LCD- GRAPHIC MODULE 180x32

04.2011

INCL. CONTROLLER PT6520 FOR 8-BIT BUS

new !

EA DIP180B-5NLW
Dimension 102 x 27 mm

FEATURES

* HIGH CONTRAST LCD SUPERTWIST DISPLAY
* BLUE-WHITE WITH BRIGHT BACKLIGHT: EA DIP180B-5NLW
* CONTROLLER PT6520 OR COMPATIBLE IS BUILT-IN
* DIRECT INTERFACE TO 8-BIT DATA BUS
* POWER SUPPLY +5V / -3.3V max. 800µA
* LED BACKLIGTH WHITE max. 45mA@+25°C
* MORE MODULES MADE IN SAME TECHNOLOGY:
  - DOTMATRIX 1x8, 2x16, 4x20
  - GRAPHIC 122x32, 128x64 AND 240x128
* NO MOUNTING REQUIRED: JUST SOLDER INTO PCB
* DETACHABLE VIA SOCKET EA B200-9 (2 PCS. ARE REQUIRED)
* OPERATING TEMPERATURE RANGE -20..+70°C WITH
* BUILT-IN TEMPERATURE COMPENSATION

ORDERING CODE

LCD GRAPHIC MODULE 180x32 WITH LED BACKLIGHT	**EA DIP180B-5NLW**
9-PIN SOCKET 4.3mm, pitch 2.0mm (1 PC.)	**EA B200-9**

ELECTRONIC ASSEMBLY
making things easy

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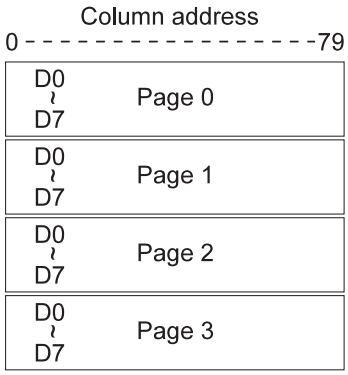
PINOUT

Pin	Symbol	Level	Funktion		Pin	Symbol	Level	Funktion
1	VSS	L	Stromversorgung 0V (GND)		10	D3	H / L	Display Data
2	VDD	H	Stromversorgung +5V		11	D4	H / L	Display Data
3	VEE	-	Kontrastspg. (ca. -3,3V)		12	D5	H / L	Display Data
4	A0	H / L	Umschaltung Befehl / Daten		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 Spalte 1..60		15	E2	H	Enable Spalte 61..120
7	D0	H / L	Display Data, LSB		16	RES	L	Reset
8	D1	H / L	Display Data		17	E3	H	Enable Spalte 121..180
9	D2	H / L	Display Data		18	C	-	LED (ext. Vorwiderstand!)

CONTROLLER PT6520

The display EA DIP180-5 is featuring 3 controller PT65520 or compatible (for the left, middle and right third of display).
The PT6520 is a full graphic controller without text function. Various character set are supplied on the disc EA DISKFONT1520 which is available as an accessory.

A detailed descrition for the commands and the interface timing you can find in the useer manual for PT6520 / SED1520*).



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.

