



北京振中致远显示技术有限公司

BEIJING ZHENZHONG ZHIYUAN DISP-TECH. CO.,LTD.

型号:

TNS-G12832GTDFN-1W

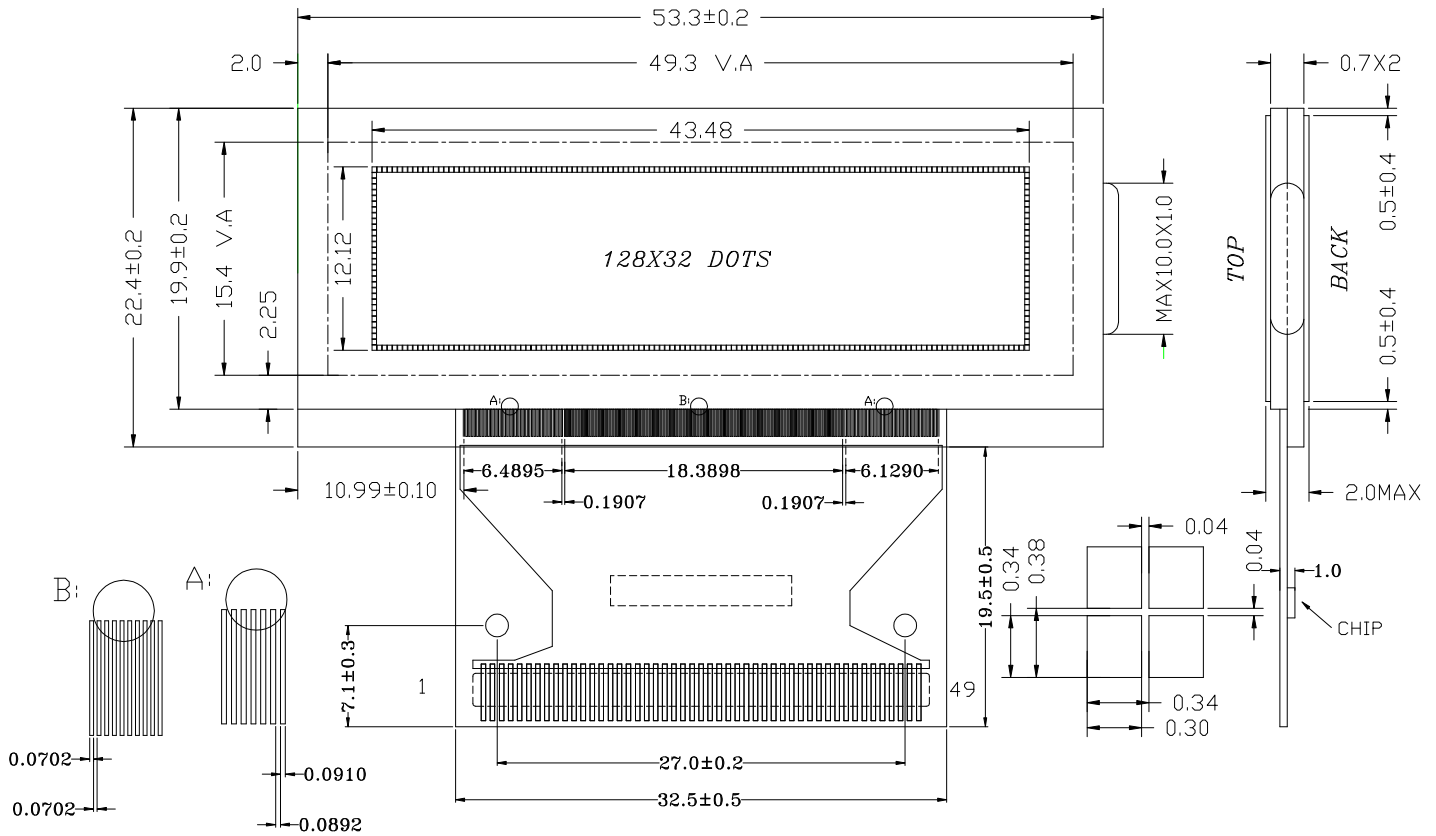
PRODUCT SPECIFICATIONS

TNS-G12832GTDFN-1W

- EXTERNAL DIMENSIONS
- PHYSICAL DATA
- ABSOLUTE MAXIMUM RATINGS
- ELECTRO-OPTICAL CHARACTERISTICS
- INTERFACE PIN CONNECTIONS



