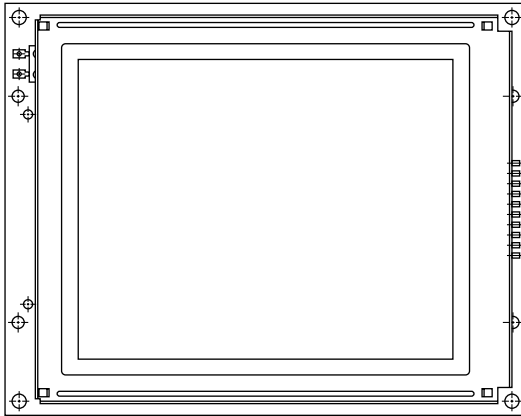


## 160 x 128 Graphic LCD



### 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
- View angle 12° horizontal only
- Compliant to RoHS directive 2002/95/EC


**RoHS**  
COMPLIANT

MECHANICAL DATA		
ITEM	STANDARD VALUE	UNIT
Module Dimension	129.0 x 102.0	mm
Viewing Area	101.0 x 82.0	
Dot Size	0.54 x 0.54	
Dot Pitch	0.58 x 0.58	
Mounting Hole	122.0 x 96.2	
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	$V_{DD}$	-	4.75	5.0	5.25	V
Supply Current	$I_{DD}$	$V_{DD} = +5$ V	-	45.0	50.0	mA
Recommended LC Driving Voltage for Normal Temperature Version Module	$V_{DD}$ to $V_0$	- 20 °C	19.9	21.0	22.1	V
		25 °C	18.6	19.1	19.6	
		70 °C	11.6	9.1	12.8	
CCFL Starting Voltage	$V_{FLS}$	25 °C	-	-	-	$V_{RMS}$
CCFL Driving Voltage	$V_{FLD}$	25 °C	-	256	560	$V_{RMS}$
CCFL Driving Current	$I_{FLD}$	$V_{FQ} = 450 V_{RMS}, 30$ kHz	-	-	5.0	mA
LED Forward Voltage	$V_F$	25 °C	-	4.6	4.6	V
LED Forward Current	$I_F$	25 °C	-	-	500	mA
EL Power Supply Current	$I_{EL}$	$V_{EL} = 110 V_{AC}, 400$ Hz	-	-	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.





## Disclaimer

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