ready; ADC: 1=CW output; 0=CCW output; ON/OFF: 1=Display off; 0=Display on; RESET: 1=Being reset; 0=Normal;
Write display data	1	1	0	Write data								Writes data into display RAM.
Read display data	1	0	1	Read data								Reads data from display RAM.
Select ADC	0	1	0	1	0	1	0	0	0	0	0/1	0=CW output; 1=CCW output;
Static drive ON/OFF	0	1	0	1	0	1	0	0	1	0	0/1	Selects static driving operation. 0=Normal driving; 1=Static drive;
Select duty	0	1	0	1	0	1	0	1	0	0	0/1	Select duty cycle. 0=1/16; 1=1/32;
Read-Modify-Write	0	1	0	1	1	1	0	0	0	0	0	Read-modify-write ON
End	0	1	0	1	1	1	0	1	1	1	0	Read-modify-write OFF
Reset	0	1	0	1	1	1	0	0	0	1	0	Software reset.

*) http://www.lcd-module.de/eng/pdf/zubehoer/pt6520.pdf

CONTRAST ADJUSTMENT

Contrast voltage for all displays of EA DIP122-5 series is typ. -4V. That means that for 5V power supply an additional negative voltage of min. 4V is required.
Display modules for -20..+70°C (-5HNLED, -5NLW and -5NLA) are equipped with an on-board temperature compensation. So there's no more need for contrast adjustment while operation anymore.
Furthermore these 3 displays are featured with a superfast STN/FSTN liquid that allows fast resonse even at very low temperatures: typical response time at -20°C is 2 seconds only.

BACKLIGHT

Driving the backlight requires a current source or an external resistor for current limit. Please take care of derating for t_a >+25°C. U_f for yellow/green backlight is 3.9~4.2V, 2.2~2.6V (amber) and 3.0~3.6V for white LED backlight.

Note: Do never drive backlight direct to 5V; immediately damage my happen !

YELLOW/GREEN - BLUE - AMBER

The blue-white display EA DIP122B-5NLW is best for indoor use with and without ambient light. Reading the display requires a minimum of backlight with about 15mA.
The yellow/green version EA DIP122-5NLED is especially designed for 24-hour or outdoor applications. These displays do provide best contrast for all ambient illuminations, even with direct sunlight. No need to say that these display can be read in darkness when LED backlight is switched on.
This is same for the amber backlighted version EA DIP122J-5NLA.

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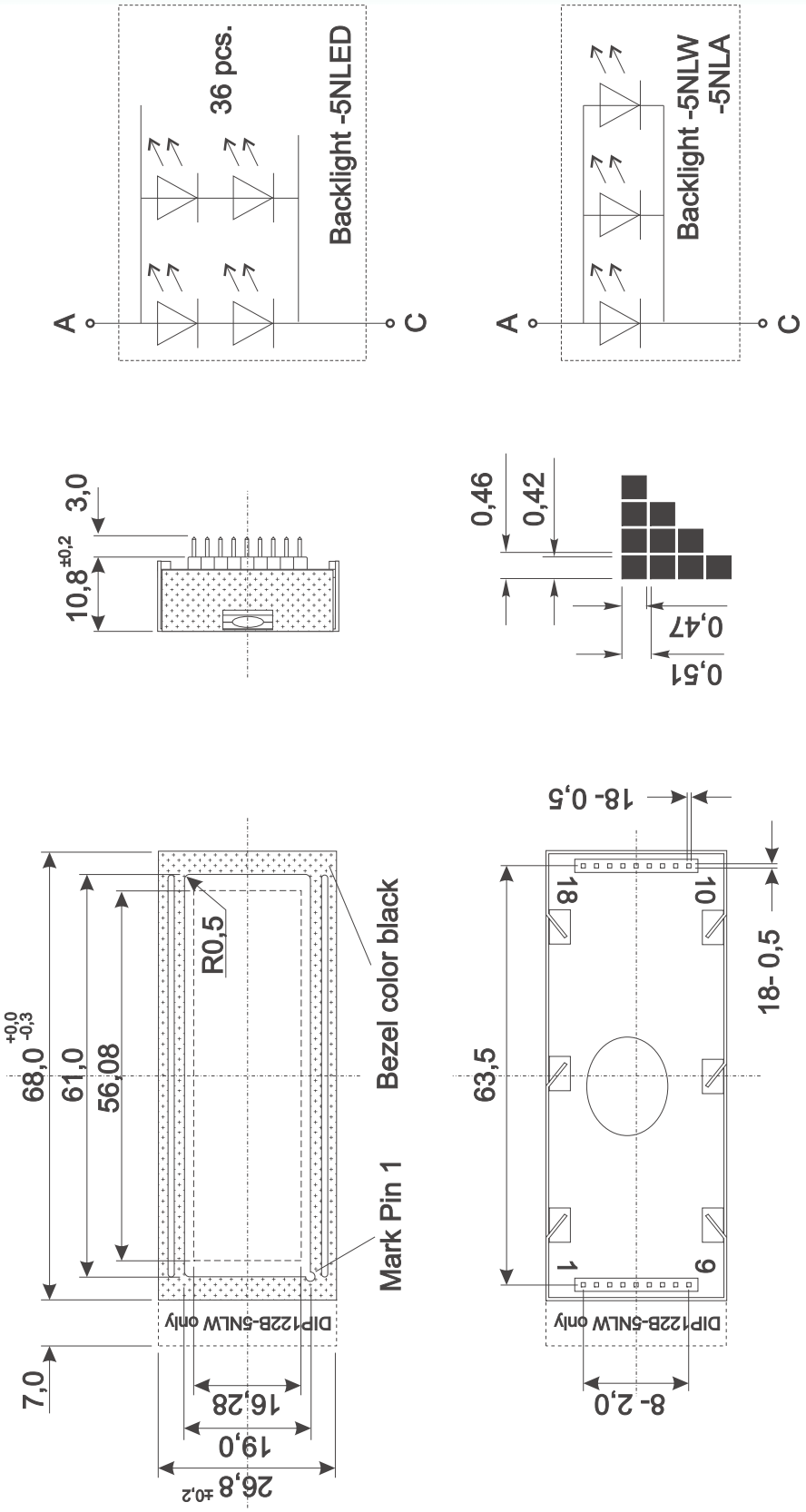
DIMENSIONS



all dimensions are in mm

Note:
In general LC display are not suitable for wave soldering and reflow soldering process. An ambient temperature above 80°C may destroy the display.

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