LITEON®
OPTOELECTRONICS

LED Display

Product Data Sheet

LTC-3698KF

Spec No.: DS30-2010-0282

Effective Date: 11/28/2012

Revision: B

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

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LED DISPLAY

LTC-3698KF
DATA SHEET

ITEM	DESCRIPTION	ISSUER	DATE
1	New	Reo	11/09/2010
2	1.Change the height 15.8 to 15.3 mm 2.Change spacer drawing.	Reo	12/08/2010
3	Change Dice from KR to KF	Reo	12/09/2010
4	4.1 Modify Luminous Intensity Matching Ratio from 2:1 to 1.6:1 in Page 6 4.2 Modify Spacer structure in Page 3 4.3 Add Liteon Spec. Note in Page 3	Reo	08/07/2012
5	Revised Package Dimensions in Page 3	Reo	11/08/2012

FEATURES

＊0.39 inch (9.8 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)**

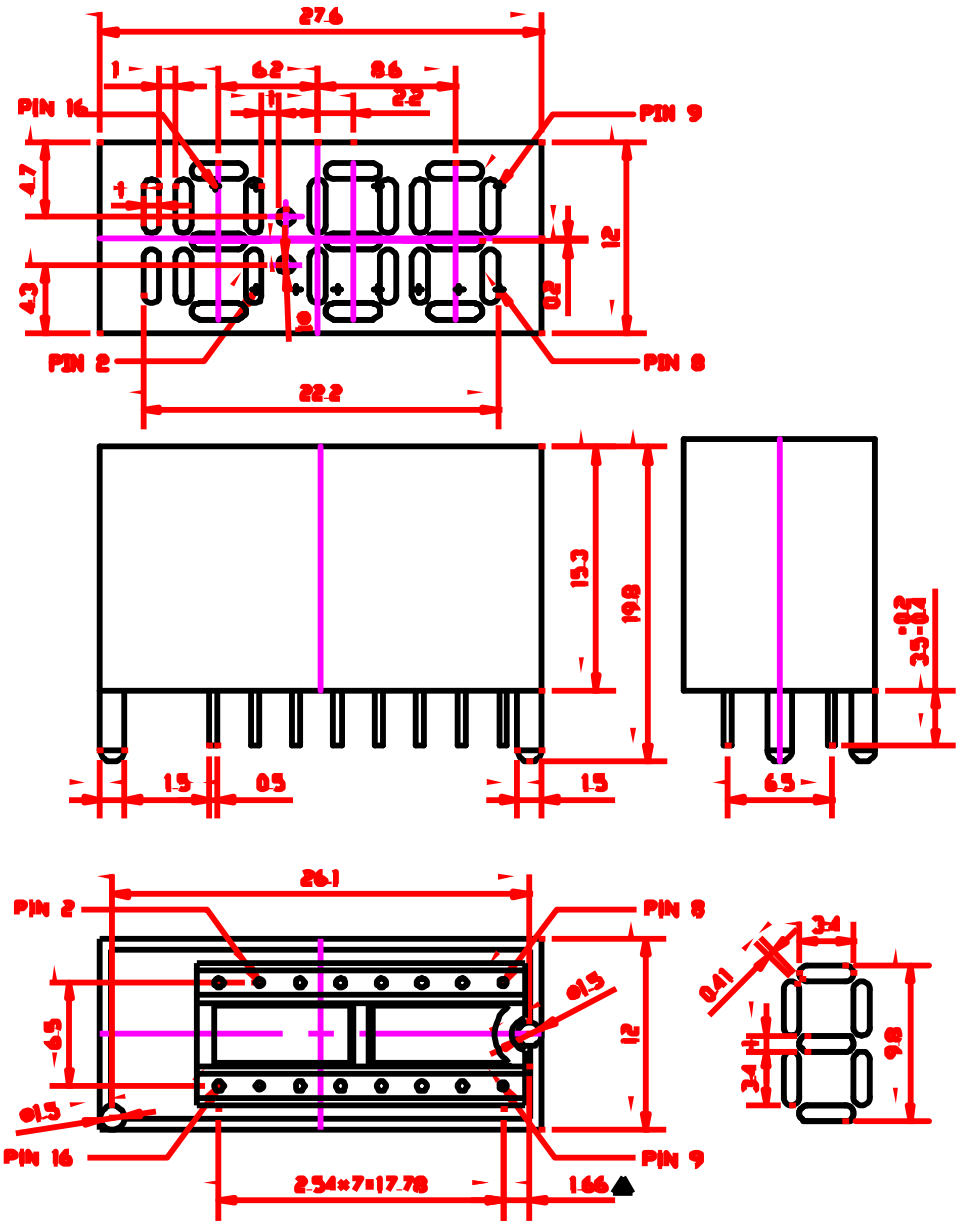
DESCRIPTION

The LTC-3698KF is a 0.39inch (9.8 mm) height digit display. The devices utilize AlInGaP yellow orange LED chips, which are made from AlInGaP on a non-transparent GaAs substrate, and has a light gray face and white segments.

