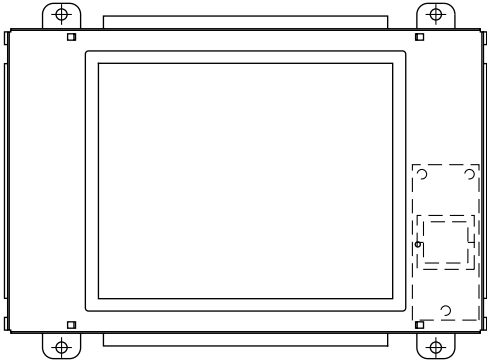


160 x 128 Graphic LCD



FEATURES

- Type: Graphic
- Display format: 160 x 128 dots
- Built-in controller: Toshiba T6963C (or equivalent)
- Duty cycle: 1/128
- Optional N.V.
- + 5 V power supply
- Optional CCFL inverter
- Compliant to RoHS directive 2002/95/EC


RoHS
COMPLIANT

MECHANICAL DATA		
ITEM	STANDARD VALUE	UNIT
Module Dimension	115.0 x 112.0	mm
Viewing Area	101.0 x 82.0	
Dot Size	0.56 x 0.56	
Dot Pitch	0.60 x 0.60	
Mounting Hole	118.0 x 105.0	
Character Size	N/a	

ABSOLUTE MAXIMUM RATINGS					
ITEM	SYMBOL	STANDARD VALUE			UNIT
		MIN.	TYP.	MAX.	
Power Supply	V_{DD} to V_{SS}	4.75	5.0	5.25	V
Input Voltage	V_I	- 0.3	-	V_{DD}	

Note

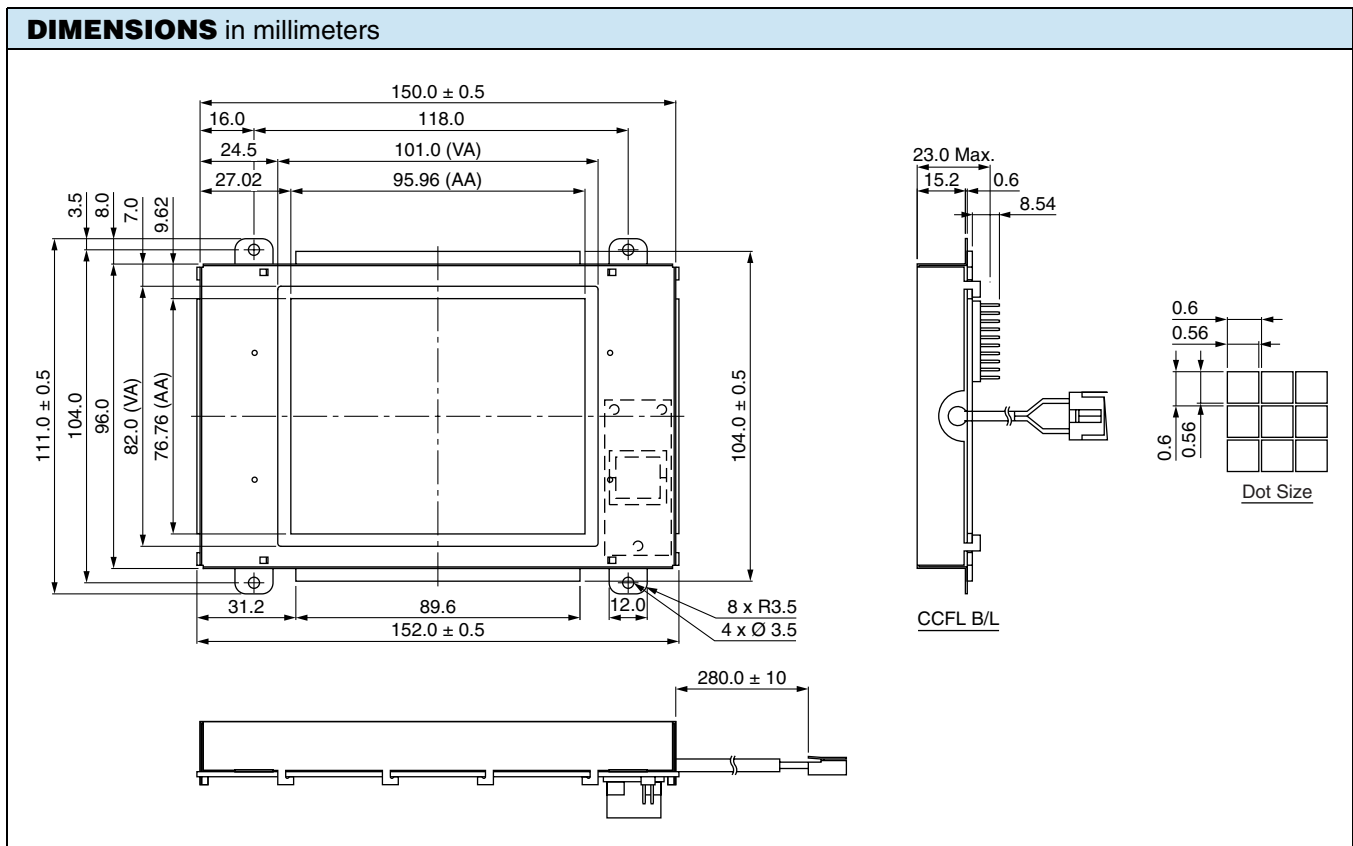
- $V_{SS} = 0$ V, $V_{DD} = 5.0$ V

ELECTRICAL CHARACTERISTICS						
ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
			MIN.	TYP.	MAX.	
Input Voltage	V_{DD}	L level	0.7 V_{DD}	-	V_{DD}	V
	V_{IO}	H level	0	-	0.3 V_{DD}	V
Supply Current	I_{DD}	$V_{DD} = +5$ V	-	4.5	50	mA
Recommended LC Driving Voltage for Normal Temperature Version Module	V_{DD} to V_0	- 20 °C	19.9	21.0	22.1	V
		0 °C	19.0	-	21.2	
		25 °C	18.6	19.1	19.6	
		50 °C	16.2	16.5	16.8	
		70 °C	11.6	9.1	12.8	
CCFL Forward Voltage	V_F	25 °C	-	256	560	V
CCFL Forward Current	I_F	25 °C	-	-	5.0	mA

OPTIONS									
PROCESS COLOR						BACKLIGHT			
TN	STN Gray	STN Yellow	STN Blue	FSTN B&W	STN Color	None	LED	EL	CCFL
	x	x	x	x			x	x	x

For detailed information, please see the "Product Numbering System" document.

INTERFACE PIN FUNCTION			
PIN NO.	SYMBOL	PIN NO.	FUNCTION
1	FGND		Frame ground
2	V _{SS}		Power supply (ground)
3	V _{DD}		Power supply (+ 5 V)
4	V _{ADJ}		Contrast adjustment
5	V _{EE}		Negative voltage output
6	WR		Data write
7	RD		Data read
8	CE		Chip enable
9	C/D		Command/data read/write
10	HALT		Clock operating stop signal
11	Reset		Reset signal
12	DB0		Data bus line
13	DB1		Data bus line
14	DB2		Data bus line
15	DB3		Data bus line
16	DB4		Data bus line
17	DB5		Data bus line
18	DB6		Data bus line
19	DB7		Data bus line
20	NC		No connection





Disclaimer

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