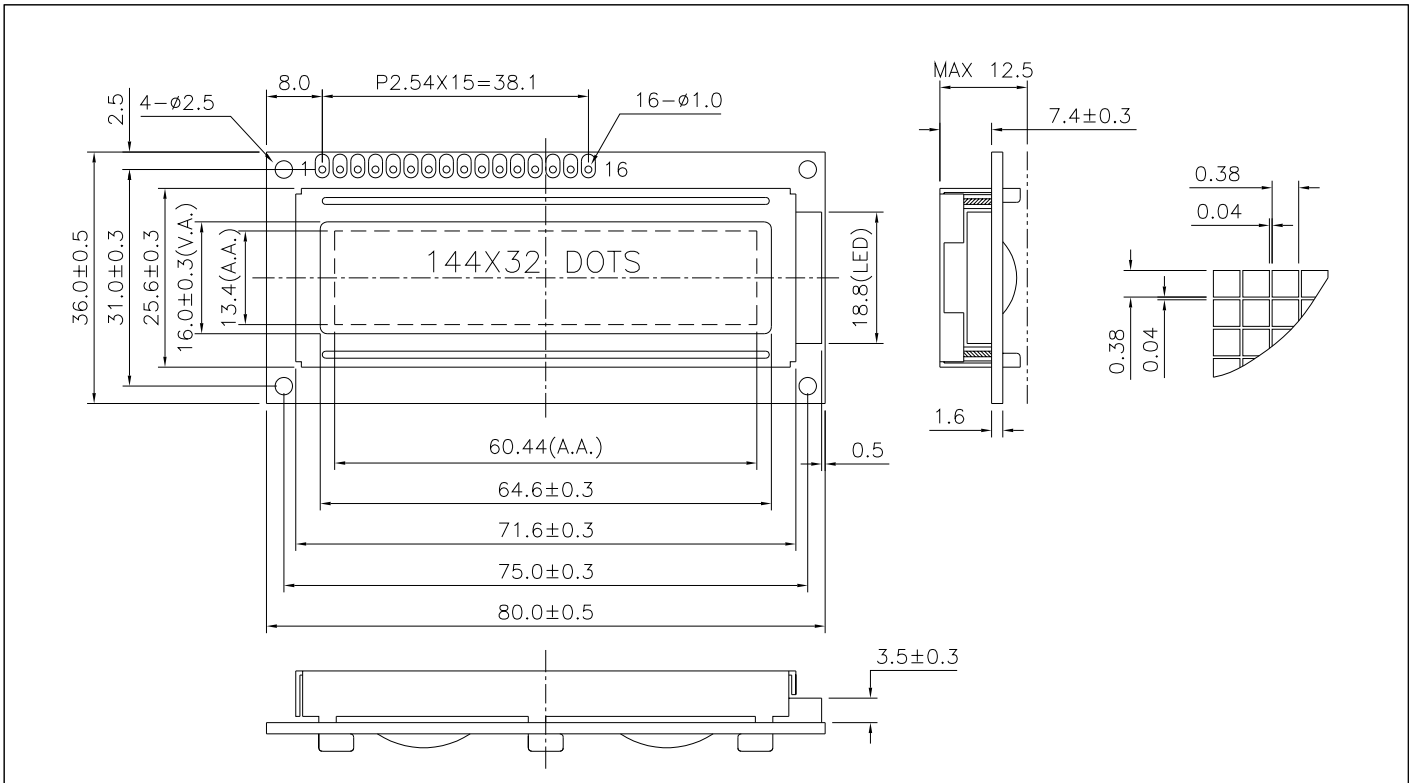


# VS144321-DW 144 x 32 dots + white led backlight, 8-bit parallel or SPI, 5V, built in Chinese font



## ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Min.	Max.	Unit
Supply Voltage(Logic)	V <sub>DD</sub> -V <sub>SS</sub>	-0.3	5.25	V
Supply Voltage(LCD)	V <sub>O</sub> -V <sub>SS</sub>	-0.3	7.0	V
Input Voltage	V <sub>I</sub>	-0.3	V <sub>DD</sub> + 0.3	V
Operating Temp.	T <sub>opr</sub>	-20	70	°C
Storage Temp.	T <sub>stg</sub>	-30	80	°C