DEVICE

PART NO.	DESCRIPTION
AlInGaP Yellow Orange	COMMON ANODE
LTC-3698KF	

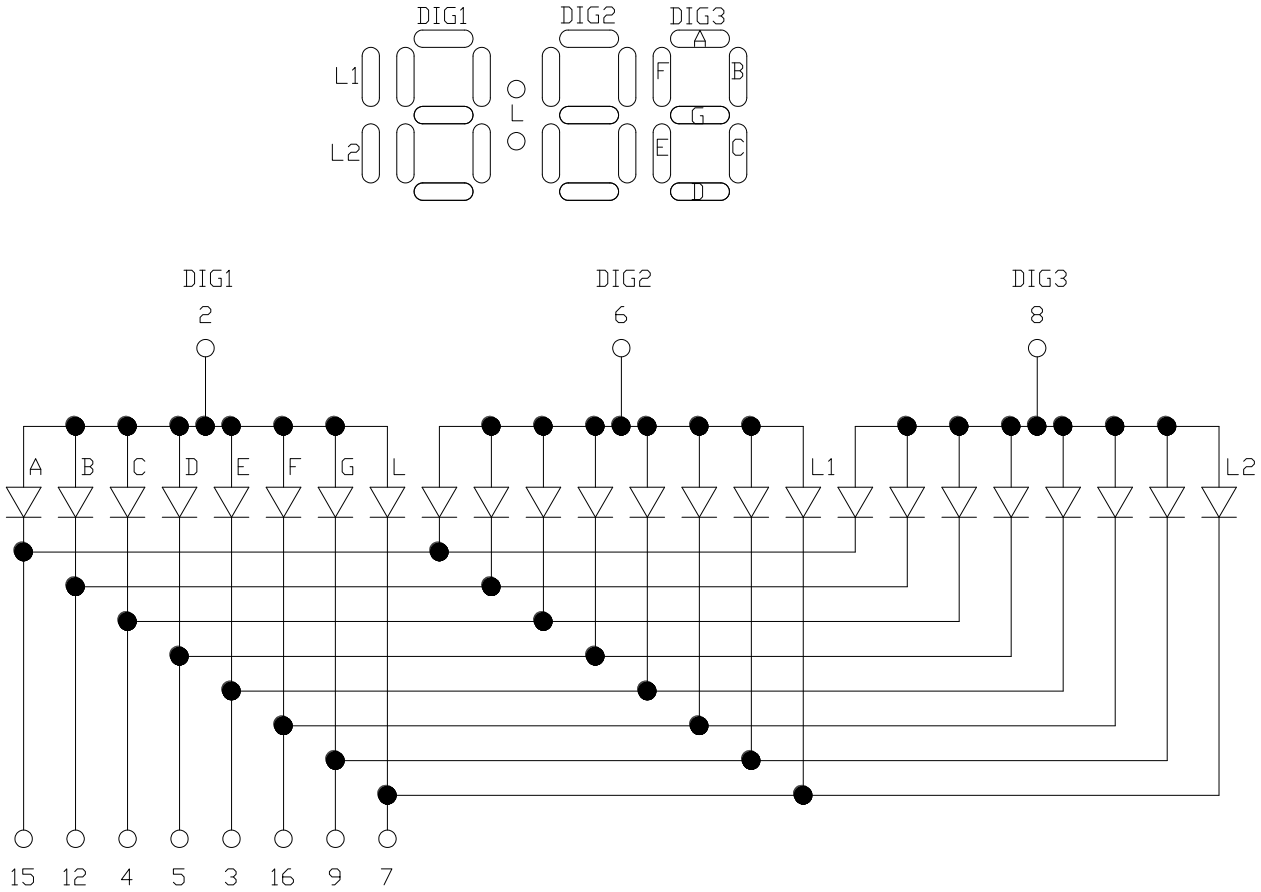
PACKAGE DIMENSIONS



NOTES:

1. All dimensions are in millimeters. Tolerances are ± 0.25mm (0.01“) unless otherwise noted.
2. Pin tip’s shift tolerance is +/-0.4mm.
3. Foreign material on segment ≦10mils
4. Ink contamination (surface) ≦20mils
5. Bending≦1% of reflector length
6. Bubble in segment ≦10mils
7. Recommend the best pcb hole : diameter 1.0mm

INTERNAL CIRCUIT DIAGRAM



PIN CONNECTION

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

ABSOLUTE MAXIMUM RATING AT T_A=25℃

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation Per Chip	70	mW
Peak Forward Current Per Chip (1/10 Duty Cycle, 0.1ms Pulse Width)	60	mA
Continuous Forward Current Per Chip Derating Linear From 25℃ Per Chip	25 0.28	mA mA/℃
Operating Temperature Range	-35℃ to +105℃	
Storage Temperature Range	-35℃ to +105℃	
Solder Temperature: max 260℃ for max 3sec at 1.6mm below seating plane		

