



# LED Display Product Data Sheet LTC-5689KY

Spec No.: DS30-2007-0205

Effective Date: 01/09/2008

Revision: -

**LITE-ON DCC**

**RELEASE**

BNS-OD-FC001/A4

# **LITEON** LITE-ON TECHNOLOGY CORPORATION

Property of Lite-On Only

## **LED DISPLAY**

### **LTC-5689KY** **DATASHEET**

<b><u>Rev</u></b>	<b><u>Description</u></b>	<b><u>By</u></b>
<b>01</b>	<b>ORIGINAL</b> (Refer to contour drawing Revision (-))	<b><u>KITTISAK</u></b> <b><u>Nov 30/2007</u></b>
<b>(Above data for PD and Customer tracking only)</b>		
<b>-</b>	<b>NPPR Received and Upload on OPNC</b>	<b><u>KITTISAK</u></b> <b><u>Dec 25/2007</u></b>

SPEC. NO.: DS30-2007-0205

D A T E : Dec 25/2007

REV. NO. : -

PAGE NO. : 0 OF 5

PART NO.: LTC-5689KY

PAGE: 0 of 5

# **LITEON** LITE-ON TECHNOLOGY CORPORATION

Property of Lite-On Only

## **FEATURES**

- \* 0.56 inch (14.2 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).**

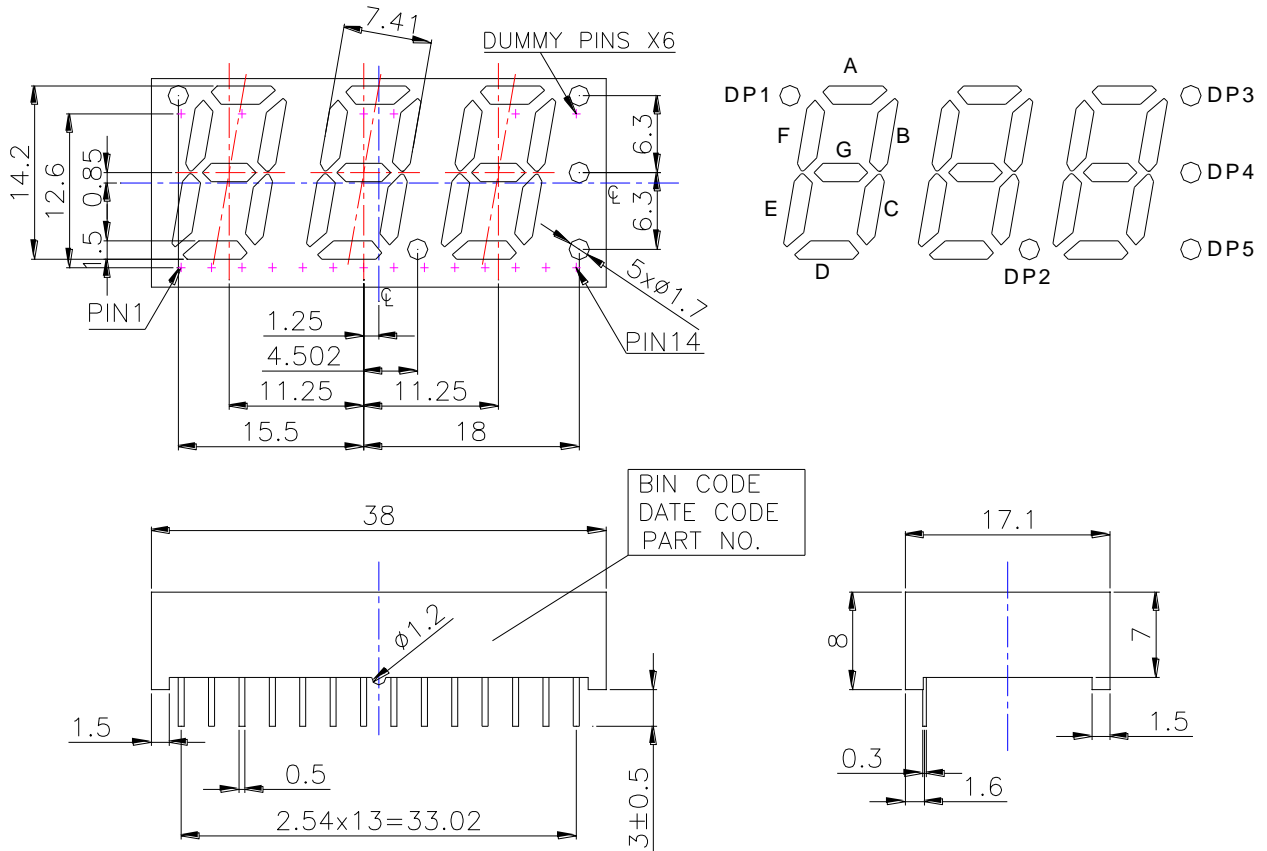
## **DESCRIPTION**

The LTC-5689KY is a 0.56 inch (14.2 mm) digit height triple digit seven-segment display. This device AlInGaP Amber Yellow LED chips (AlInGaP epi on GaAs substrate). The display has black face and white segments.

## **DEVICE**

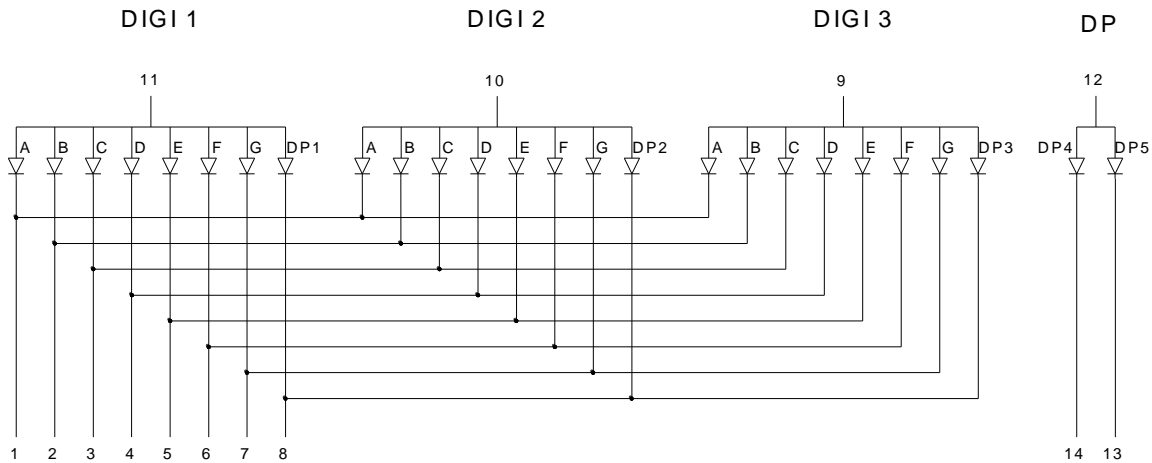
