

## **FEATURES**

- \* 0.4inch (10.0mm) 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).**

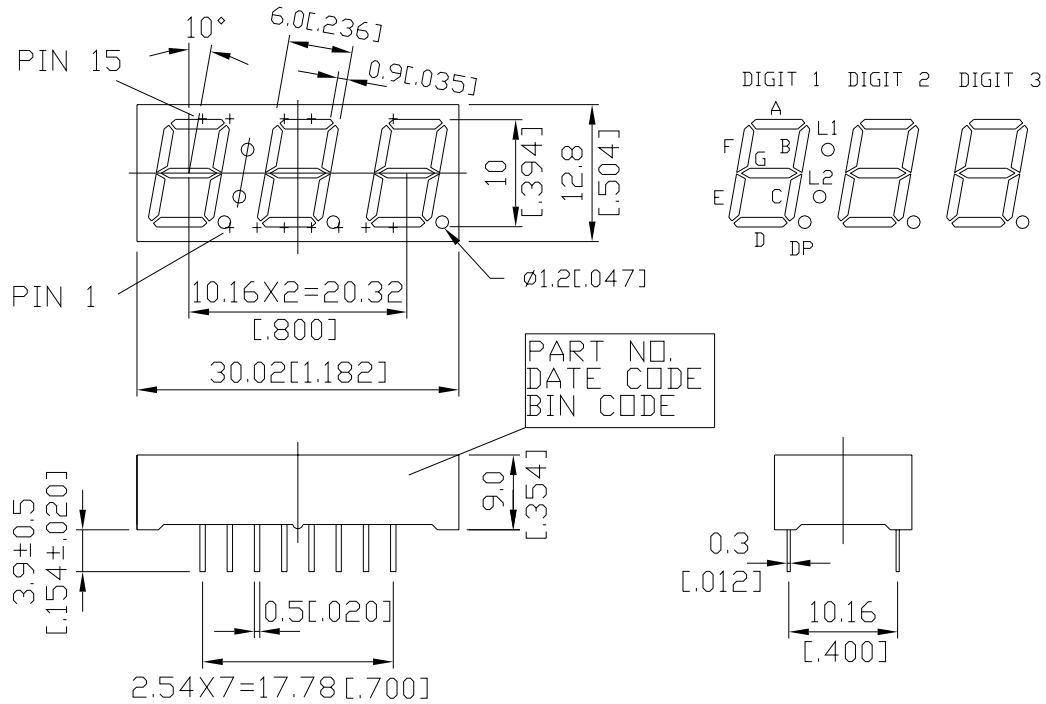
## **DESCRIPTION**

The LTC-4688KS is a 0.4 inch (10.0 mm) digit height triple digit seven-segment display. This device utilizes AlInGaP Yellow LED chips, which are made from AlInGaP on a non-transparent GaAs substrate. Device has a gray face and white segments.

## **DEVICE**

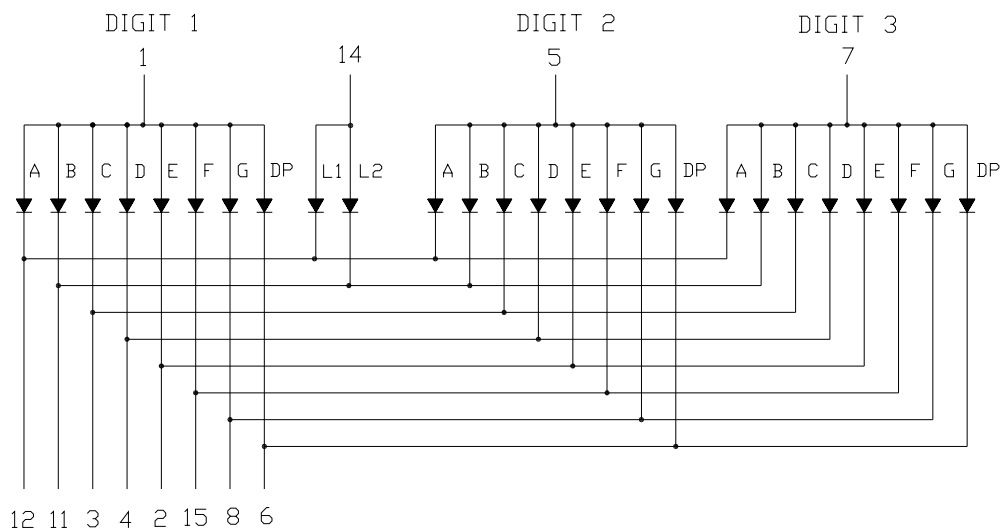
<b>PART NO.</b>	<b>DESCRIPTION</b>
AlInGaP YELLOW	Multiplex Common Anode
LTC-4688KS	Rt. Hand Decimal