## MECHANICAL DATA

Item	Nominal Dimensions	Unit
Module Size (W x H x T)	80.0 x 36.0 x 12.5	mm
Viewing Area (W x H)	64.6 x 16.0	mm
Dot Pitch (W x H)	0.42 x 0.42	mm
Dot Size(W x H)	0.38 x 0.38	mm
Weight	Approx. 35	g

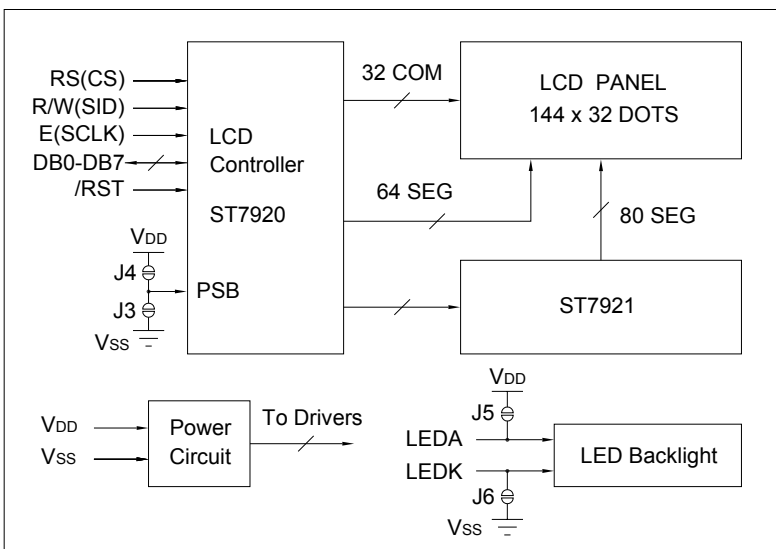
## ELECTRICAL CHARACTERISTICS (V<sub>DD</sub>=5V±0.15V)

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input High Voltage	V <sub>IH</sub>	--	0.7V <sub>DD</sub>	--	V <sub>DD</sub>	V
Input Low Voltage	V <sub>IL</sub>	--	- 0.3	--	0.6	V
Output High Voltage	V <sub>OH</sub>	I <sub>OH</sub> = - 0.1mA	0.8V <sub>DD</sub>	--	V <sub>DD</sub>	V
Output Low Voltage	V <sub>OL</sub>	I <sub>OL</sub> = 0.1mA	0	--	0.4	V
Supply Current	I <sub>DD</sub>	V <sub>DD</sub> = 5.0V	--	2.5	4.0	mA
LCD Driving Voltage	V <sub>O</sub> -V <sub>SS</sub>	T <sub>a</sub> =25°C	--	6.0	--	V

## PIN CONNECTIONS

Pin	Symbol	Level	Function
1	V <sub>SS</sub>	0V	GND
2	V <sub>DD</sub>	5V	Power supply for logic
3	NC (/RST)	--	J2 open: No connection J2 close: Reset signal, active "L".
4	RS (CS)	H/L	H : Data L : Instruction Code (Chip enable for serial mode)
5	R/W (SID)	H/L	H : Read L : Write (Serial data for serial mode)
6	E (SCLK)	H,H→L	Enable signal (Serial clock for serial mode)
7	DB0	H/L	Data bus PSB=H: Parallel mode PSB=L: Serial mode
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	LEDA	5V	Power supply for LED backlight
16	LEDK	0V	

## BLOCK DIAGRAM



## LED BACKLIGHT SPECIFICATIONS (T<sub>a</sub>=25°C)

Item	Symbol	Typ.	Max.	Unit
Forward Voltage	V <sub>f</sub>	2.9	3.0	V
Forward Current	I <sub>f</sub>	18	--	mA
LED Color		White		