

**DISPLAY Elektronik GmbH**

# DATA SHEET

**LCD PANEL**

## **DE 117-Series with Pins**

*Product Specification*

*Version: 2*

**02/August/2012**

# GENERAL SPECIFICATION

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MODULE NO. :

# DE 117-Series with Pins

CUSTOMER P/N

VERSION NO.	CHANGE DESCRIPTION	DATE
0	ORIGINAL VERSION	08.04.2012
1	Add Part-Number	25.04.2012
2	Add Version	02.08.2012

PREPARED BY: MH

DATE: 02.08.2012

APPROVED BY: MH

DATE: 02.08.2012

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**1. FUNCTIONS & FEATURES**

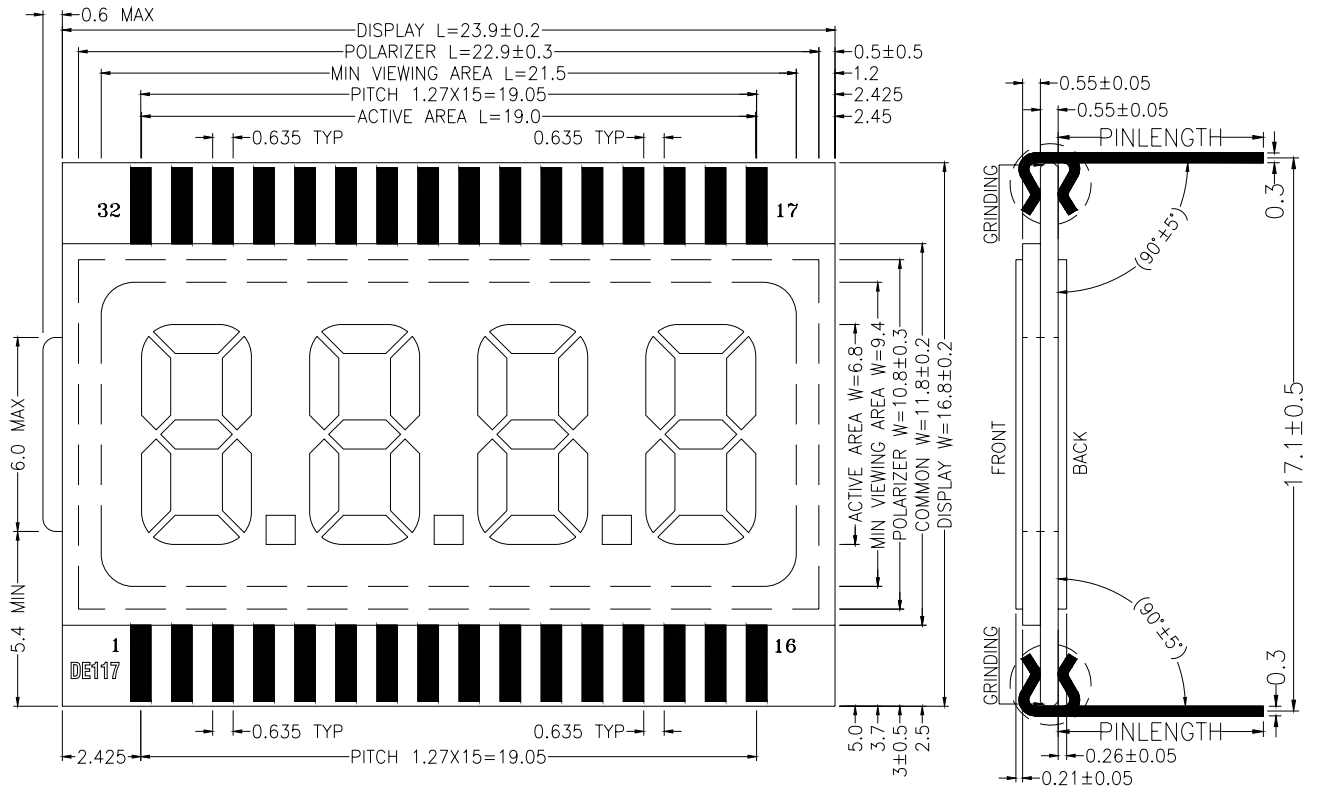
<b>MODULE NAME</b>	<b>LCD TYPE</b>	<b>PINLENGTH</b>
DE 117-RS-20/6,35	TN Reflective Positive Mode	6,35 mm
DE 117-RS-20/7,5	TN Reflective Positive Mode	7,5 mm
DE 117-TS-20/7,5	TN Transflective Positive Mode	7,5 mm

- Viewing Direction : 6 o'clock
- Driving Scheme : Static (64Hz)
- Power Supply Voltage : 3.0 Volt (typ.)
- Display Format : 4 Digits and 3 Decimal Points
- Operating Temperature : -20°C to +70°C
- Storage Temperature : -30°C to +80°C
- Pinlength : see table above

