

**Fourth, Pin Description**

symbol	Name Pin No.		Explanation
DIO	data input	7	Serial data rising edge of the input clock, from the lowest bit.
CLK	Clock input	8	Serial data rising edge of the input clock
STB	Chip Select	9	Initializing the falling edge of the serial interface, then waits to receive instructions. STB is low after the first byte as a command, when the processing instruction, the current process is terminated other. When the STB is high, CLK is ignored
SEG1 ~ SEG16	Output (section)	11 to the output section 26, P tube open drain output, a built-3.6K • under Pull-up resistor	
GRID1 ~ GRID2 GRID3 ~ GRID4 GRID5 ~ GRID6 GRID7 ~ GRID8	Output (bit)	4 ~ 51 ~ 231 29 ~ 32 28 ~	Bit output, N tube open-drain output, a built-2.8K • Pull-up resistor
VDD	Power Logic	10, 27 connected	to the positive power supply
VSS	Logically	3,6, 30	Then systematically

▲ Notemended 10K pull-up resistor. N DIO  
ing.

## V. Explanations:

Command is used to set display mode and the drive status LED.

to distinguish different instructions.

B7	B6	instruction
0	1	Data Command Set
1	0	Display control command set
1	1	Address Command Set

transferred is invalid (before transmission of instructions or data remains valid).

### (1) Command Set Data:

This command is used to set the data writing and reading, B1, and B0 bit set 01 or 11 is not allowed.

MSB				LSB				Features	Explanation
B7	B6	B5	B4	B3	B2	B1	B0		
0	1	Unrelated items fill 0				0	Data	read-write mode 0	Writing data to the display register
0	1					1	0	Set up	Key scan data read
0	1				0			Address increment mode	Automatic address incrementing
0	1				1			Set up	Fixed address
0	1				0			Mode setting	Normal mode
0	1								

### (2) The display control command set:

adjust

brightness. MSB

MSB				LSB				Features	Explanation	
B7	B6	B5	B4	B3	B2	B1	B0			
1	0	Unrelated items fill 0			0	0	0	Setting the number of Extinction	Setting a pulse width of 1/16	
1	0				0	0	1		Setting a pulse width of 2/16	
1	0				0	1	0		Setting a pulse width of 4/16	
1	0				0	1	1		Setting a pulse width of 10/16	
1	0				1	0	0		Setting a pulse width of 11/16	
1	0				1	0	1		Set pulse width 12/16	
1	0				1	1	0		Setting a pulse width of 13/16	
1	0				1	1	1		Setting a pulse width of 14/16	
1	0				0				Display switch	Display Off
1	0				1					Open display

**(3) address command set:**

ess is set to 10H, the data are ignored until a valid address is set. When powered on, the default address to 00H.

MSB				LSB				Display address
B7	B6	B5	B4	B3	B2	B1	B0	
1	1	Unrelated items fill 0		0	0	0	0	00H
1	1			0	0	0	1	01H
1	1			0	0	1	0	02H
1	1			0	0	1	1	03H
1	1			0	1	0	0	04H
1	1			0	1	0	1	05H
1	1			0	1	1	0	06H
1	1			0	1	1	1	07H
1	1			1	0	0	0	08H
1	1			1	0	0	1	09H
1	1			1	0	1	0	0AH
1	1			1	0	1	1	0BH
1	1			1	1	0	0	0CH
1	1			1	1	0	1	0DH
1	1			1	1	1	0	0EH
1	1			1	1	1	1	0FH

**Sixth, the display address register:**

This register is transferred via the serial interface receiving memory from an external device to the data TM1629A up from 00H-0FH effective address 16 byte units, respectively corresponding to the chip pins SEG and GRID, the specific allocation shown in (2): Write led When the display data according to the address from the display from low to high, from high to low data byte operations.

SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12	SEG13	SEG14	SEG15	SEG16			
xxHL (low nibble)				xxHU (high nibble)				xxHL (low nibble)				xxHU (high nibble)						
B0	B1	B2	B3	B4	B5	B6	B7	B0				B1	B2	B3	B4	B5	B6	B7
00HL				00HU				01HL				01HU				<b>GRID1</b>		
02HL				02HU				03HL				03HU				<b>GRID2</b>		
04HL				04HU				05HL				05HU				<b>GRID3</b>		
06HL				06HU				07HL				07HU				<b>GRID4</b>		
08HL				08HU				09HL				09HU				<b>GRID5</b>		
0AHL				0AHU				0BHL				0BHU				<b>GRID6</b>		
0CHL				0CHU				0DHL				0DHU				<b>GRID7</b>		
0EHL				0EHU				0FHL				0FHU				<b>GRID8</b>		

figure 2)

▲ Notent sends commands directly to the opening

after power to  
data 0x00 .

16 Bit memory address ( 00H-0FH ) Write all

**Seven, show:**

1, drive common cathode LED:

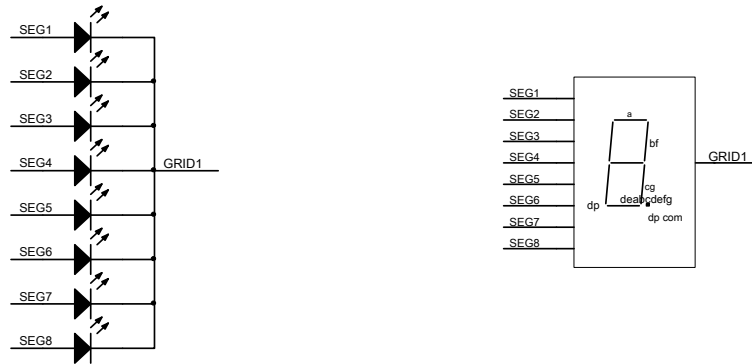


FIG. (7)

to 00H (of GRID1) address to start writing data

from the low 0x3F, 00H corresponds to a case each SEG1-SEG8 the data table below.

SEG8	SEG7	SEG6	SEG5	SEG4	SEG3	SEG2	SEG1	
0	0	1	1	1	1	1	1	GRID1 (00H)
B7	B6	B5	B4	B3	B2	B1	B0	

2, driving a total of Yang digital tube:



FIG. (8)

Figure 8 shows the connection diagram of digital common anode tube, so that the digital display if "0", it is necessary to address unit 00H (GRID1), 02H (GRID2), 04H (GRID3), 06H ata unit 00H. Each SEG1-SEG8 data corresponding to the table below.

SEG8	SEG7	SEG6	SEG5	SEG4	SEG3	SEG2	SEG1	
0	0	0	0	0	0	0	1	GRID1 (00H)
0	0	0	0	0	0	0	1	GRID2 (02H)
0	0	0	0	0	0	0	1	GRID3 (04H)
0	0	0	0	0	0	0	1	GRID4 (06H)
0	0	0	0	0	0	0	1	GRID5 (08H)
0	0	0	0	0	0	0	1	GRID6 (0AH)
0	0	0	0	0	0	0	0	GRID7 (0CH)
0	0	0	0	0	0	0	0	GRID8 (0EH)
B7	B6	B5	B4	B3	B2	B1	B0	

▲ Note connected to the GRID only, not reverse.

**Eight serial data transfer formats:**

And receiving a read clock rising edge of BIT operations are

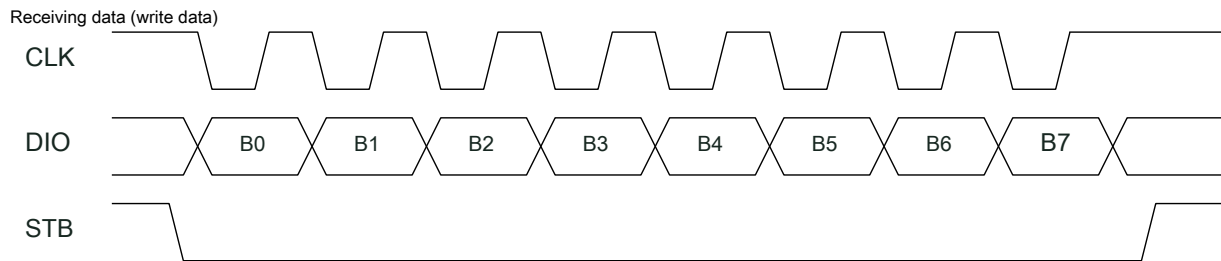


Figure 5)

