LITEON®
OPTOELECTRONICS

LED Display
Product Data Sheet
LTF-3605KR-01

Spec No. :DS30-2011-0084
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Revision: B

LITE-ON DCC

RELEASE

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LITE-ON Technology Corp. / Optoelectronics
No.90,Chien 1 Road, Chung Ho, New Taipei City 23585, Taiwan, R.O.C.
Tel: 886-2-2222-6181 Fax: 886-2-2221-1948 / 886-2-2221-0660
http://www.liteon.com/opto

LED DISPLAY

LTF-3605KR-01

Rev	Description	By	Date
01	Preliminary Spec.	Lester Chen	2011/03/28
Above data for PD and Customer tracking only			
-	NPPR Received and Upload on System	Eason Lin	2011/06/16
A	1. Add Note in page 3 2. Add pin tolerance in page 3	Reo Lin	2013/04/18
B	Update system data	Reo Lin	2018/10/18

LED DISPLAY
LTF-3605KR-01

1. Description

The LTF-3605KR-01 is a 0.3 inch (7.68 mm) digit height six digit seven-segment display. This device uses AlInGap Super Red LED chips (AlInGap epi on GaAs substrate). The display has a black face and white segments.

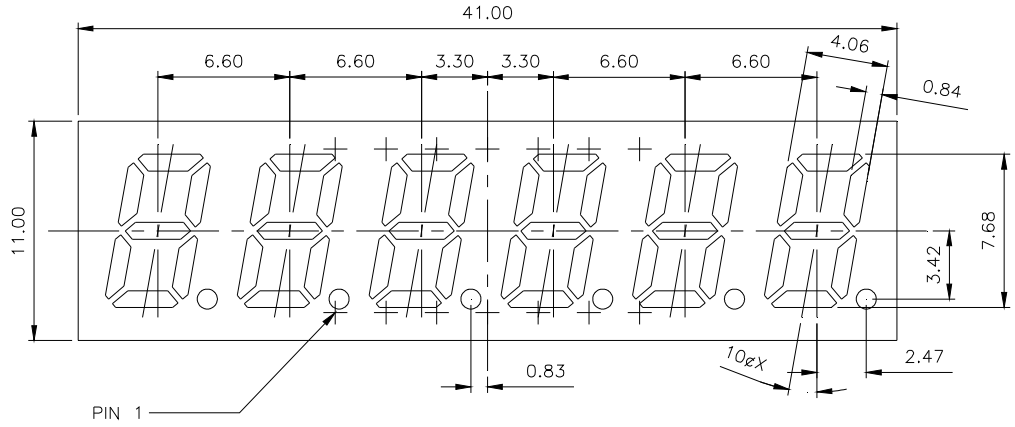
1.1 Features

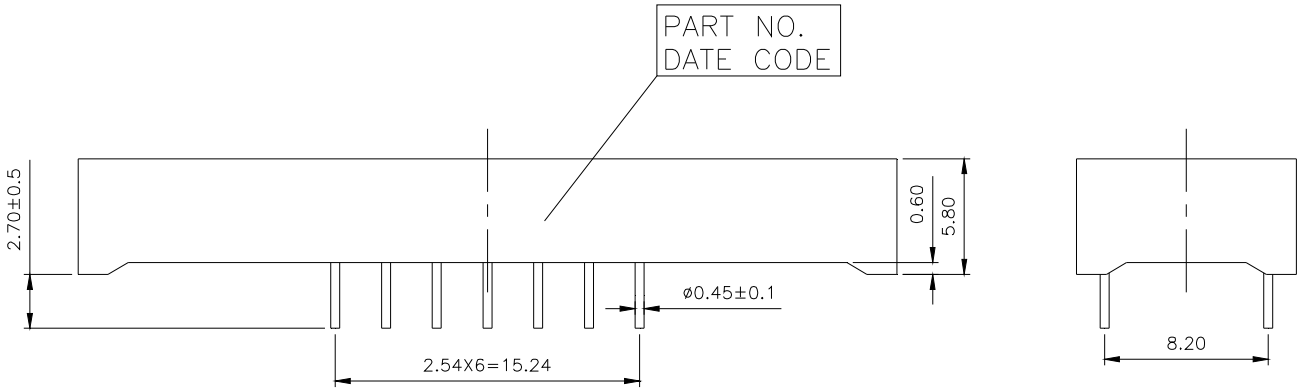
- 0.3 inch (7.68 mm) DIGIT HEIGHT
- CONTINUOUS UNIFORM SEGMENTS
- LOW POWER REQUIREMENT
- EXCELLENT CHARACTERS APPEARANCE
- HIGH BRIGHTNESS & HIGH CONTRAST
- WIDE VIEWING ANGLE
- SOLID STATE RELIABILITY
- CATEGORIZED FOR LUMINOUS INTENSITY.
- LEAD-FREE PACKAGE(ACCORDING TO ROHS)