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

CONTRAST ADJUSTMENT

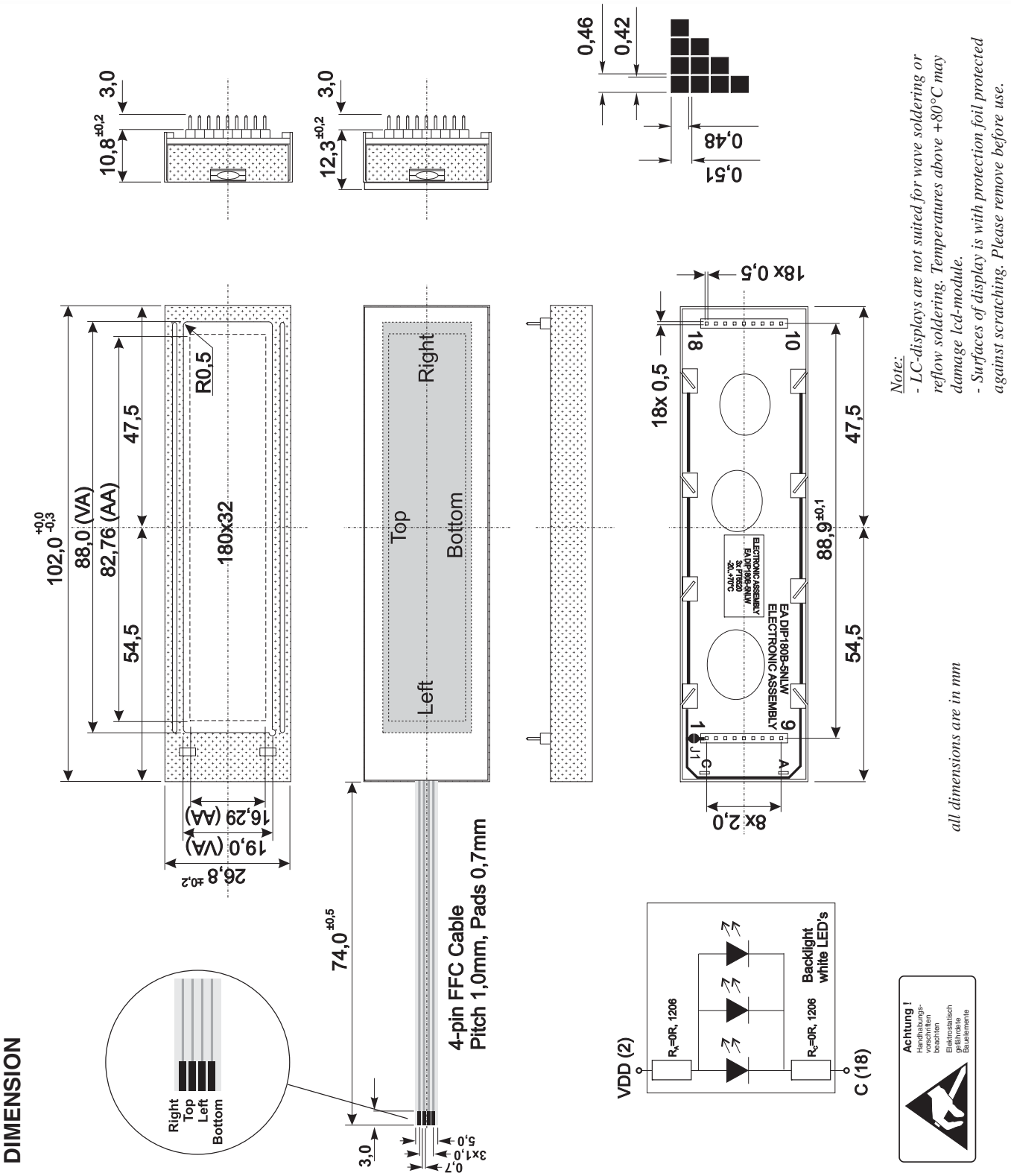
Contrast voltage for EA DIP180-5 is ca. -3.3V. That means that with 5V operation the display do need an additional negative voltage.
An automatic temperature compensation is built-in. A manually realign of contrast while operation over various temperatures is no longer required. Furthermore the display is equipped with a Superfast-Liquid, which fast enough even at the very low temperature of -20°C. Response time is typ. 2.5 seconds only.

BACKLIGHT

The built-in backlight requires a current source or an external limiting resistor. Forward voltage for backlight is between 3.0V and 3.6V. Please consider that a current derating is necessary for operating und temperatures above +25°C.

Note that display cannot be read without backlight. But even with some single mA reading is possible. When ambient brightness grows, then backlight brightness need to grow also.
Attention: do never connect the backlight direct to 5V. This will damage the display immediately !

DIMENSION



Note:

- LC-displays are not suited for wave soldering or reflow soldering. Temperatures above +80°C may damage lcd-module.

- Surfaces of display is with protection foil protected against scratching. Please remove before use.

all dimensions are in mm