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# 40 Characters x 4 Lines

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**WHIP!** Image next to part no. indicates cad file.

**WHIP!** Indicates an [Opto Express](#) part.

## PRODUCT TREE

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Lumex drawings are in PDF format. If you don't have Adobe Acrobat, click on this icon to

[download a free copy](#)



| Lumex Part Number          | Overall Size with LED Backlight | Overall Size without Backlight | Viewing Area (WxH) | Character Height (WxH) | Dot Size (WxH) | Font | Duty |
|----------------------------|---------------------------------|--------------------------------|--------------------|------------------------|----------------|------|------|
| LCM-S04004DSF <b>WHIP!</b> | 190x54x14.5                     |                                | 149x29.5           | 2.78x4.89              | 0.50x0.55      | 5x8  | 1/16 |
| LCM-S04004DSR <b>WHIP!</b> |                                 | 190x54x10.0                    | 149x29.5           | 2.78x4.89              | 0.50x0.55      | 5x8  | 1/16 |
| LCM-S04004DTF <b>WHIP!</b> | 190x54x14.5                     |                                | 149x29.5           | 2.78x4.89              | 0.50x0.55      | 5x8  | 1/16 |
| LCM-S04004DTR <b>WHIP!</b> |                                 | 190x54x10.0                    | 149x29.5           | 2.78x4.89              | 0.50x0.55      | 5x8  | 1/16 |

## Part Number Suffix Table

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- DSR = STN, Reflective
- DSF = STN, Transflective (With Backlight)
- DTR = TN, Reflective
- DTF = TN, Transflective (With Backlight)

## Absolute Maximum Ratings

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| Item | Symbol | Test Condition | Standard Value |     | Unit |
|------|--------|----------------|----------------|-----|------|
|      |        |                | Min            | Max |      |

|                                     |                 |                          |              |              |    |
|-------------------------------------|-----------------|--------------------------|--------------|--------------|----|
| <b>Supply Voltage for Logic</b>     | $V_{DD}-V_{SS}$ | $T_a=25^{\circ}\text{C}$ | 4.7          | 5.3          | V  |
| <b>Supply Voltage for LCD Drive</b> | $V_{DD}-V_o$    | -                        | 4.2@50°<br>C | 4.8@50°<br>C | V  |
| <b>Input Voltage</b>                | $V_I$           | $T_a=25^{\circ}\text{C}$ | $V_{SS}$     | $V_{DD}$     | V  |
| <b>Operating Temperature</b>        | $T_{opr}$       | LCM-S                    | 0            | 50           | °C |
|                                     |                 | LCM-H                    | -20          | 70           | °C |
| <b>Storage Temperature</b>          | $T_{stg}$       | LCM-S                    | -20          | 70           | °C |
|                                     |                 | LCM-H                    | -30          | 85           | °C |

## Technical Information

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- You can find comprehensive technical information in the [Lumex Tech Notes](#) section. Click [here](#) to get there!

## Electrical Characteristics

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| Item                                                                                                        |                   | Symbol          | Test Condition     | Standard Value |      |          | Unit              |
|-------------------------------------------------------------------------------------------------------------|-------------------|-----------------|--------------------|----------------|------|----------|-------------------|
|                                                                                                             |                   |                 |                    | Min.           | Typ. | Max.     |                   |
| Supply Voltage for Logic                                                                                    |                   | $V_{DD}-V_{SS}$ | -                  | -              | 5.0  | -        | V                 |
| Supply Current for Logic                                                                                    |                   | $I_{DD}$        | $V_{DD}=5\text{V}$ | -              | 4.0  | 10.0     | mA                |
| Input Voltage                                                                                               | High              | $V_{IH}$        | -                  | 2.2            | -    | $V_{DD}$ | V                 |
|                                                                                                             | Low               | $V_{IL}$        | -                  | 0              | -    | 0.6      | V                 |
| Output Voltage                                                                                              | High              | $V_{OH}$        | -                  | 2.4            | -    | -        | V                 |
|                                                                                                             | Low               | $V_{OL}$        | -                  | -              | -    | 0.4      | V                 |
| *LED Backlight                                                                                              | Voltage           | $V_f$           | -                  | -              | 4.2  | 4.6      | V                 |
|                                                                                                             | Current           | $I_f$           | -                  | -              | 500  | -        | mA                |
|                                                                                                             | Power Consumption | PD              | -                  | -              | 2100 | -        | mW                |
|                                                                                                             | Luminous          | L               | $I_f=500\text{mA}$ | 70             | -    | -        | cd/m <sup>2</sup> |
|                                                                                                             | Color             | -               | -                  | -              | -    | -        | nm                |
| *Only Applies to Modules with Backlight<br>$V_{DD}=4.7\text{V}$ to $5.3\text{V}$ , $T_A=25^{\circ}\text{C}$ |                   |                 |                    |                |      |          |                   |

## Options

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- High Temperature Module Available

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