<b>PART NO.</b>	<b>DESCRIPTION</b>
AlInGaP Amber Yellow	Multiplex Common Anode
LTC-5689KY	Rt. Hand Decimal

## PACKAGE DIMENSIONS



- NOTES: 1. All dimensions are in millimeters. Tolerances are  $\pm 0.25$  mm (0.01") unless otherwise noted.  
 2. Pin tip's shift tolerance is  $\pm 0.4$  mm.

## INTERNAL CIRCUIT DIAGRAM



## PIN CONNECTION

NO.	CONNECTION
1	CATHODE A
2	CATHODE B
3	CATHODE C
4	CATHODE D
5	CATHODE E
6	CATHODE F
7	CATHODE G
8	CATHODE DP1, DP2, DP3
9	COMMON ANODE, DIGIT 3
10	COMMON ANODE, DIGIT 2
11	COMMON ANODE, DIGIT 1
12	COMMON ANODE , DP4, DP5
13	CATHODE DP5
14	CATHODE DP4

# LITEON LITE-ON TECHNOLOGY CORPORATION

Property of Lite-On Only

## ABSOLUTE MAXIMUM RATING AT Ta=25°C

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation Per Segment	70	mW
Peak Forward Current Per Segment ( Frequency 1Khz, 10% duty cycle)	60	mA
Continuous Forward Current Per Segment	25	mA
Forward Current Derating from 25°C	0.33	mA/°C
Reverse Voltage Per Segment	5	V
Operating Temperature Range	-35°C to +105C	
Storage Temperature Range	-35°C to +105C	
Solder Temperature 1/16 inch Below Seating Plane for 3 Seconds at 260°C., or temperature of unit (during assembly) not over max. temperature rating above .		