## 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**

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

# 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 (1/25 Duty Cycle, 0.1ms Pulse Width)	60	mA
Continuous Forward Current Per Segment	25	mA
Derating Linear From 25°C Per Segment	0.33	mA/°C
Reverse Voltage Per Segment	5	V
Operating Temperature Range	-35°C to +105°C	
Storage Temperature Range	-35°C to +105°C	
Solder Conditions: 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	I <sub>v</sub>	500	1300		μcd	I <sub>F</sub> =1mA
Peak Emission Wavelength	λ <sub>p</sub>		588		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		15		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>		587		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 (Commission Internationale De L'Eclairage) eye-response curve.

### TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

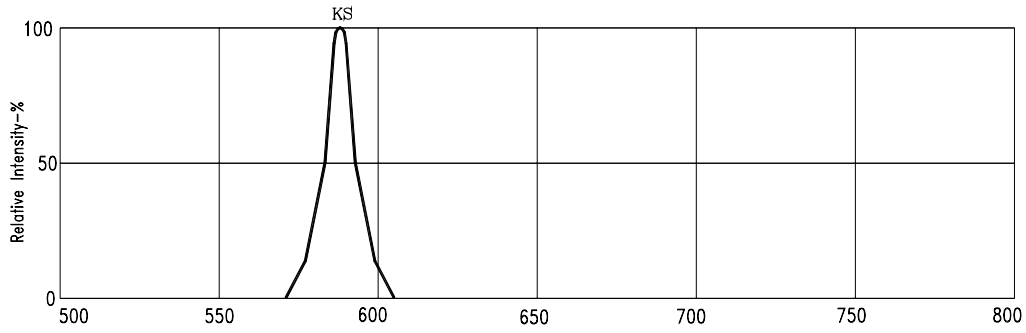


Fig1. Spectral Emission

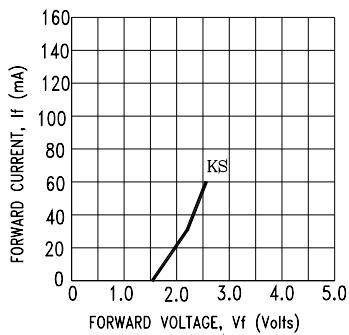


Fig2. Forward Current vs. Forward Voltage

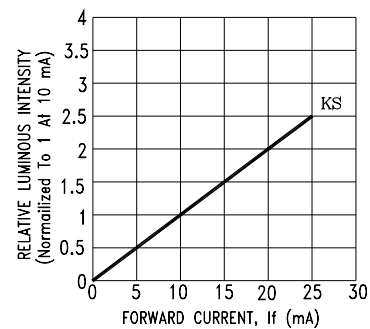


Fig3. Relative Luminous Intensity vs. DC Forward Current

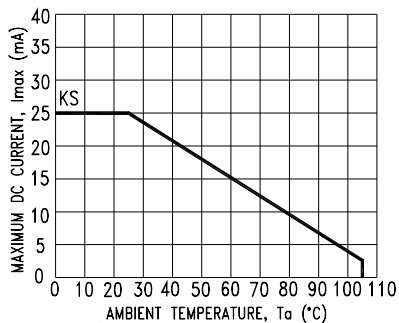


Fig4. Maximum Allowable DC Current vs. Ambient Temperature

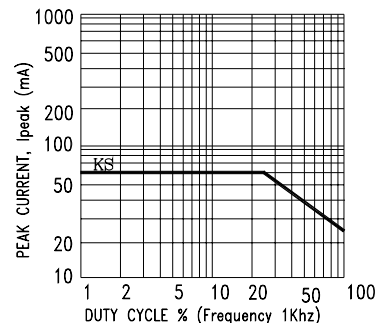


Fig5. Maximum Peak Current vs. Duty Cycle %

NOTE : KS=AlInGaP YELLOW