



# LED Display Product Data Sheet LTP-15801KD

Spec No.: DS30-2001-345

Effective Date: 11/27/2001

Revision: -

**LITE-ON DCC**

**RELEASE**

BNS-OD-FC001/A4

**FEATURES**

- \* 1.5 inch (38 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.

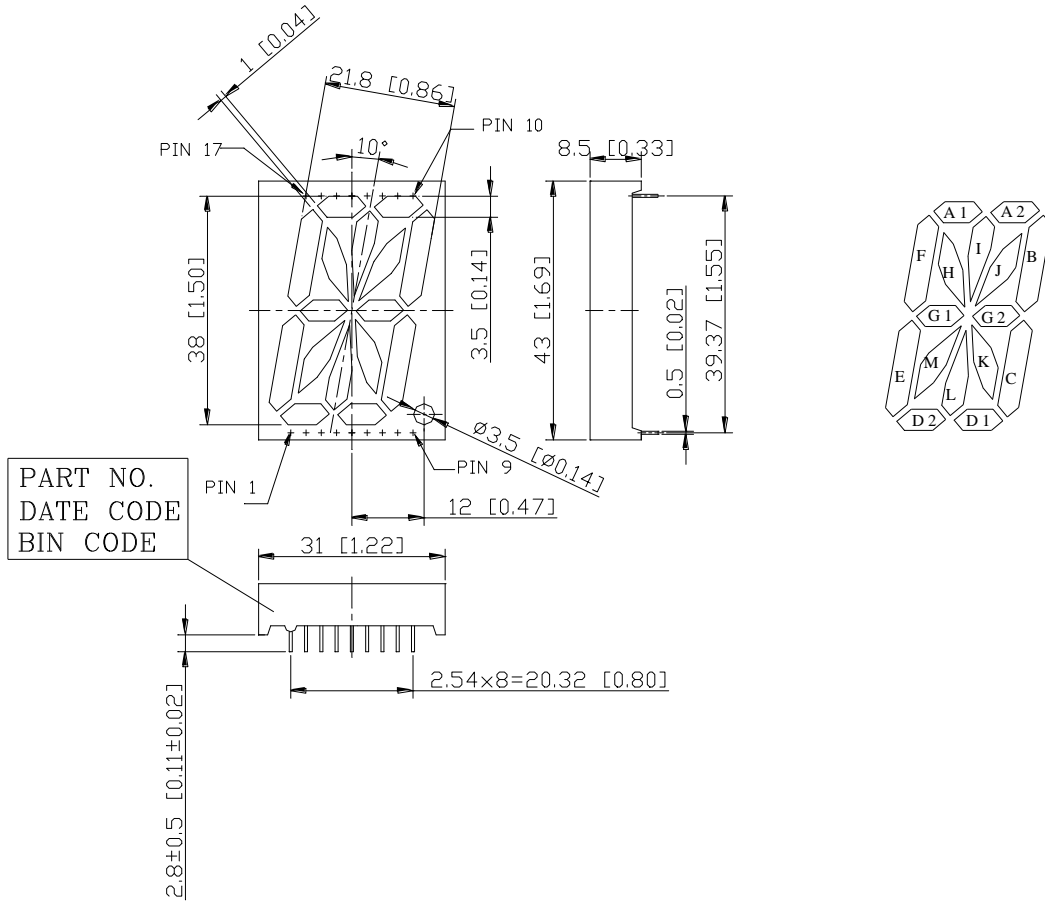
**DESCRIPTION**

The LTP-15801KD is a 1.5 inch (38 mm) digit height single digit 16-segment alphanumeric display. This device utilizes AlInGaP Hyper Red LED chips, which are made from AlInGaP on a non-transparent GaAs substrate, and has a black face and white segments.

**DEVICE**

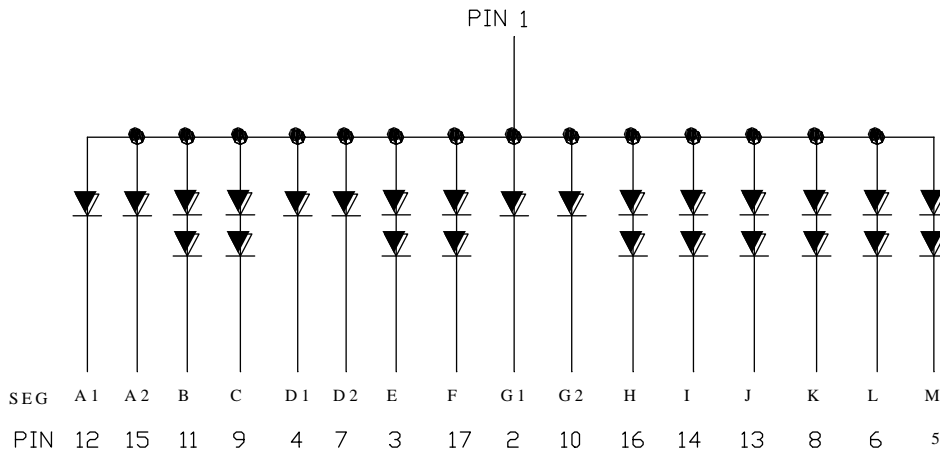
<b>PART NO.</b>	<b>DESCRIPTION</b>
AlInGaP Hyper Red	Common Anode
LTP-15801KD	Rt. Hand Decimal

**PACKAGE DIMENSIONS**



NOTES: All dimensions are in millimeters. Tolerances are ± 0.25-mm (0.01“) unless otherwise noted.

