



# **LED Display**

## **Product Data Sheet**

### **LTC-2721WC**

Spec No.: DS-30-95-196

Effective Date: 01/13/2005

Revision: B

**LITE-ON DCC**

**RELEASE**

**BNS-OD-FC001/A4**

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**FEATURES**

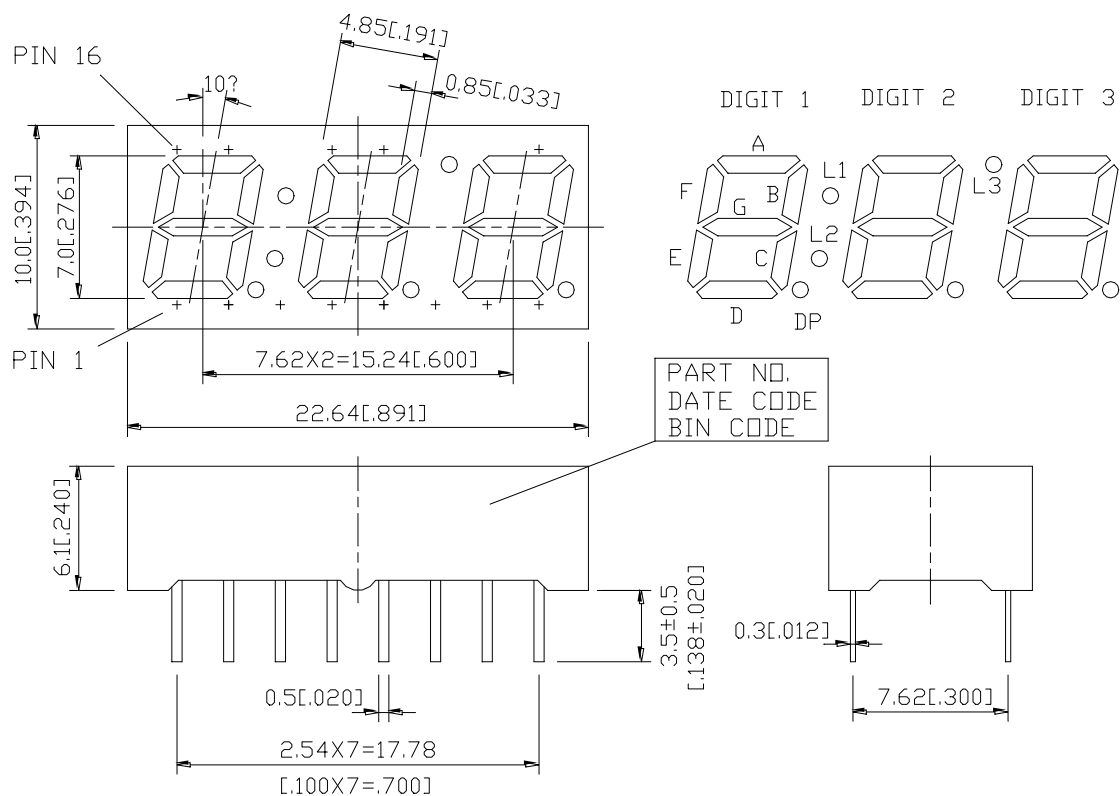
- \* 0.28 inch (7 mm) DIGIT HEIGHT
- \* CONTINUOUS UNIFORM SEGMENTS
- \* LOW POWER REQUIREMENT
- \* EXCELLENT CHARACTERS APPEARANCE
- \* HIGH BRIGHTNESS & HIGH CONTRAST
- \* WIDE VIEWING ANGLE
- \* SOLID STATE RELIABILITY
- \* CATEGORIZED FOR LUMINOUS INTENSITY
- \* **LEAD-FREE PACKAGE (ACCORDING TO ROHS)**