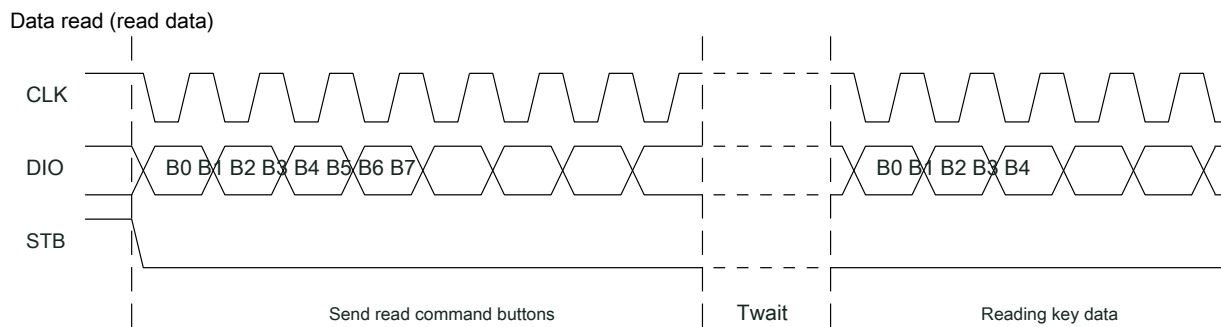


Figure 6)

▲ Note of CLK to read data requires a wait time Twait

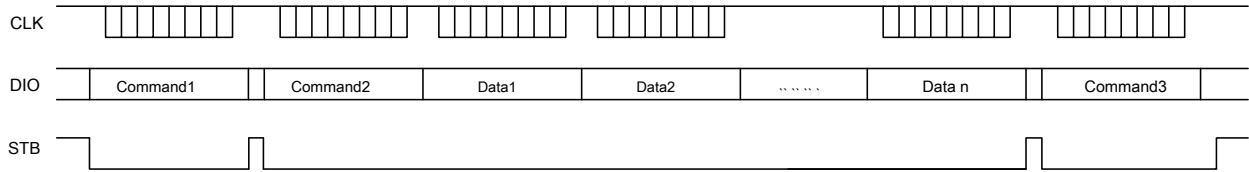
(minimum 2 μ S). Specific parameters in the Timing Characteristics table.

**IX application serial data transmission:**

**(1) Address increment mode**

. The starting address of the command word has

set high.



Command1: setting data command

Command2: set the display address

Data1 ~ n: transmitting display data to the address and the following addresses Command3 (up 16bytes) Command3: display

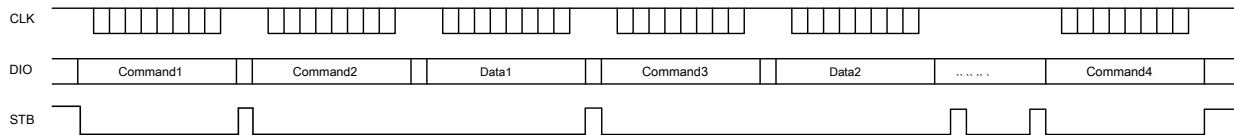
control command

**(2) a fixed address mode**

ion is completed, "STB" does not require high

to be stored, the data transfer is completed up 16BYTE, "STB"

is set high.



Command1: setting data command

Command2: set the display address 1

Data1: 1 to transmit the display data within Command3 Command3

Address: Set display address 2

DATA2: 2 to transmit the display data to the Command4 Command4

Address: display control command