1.2 Device

Part No	Description
AlInGaP Super Red	Multiplex Common Cathode
LTF-3605KR-01	Rt. Hand Decimal

2. Package Dimensions

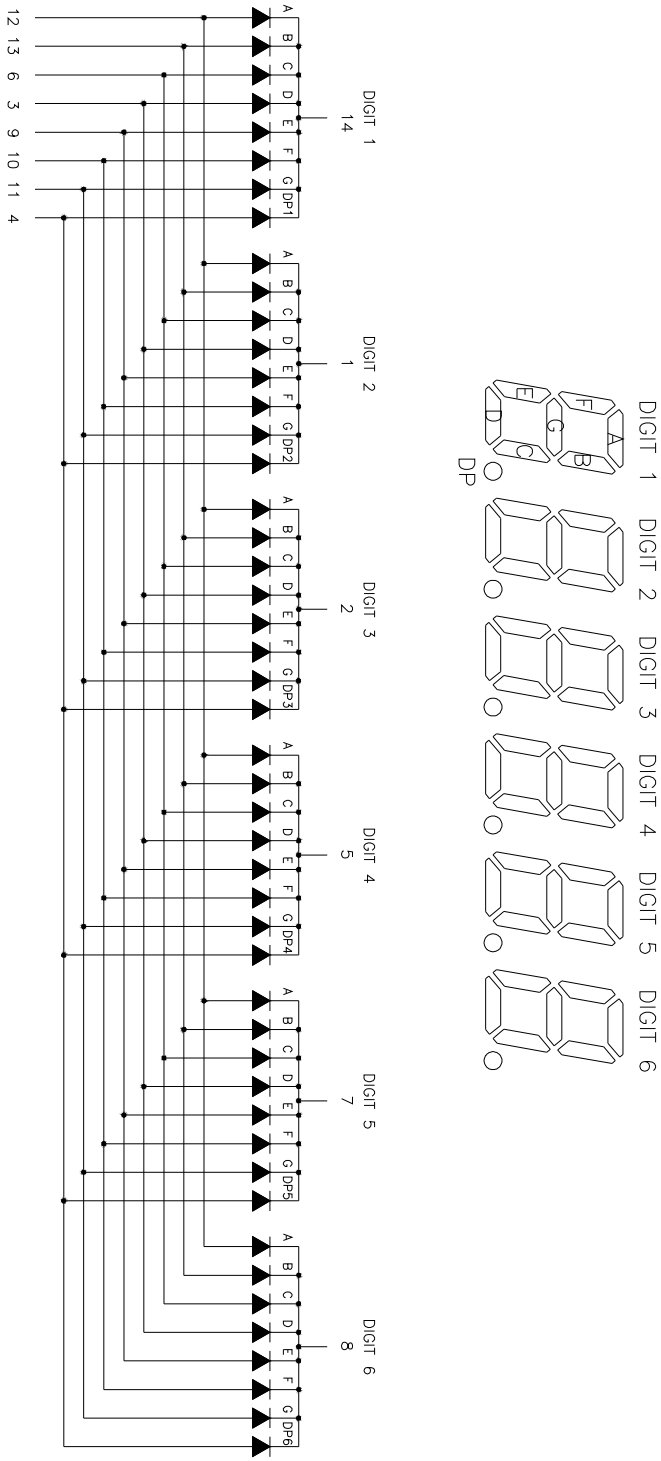




Notes :

1. All dimensions are in millimeters. Tolerances are ±0.25 mm (0.01“) unless otherwise noted
2. Pin tip’s shift tolerance is ± 0.4 mm
3. Foreign material on segment ≦10mil
4. Ink contamination (surface) ≦20mils
5. Bubble in segment ≦10mil
6. Bending ≦ 1% of reflector length
7. Recommend the best PCB hole: Diameter 0.9 mm

3. Internal Circuit Diagram



4. Pin Connection

No	Connection
1	COMMON CATHODE Digit 2
2	COMMON CATHODE Digit 3
3	ANODE D
4	ANODE DP
5	COMMON CATHODE Digit 4
6	ANODE C
7	COMMON CATHODE Digit 5
8	COMMON CATHODE Digit 6
9	ANODE E
10	ANODE F
11	ANODE G
12	ANODE A
13	ANODE B
14	COMMON CATHODE Digit 1

5. Rating and Characteristics

5.1. Absolute Maximum Rating at Ta=25℃

Parameter	Maximum Rating	Unit
Power Dissipation Per Segment	70	mW
Peak Forward Current Per Segment (1/10 Duty Cycle, 0.1ms Pulse Width)	90	mA
Continuous Forward Current Per Segment Derating Linear From 25℃ Per Segment	25 0.28	mA mA/℃
Operating Temperature Range	-35℃ to +105℃	
Storage Temperature Range	-35℃ to +105℃	
Solder Condition: 1/16 inch below seating plane for 3 seconds at 260℃ or temperature of unit (during assembly) not over max. temperature rating above		