**DESCRIPTION**

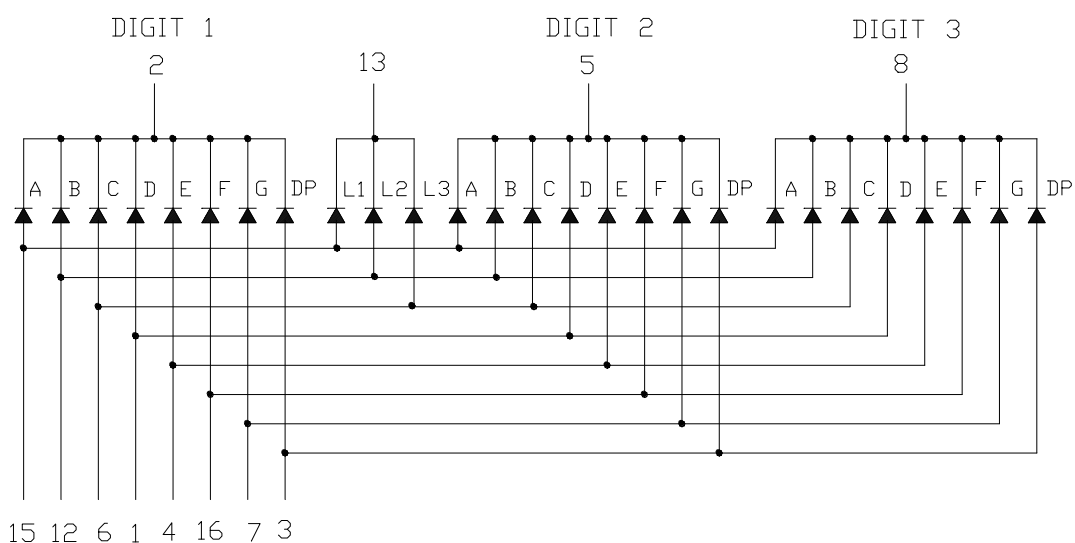
The LTC-2721WC is a 0.28 inch (7 mm) digit height triple digit seven-segment display. This device uses LED chips (AlGaAs epi on GaAs substrate). The display has gray face and white segments. The AlGaAs red seven segment displays are designed for applications requiring low power consumption. They are tested and selected for the excellent low current characteristics to ensure that the segments are matched at low current. Drive current as low as 1 mA per segment is available.

**DEVICE**

PART NO.	DESCRIPTION
AlGaAs Red	Multiplex Common Cathode Rt. Hand Decimal
LTC-2721WC	

**PACKAGE DIMENSIONS**


NOTES: All dimensions are in millimeters. Tolerances are  $\pm 0.25$  mm (0.01") unless otherwise noted.

**INTERNAL CIRCUIT DIAGRAM**


**PIN CONNECTION**

<b>NO</b>	<b>CONNECTION</b>
1	ANODE D
2	COMMON CATHODE (DIGIT 1)
3	ANODE D.P.
4	ANODE E
5	COMMON CATHODE (DIGIT 2)
6	ANODE C
7	ANODE G
8	COMMON CATHODE (DIGIT 3)
9	NO CONNECTION
10	NO PIN
11	NO PIN
12	ANODE B
13	COMMON CATHODE L1, L2, L3
14	NO PIN
15	ANODE A
16	ANODE F

**ABSOLUTE MAXIMUM RATING**

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation Per Segment	75	mW
Peak Forward Current Per Segment ( Frequency 1Khz, 10% duty cycle)	125*	mA
Continuous Forward Current Per Segment	30	mA
Forward Current Derating from 25 <sup>0</sup> C	0.4	mA/°C
Reverse Voltage Per Segment	5	V
Operating Temperature Range	-35°C to +85°C	
Storage Temperature Range	-35°C to +85°C	
Soldering Conditions : 1/16 inch below seating plane for 3 seconds at 260 <sup>0</sup> C		

\*see figure 5 to establish pulsed condition

**ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C**

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>v</sub>	200	600		μcd	I <sub>F</sub> =1mA
			3100		μcd	I <sub>F</sub> =5mA
Peak Emission Wavelength	λ <sub>p</sub>		660		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		35		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>		638		nm	I <sub>F</sub> =20mA
Forward Voltage Per Segment	V <sub>F</sub>		1.6	2.4	V	I <sub>F</sub> =1mA
			1.7			I <sub>F</sub> =5mA
			1.8			I <sub>F</sub> =20mA
Reverse Current Per Segment	I <sub>R</sub>			100	μA	V <sub>R</sub> =5V
Luminous Intensity Matching Ratio	I <sub>v</sub> -m			2:1		I <sub>F</sub> =1mA

Note: Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commision Internationale De L'Eclairage) eye-response curve.

### TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

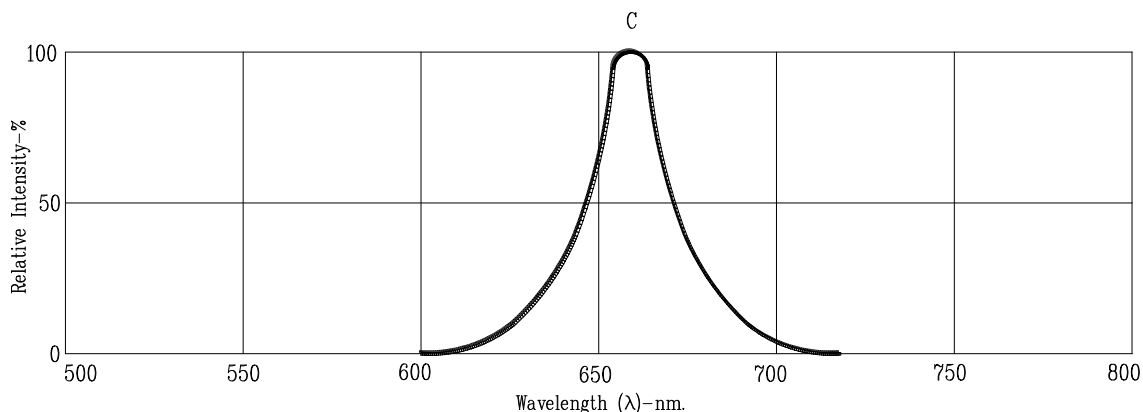


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

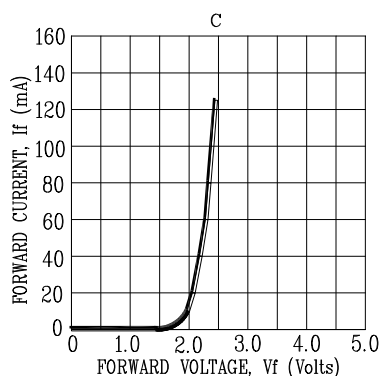


Fig2. Forward Current vs. Forward Voltage

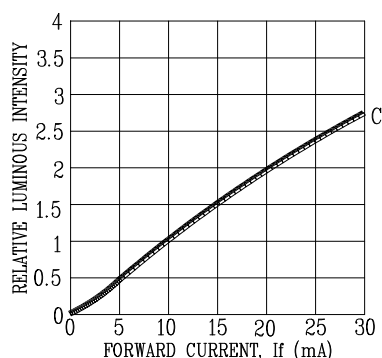


Fig3. Relative Luminous Intensity vs. DC Forward Current

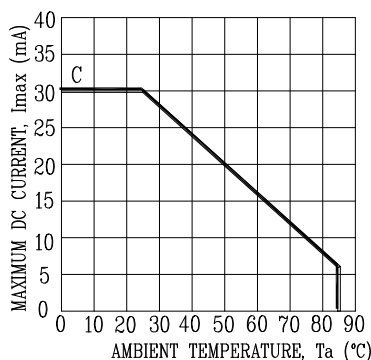


Fig4. Maximum Allowable DC Current vs. Ambient Temperature

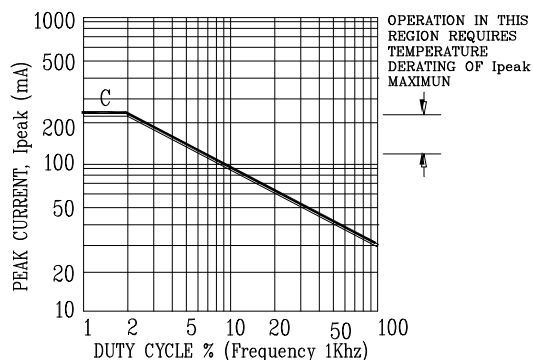


Fig5. Maximum Peak Current vs. Duty Cycle %

NOTE: C=AlGaAs RED