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

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITION
Average Luminous Intensity Per Segment	I <sub>v</sub>	800	2222		μcd	I <sub>F</sub> = 1mA
Peak Emission Wavelength	λ <sub>p</sub>		595		nm	I <sub>F</sub> = 20mA
Spectral Line Half-Width	Δλ		15		nm	I <sub>F</sub> = 20mA
Dominant Wavelength	λ <sub>d</sub>		595		nm	I <sub>F</sub> = 20mA
Forward Voltage Per Segment	V <sub>F</sub>		2.05	2.6	V	I <sub>F</sub> = 20mA
Reverse Current Per Segment	I <sub>R</sub>			100	μA	V <sub>R</sub> = 5V
Luminous Intensity Matching Ratio (Similar Light Area)	I <sub>v-m</sub>			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)

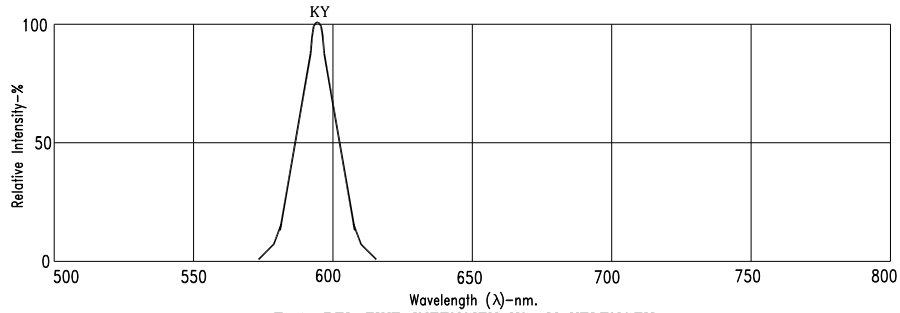


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

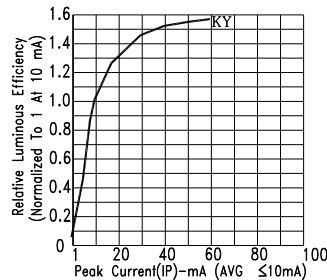


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT

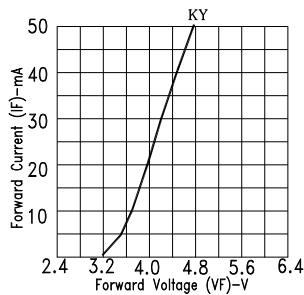


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

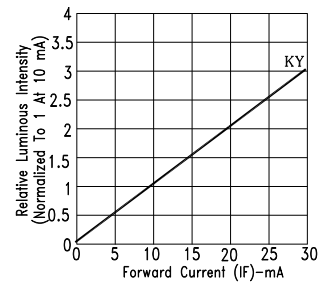


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

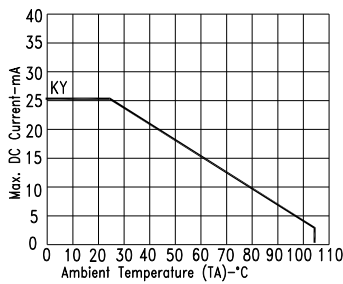


Fig5. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

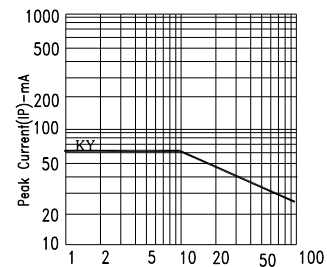


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE : KY=AlInGaP Amber Yellow