EXTERNAL DIMENSIONS



PHYSICAL DATA

Item	Contents	Unit
DIMENSIONAL OUTLINE	53.3(W)×22.4(H)×2.0(MAX)(T)	mm
VIEWING AREA	49.3(W)X15.4(H)	mm
EFFECTIVE AREA	43.48(W)×12.12(H)	mm
LCD TYPE	STN POSITIVE GREY	---



LCD DUTY	1/33	---
LCD BIAS	1/6	
VIEWING DIRECTION	6	o'clock
NUMBER OF DOTS	128×32	dots
DOT SIZE	0.34(W)×0.34(H)	mm
DOT PITCH	0.38(W)×0.38(H)	mm

■ ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

PARAMETER	SYMBOL	RATINGS			UNITS
		MIN.	TYP.	MAX.	
POWER SUPPLY FOR LOGIC	VDD	0	-	3.0	V
POWER SUPPLY FOR LCD DRIVER	V _{LCD}	0	-	9.0	V
INPUT VOLTAGE	V _{IN}	0	-	VDD+0.3	V
OPERATING TEMPERATURE	T _{OP}	-20	-	70	°C
STORAGE TEMPERATURE	T _{ST}	-30	-	80	°C

■ ELECTRICAL & OPTICAL CHARACTERISTICS

Condition:TEMP=(23±3)°C Hum=(70±5)%RH

NO	Item	Symbol	Min	Typ.	Max	Unit	Condition
1	Supply Voltage(Logic)	Vdd-Vss		3.0		V	
2	Supply Current (Logic)	Idd				mA	Vdd=5V
3	LCD Operating Voltage	Vdd-V ₀		9.4		V	-20°C
				9.0			25°C
				8.6			70°C
4	Response Time	Ton		247		ms	



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		Toff		58		ms	
5	Contrast	CR	3				
6	Viewing Angel	12H	$\theta 1$		46	Deg.	(CR \geq 3.0)
		6H	$\theta 2$		28		
		3H	$\theta 3$		50		
		9H	$\theta 4$		50		
7	LCD Threshold Voltage	Vth		7.89		V	25 $^{\circ}$ C

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■ INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function
1-3	NC	No connect
4	FR	This is the liquid crystal alternating current signal I/O terminal .
5	CL	This is the display clock input terminal.
6	DOF	The liquid crystal display blanking control terminal.
7	NC	No connect
8-9	Cs1- Cs2	Chip Select signal.
10	RES	Reset Signal
11	A0	This is connected to the least significant bit of the normal MPU address bus,and it determines whether the data bits are data or a command.
12	/WR	Write Select
13	RD	Read Select
14-21	D0~D7	Data Bus Line
22-23	DUTY0 DUTY1	Select the LCD driver duty.
24	VDD	Logic Supply Voltage(+3.0V)
25	VDD2	This is the reference power supply for the



		Step-up voltage circuit for the LCD.
26	VSS	Ground(0v)
27	VOUT	DC/DC voltage converter output
28	NC	No connect
29	CAP3+	Capacitor 3+ pad for internal DC/DC voltage converter
30	CAP1-	Capacitor 1- pad for internal DC/DC voltage converter
31	CAP1+	Capacitor 1+ pad for internal DC/DC voltage converter
32	CAP2+	Capacitor 2+ pad for internal DC/DC voltage converter
33	CAP2-	Capacitor 2- pad for internal DC/DC voltage converter
34	VEXT	This is the external input reference voltage(VREF) for the internal voltage regulator. It is valid only when external VREF is used.
35	VRS	Select the internal voltage regulator or external voltage regulator
36-40	V1V2V3V4V0	LCD driver supply voltages.
41	VR	Voltage adjustment pad .
42	M/S	This terminal selects the master/slave operation for the NT7502 chips.
43	CLS	Terminal to select whether enable or disable the display clock internal oscillator circuit
44	C86	This is the MPU interface switch terminal.
45	P/S	This is the parallel data input/serial data input switch terminal .
46	HPM	This is the power control terminal for the power supply circuit for liquid crystal drive .
47	IRS	This terminal selects the resistors for the Vo voltage level adjustment .