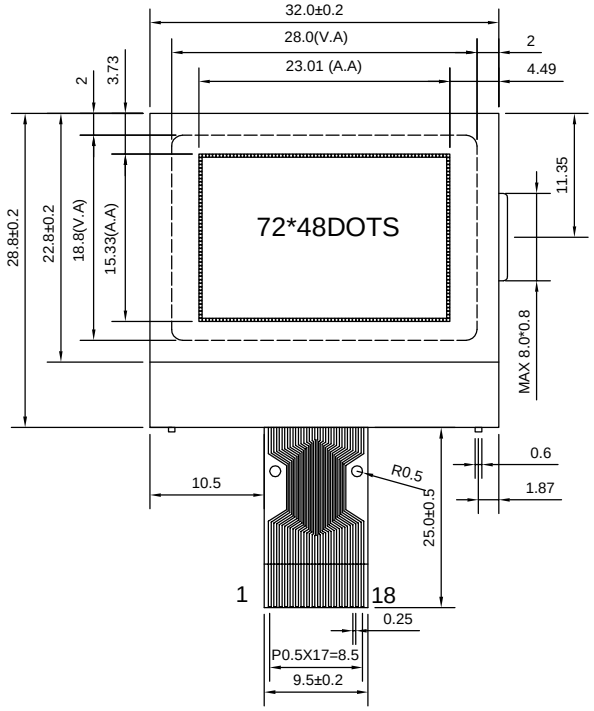
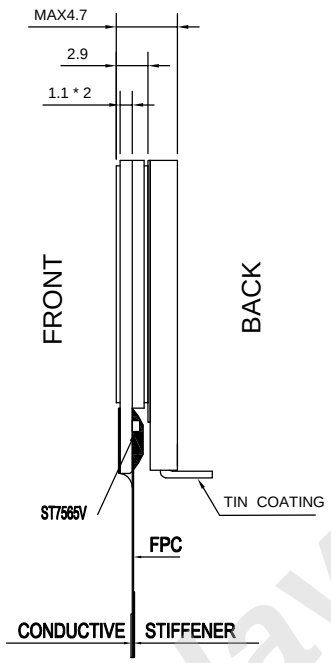
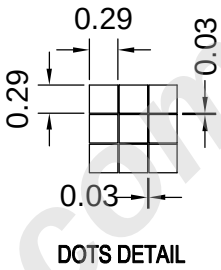
Dimension Drawing







With LED B/L

TOLERANCES UNLESS OTHERWISE STATED
X.X ±0.20 X.XX ±0.10 UNIT: mm

Feature:

1. 72 x 48 dots graphic display
2. Built-in controller ST7565V
3. +3.3 V power supply
4. 1/48 Duty cycle
5. STN or FSTN Mode
6. Match all kind colors of LED back light
7. ROHS compliant

Mechanical Data

Item	Standard	Unit
Module dimension	32.0 x 28.8	mm
Viewing area	28.0 x 18.8	mm
Dots pitch	0.32 x 0.32	mm
Dots size	0.29 x 0.29	mm

Interface Pin Connections

PIN NO.	Symbol	Function
1	/CS1	Chip Select. Chip selected when CS="L"
2	/RESET	H ⟶L Rest the LCM
3	A0	H ⟶Data L ⟶Instruction
4	SCL	The serial clock input
5	SI	Serial data input
6	VDD	Supply Voltage for logic
7	VSS	GND
8	VOUT	DC/DC voltage converter
9	CAP1+	LCD Bias Voltages. These voltages are always generated internally. Connect capacitors of CB value between VBX+ to VBX+.
10	CAP1-	
11	CAP2-	
12	CAP2+	
13	V1	This is a multi-level power supply for the liquid crystal drive. VDD (= V0) ≧V1 ≧V2 ≧V3 ≧V4 ≧V5 When the power supply turns ON, the internal power supply circuits produce the V1 to V4 voltages shown below. The voltage settings are selected using the LCD bias set command.
14	V2	
15	V3	
16	V4	
17	V5	
18	NC	No connect

Absolute Maximum Rating

Item	Symbol	Standard			Unit
		Min	Typ		
Power supply	VDD-VSS	-0.3	---	5.0	V
Input voltage	Vin	-0.3	---	VDD+0.3	

Electronical Characteristics

Item	Symbol	Condition	Standard			Unit
			Min	Typ	Max	
Input voltage	VDD	+3.0V	1.8	3.0	3.3	V
Supply current	I_{DD}	VDD=3V	----	70	117	uA
Recommended LCD driving voltage for normal temp version module	V5-VDD (VDD=3V)	-20°C	8.0	8.2	8.4	V
		0°C	7.8	8.0	8.0	
		25°C	7.6	7.8	8.0	
		50°C	7.4	7.6	7.8	
		70°C	7.2	7.4	7.6	
LED forward voltage	VF	25°C	----	4.2	4.6	V
LED forward current	IF	25°C Edge	----	60	80	mA