**2. MECHANICAL SPECIFICATIONS**

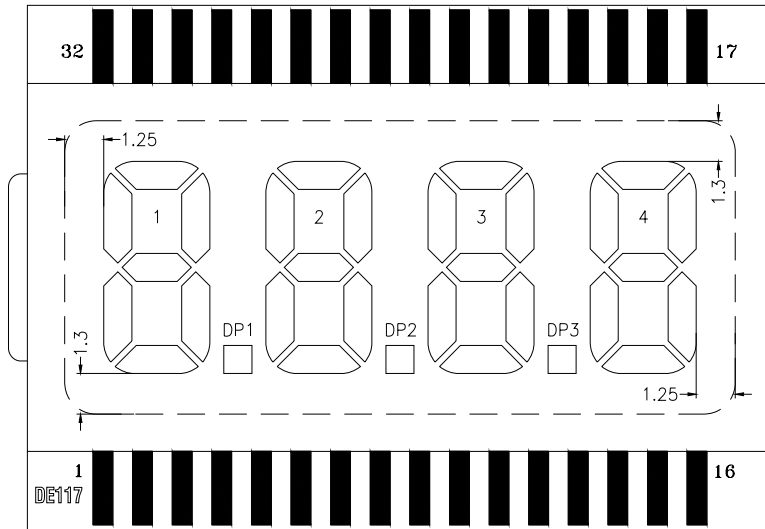
- LCD-Panel Size : 23.90 x 16.80(11.80) mm
- Glass-Material Thickness : 0.55mm (per layer)
- Viewing-Area : 21.50 x 9.40 mm
- Active-Area : 19.00 x 6.80 mm
- Digit-Height : 6.80 mm

3. EXTERNAL DIMENSIONS



UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN MM  
TOLERANCES:  $\pm 0.2$ MM

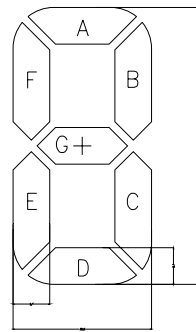
**4. SEGMENT DESIGN**



↑  
UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN MM  
TOLERANCES: ±0.2MM

**5. PIN DESCRIPTION**

<u>PAD NO.</u>	<u>BP</u>	<u>PAD NO.</u>	<u>BP</u>
1	BP	24	3G
2	1E	25	2B
3	1D	26	2A
4	1C	27	2F
5	DP1	28	2G
6	2E	29	1B
7	2D	30	1A
8	2C	31	1F
9	DP2	32	1G
10	3E		
11	3D		
12	3C		
13	DP3		
14	4E		
15	4D		
16	4C		
17	4B		
18	4A		
19	4F		
20	4G		
21	3B		
22	3A		
23	3F		



↑  
UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN MM  
TOLERANCES: ±0.1MM

## **6. LCD MODULES HANDLING PRECAUTIONS**

- Please remove the protection foil of polarizer before using.
- The display panel is made of glass. Do not subject it to a mechanical shock by dropping it from a high place, etc.
- If the display panel is damaged and the liquid crystal substance inside it leaks out, do not get any in your mouth. If the substance come into contact with your skin or clothes promptly wash it off using soap and water.
- Do not apply excessive force to the display surface or the adjoining areas since this may cause the color tone to vary.
- The polarizer covering the display surface of the LCD module is soft and easily scratched. Handle this polarize carefully.
- To prevent destruction of the elements by static electricity, be careful to maintain an optimum work environment.
  - Be sure to ground the body when handling the LCD module.
  - Tools required for assembly, such as soldering irons, must be properly grounded.
  - To reduce the amount of static electricity generated, do not conduct assembly and other work under dry conditions.
  - The LCD module is coated with a film to protect the display surface. Exercise care when peeling off this protective film since static electricity may be generated.
- Storage precautions  
When storing the LCD modules, avoid exposure to direct sunlight or to the light of fluorescent lamps. Keep the modules in bags designed to prevent static electricity charging under low temperature / normal humidity conditions (avoid high temperature / high humidity and low temperatures below 0°C). Whenever possible, the LCD modules should be stored in the same conditions in which they were shipped from our company.

## **7. OTHERS**

- Liquid crystals solidify at low temperature (below the storage temperature range) leading to defective orientation of liquid crystal or the generation of air bubbles (black or white). Air bubbles may also be generated if the module is subjected to a strong shock at a low temperature.
- If the LCD modules have been operating for a long time showing the same display patterns may remain on the screen as ghost images and a slight contrast irregularity may also appear. Abnormal operating status can be resumed to be normal condition by suspending use for some time. It should be noted that this phenomena does not adversely affect performance reliability.
- To minimize the performance degradation of the LCD modules resulting from caused by static electricity, etc. exercise care to avoid holding the following sections when handling the modules:
  - Exposed area of the printed circuit board
  - Terminal electrode sections



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