TYPICAL / OPTICAL CHARACTERISTICS AT T_A=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I_V	500	1300		μcd	I_F=1mA
Peak Emission Wavelength	λp		611		nm	I_F=20mA
Spectral Line Half-Width	Δλ		17		nm	I_F=20mA
Dominant Wavelength	λd		605		nm	I_F=20mA
Forward Voltage Per Segment	V_F		2.05	2.6	V	I_F=20mA
Reverse Current Per Segment(2)	I_R			100	μA	V_R=5V
Luminous Intensity Matching Ratio	I_V-m			1.6:1		I_F=1mA

Note:

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

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

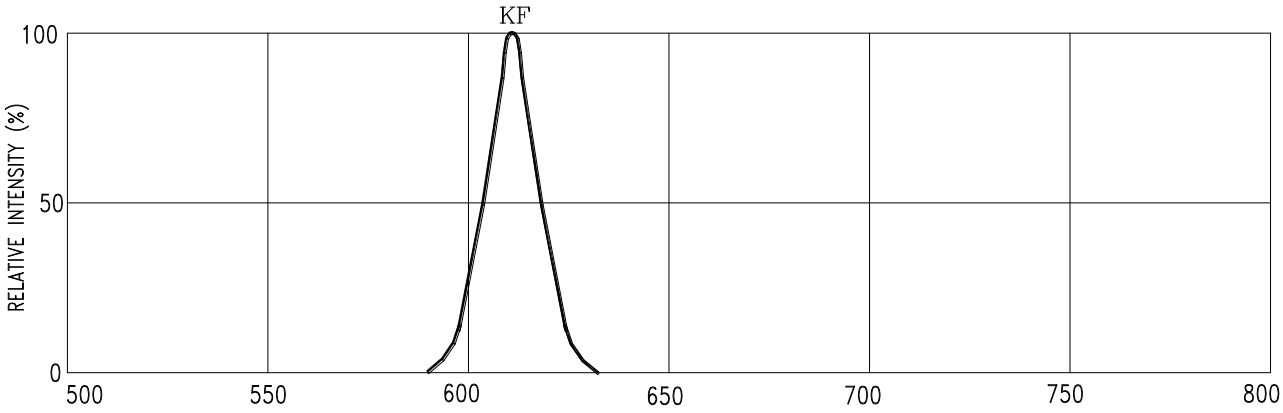


Fig1.Spectral Emission

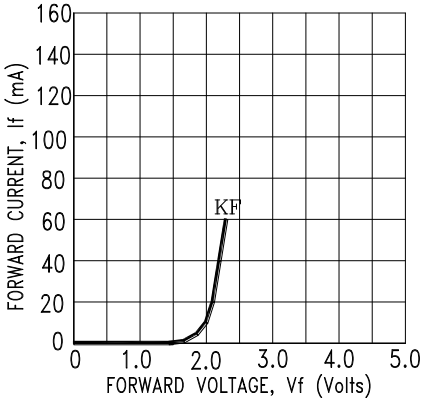


Fig2. Forward Current vs. Forward Voltage

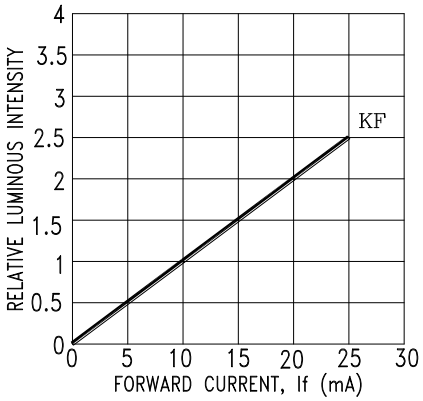


Fig3. Relative Luminous Intensity vs. DC Forward Current

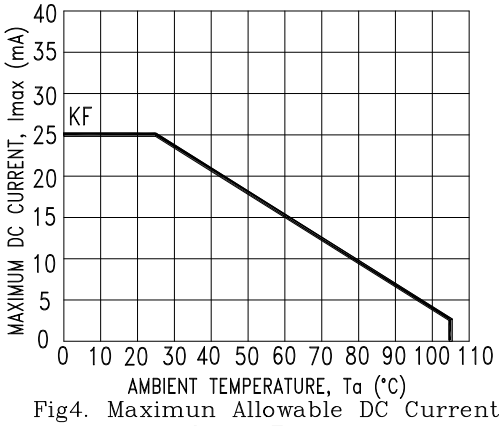


Fig4. Maximun Allowable DC Current vs. Ambient Temperature

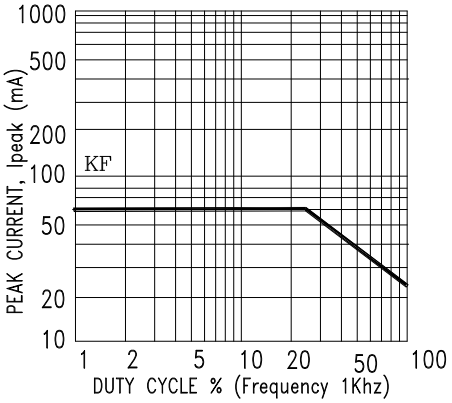


Fig5. Maximum Peak Current vs. Duty Cycle %

NOTE : KF=AlInGaP YELLOW ORANGE