5.2.Electrical / Optical Characteristics at Ta=25℃

Parameter	Symbol	MIN.	TYP.	MAX.	Unit	Test Condition
Average Luminous Intensity Per Segment	IV	320	900		μcd	IF=1mA
			11700		μcd	IF=10mA
Peak Emission Wavelength	λp		639		nm	IF=20mA
Spectral Line Half-Width	Δλ		20		nm	IF=20mA
Dominant Wavelength	λd		631		nm	IF=20mA
Forward Voltage Per Chip	VF		2.05	2.6	V	IF=20mA
Reverse Current Per Segment(*2)	IR			100	μA	VR=5V
Luminous Intensity Matching Ratio (Similar Light Area)	IV-m			2:1		IF=1mA

Notes :

1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commission International De L'Eclariage) eye-response curve
2. Reverse voltage is only for IR test. It cannot continue to operate at this situation
3. Cross talk specification ≦ 2.5%

5.3. Typical Electrical / Optical Characteristics Curves

(25℃ Ambient Temperature Unless Otherwise Noted)

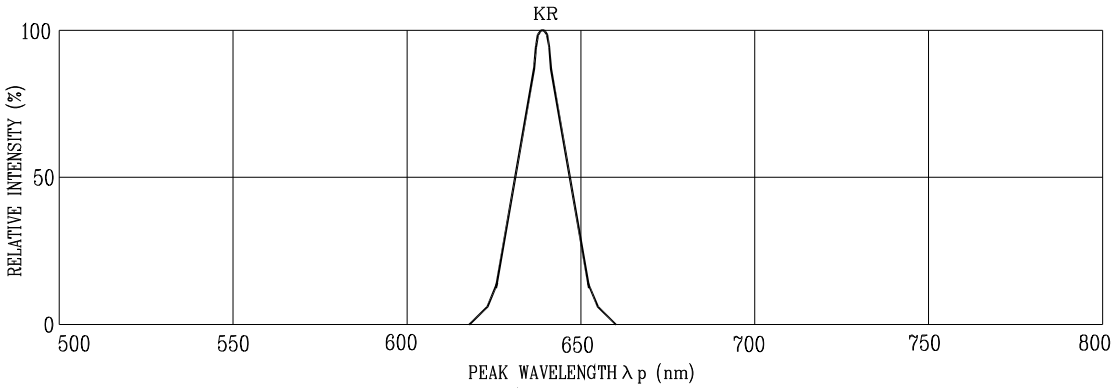


Fig1.Spectral Emission

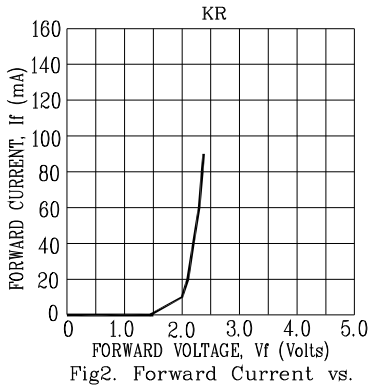


Fig2. Forward Current vs. Forward Voltage

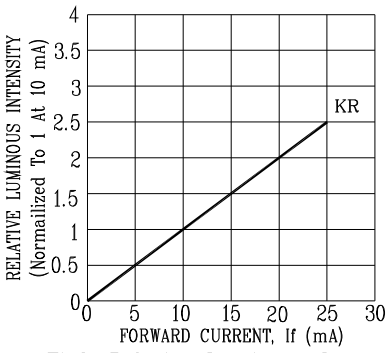


Fig3. Relative Luminous Intensity vs. DC Forward Current

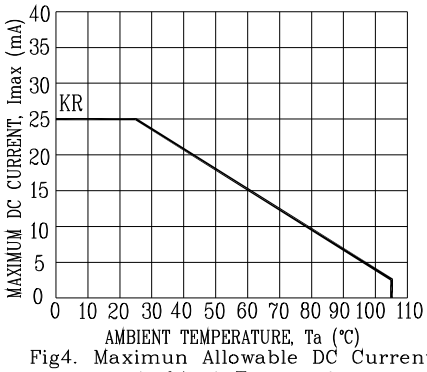


Fig4. Maximun Allowable DC Current vs. Ambient Temperature

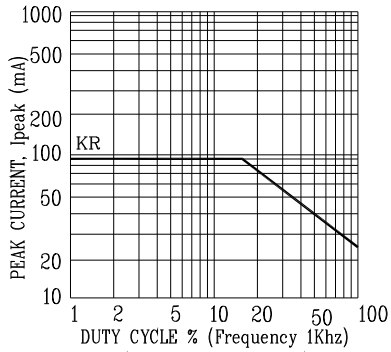


Fig5. Maximum Peak Current vs. Duty Cycle %

NOTE : KR=AlInGaP SUPER RED