**INTERNAL CIRCUIT DIAGRAM**



**PIN CONNECTION**

<b>No.</b>	<b>CONNECTION</b>
1	COMMON ANODE
2	CATHODE G1
3	CATHODE E
4	CATHODE D1
5	CATHODE M
6	CATHODE L
7	CATHODE D2
8	CATHODE K
9	CATHODE C
10	CATHODE G2
11	CATHODE B
12	CATHODE A1
13	CATHODE J
14	CATHODE I
15	CATHODE A2
16	CATHODE H
17	CATHODE F

**ABSOLUTE MAXIMUM RATING AT Ta=25°C**

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation Per Segment	70 (134)	mW
Peak Forward Current Per Segment (1/10 Duty Cycle, 1.0ms Pulse Width)	90	mA
Continuous Forward Current Per Segment Derating Linear From 25°C Per Segment	25 (24) 0.33 (0.31)	mA mA/°C
Reverse Voltage Per Segment	5 (10)	V
Operating Temperature Range	-35°C to +85°C	
Storage Temperature Range	-35°C to +85°C	
Solder Temperature: max 260°C for max 3sec at 1.6mm[1/16inch] below seating plane.		

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>v</sub>		27.3 (46.8)		mcd	I <sub>F</sub> =20mA
Peak Emission Wavelength	λ <sub>p</sub>		650		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		20		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>		639		nm	I <sub>F</sub> =20mA
Forward Voltage Per Segment	V <sub>F</sub>		2.1 (4.2)	2.6 (5.2)	V	I <sub>F</sub> =20mA
Reverse Current Per Segment	I <sub>R</sub>			100	μA	V <sub>R</sub> =5V (10V)
Luminous Intensity Matching Ratio	I <sub>v</sub> -m			2:1		I <sub>F</sub> =20mA

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

## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

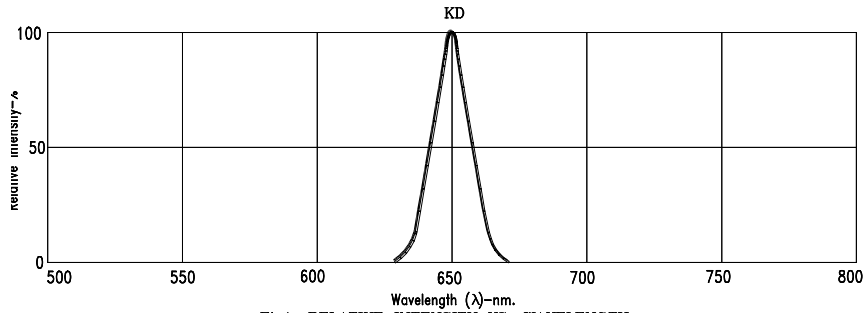


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

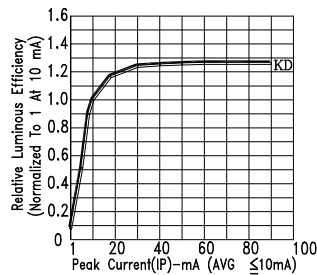


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT

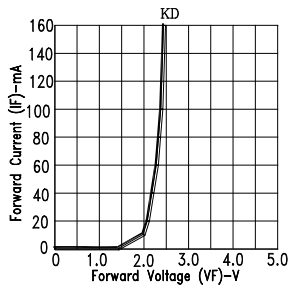


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

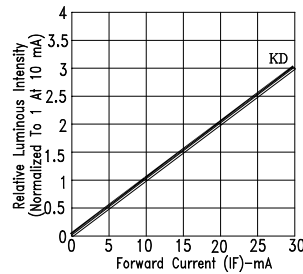


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

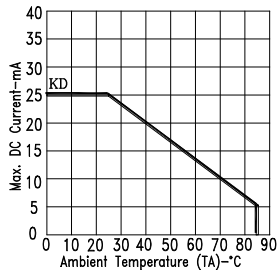


Fig5. MAX ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

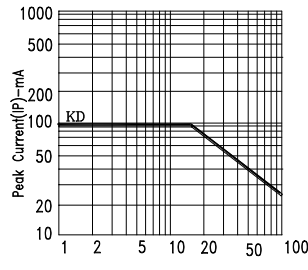


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE : KD=AlInGaP HYPER RED

Note: Per chip dice.