



LED Display

Product Data Sheet

LTD-5221AJF

Spec No.: DS30-2000-146

Effective Date: 08/11/2000

Revision: -

LITE-ON DCC

RELEASE

FEATURES

- * 0.56 inch (14.22 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

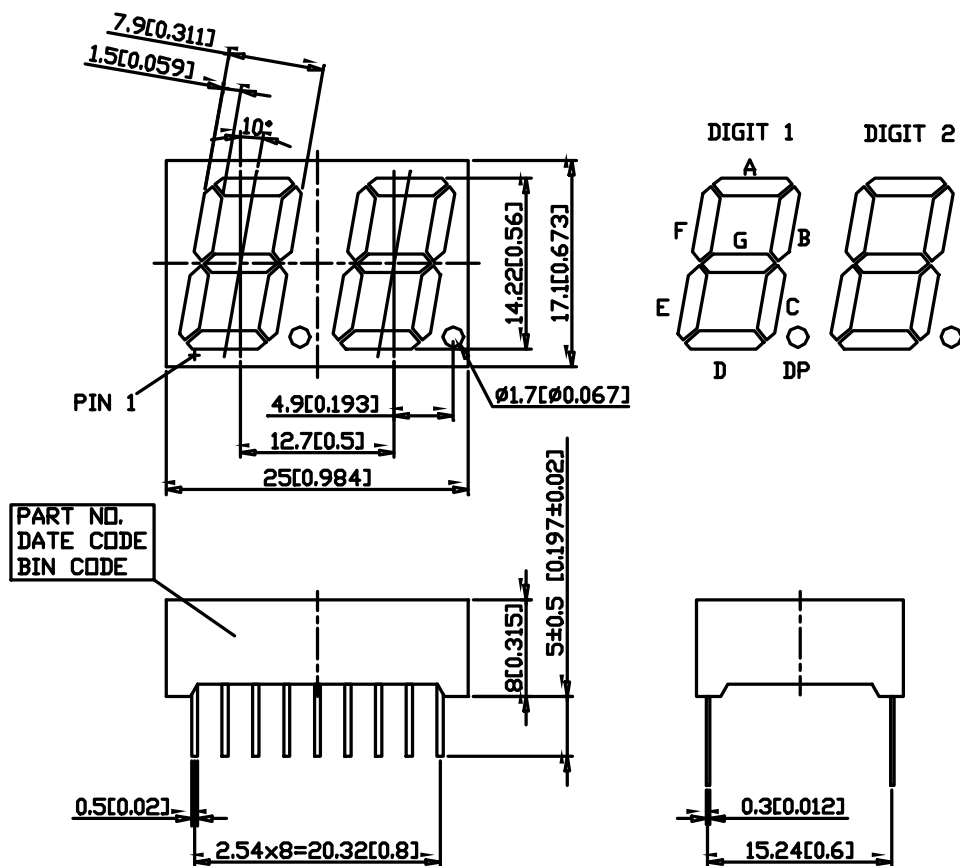
The LTD-5221AJF is a 0.56 inch (14.22 mm) height digit display. The device utilizes AlInGaP yellow orange LED chips which are made from AlInGaP on a non-transparent GaAs substrate, and have light gray face and white segment color.

This low current seven-segment display is designed to perform under low power consumption. It is tested and selected for it's excellent low current characteristics. It can be driven in low current condition and the segments are matched. This driving current as low as 1mA per segment is applicable.

DEVICE

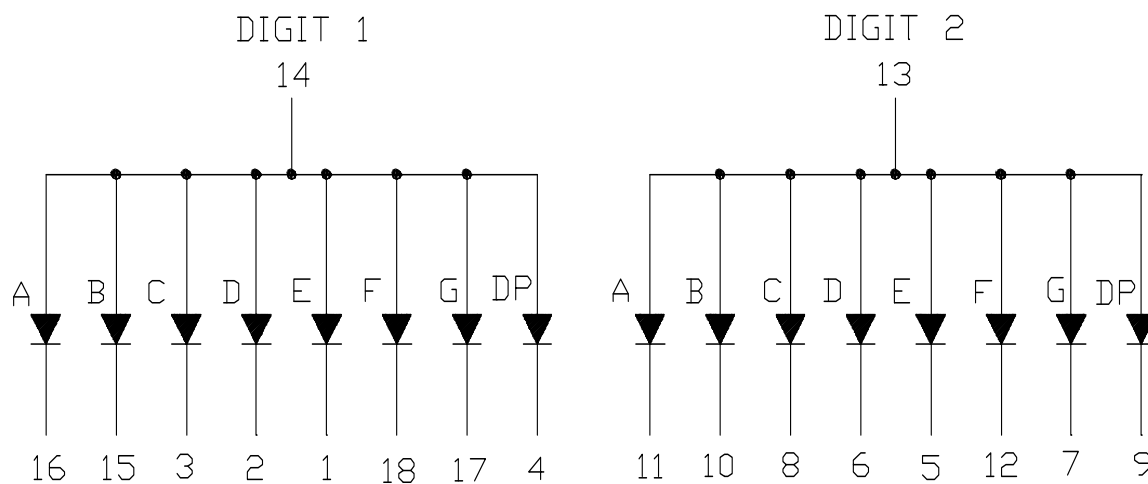
PART NO	DESCRIPTION
AlInGaP YELLOW ORANGE	Common Anode Rt. Hand Decimal
LTD-5221AJF	

PACKAGE DIMENSIONS



NOTES: All dimensions are in millimeters. Tolerance is $\pm 0.25\text{mm}(0.01'')$ unless otherwise noted.

INTERNAL CIRCUIT DIAGRAM



PIN CONNECTION

No	CONNECTION
1	CATHODE E (DIGIT 1)
2	CATHODE D (DIGIT 1)
3	CATHODE C (DIGIT 1)
4	CATHODE D.P. (DIGIT 1)
5	CATHODE E (DIGIT 2)
6	CATHODE D (DIGIT 2)
7	CATHODE G (DIGIT 2)
8	CATHODE C (DIGIT 2)
9	CATHODE D.P. (DIGIT 2)
10	CATHODE B (DIGIT 2)
11	CATHODE A (DIGIT 2)
12	CATHODE F (DIGIT 2)
13	COMMON ANODE (DIGIT 2)
14	COMMON ANODE (DIGIT 1)
15	CATHODE B (DIGIT 1)
16	CATHODE A (DIGIT 1)
17	CATHODE G (DIGIT 1)
18	CATHODE F (DIGIT 1)

ABSOLUTE MAXIMUM RATING AT TA=25°C

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	25	mA
Derating Linear From 25 ⁰ C Per Segment	0.33	mA/ ⁰ C
Reverse Voltage Per Segment	5	V
Operating Temperature Range	-35 ⁰ C to +85 ⁰ C	
Storage Temperature Range	-35 ⁰ C to +85 ⁰ C	
Solder Temperature 1/16 inch Below Seating Plane for 3 Seconds at 260 ⁰ C		

ELECTRICAL / OPTICAL CHARACTERISTICS AT TA=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I_V	320	700		μ cd	$I_F=1\text{mA}$
Peak Emission Wavelength	λ_p		611		nm	$I_F=20\text{mA}$
Spectral Line Half-Width	$\Delta \lambda$		17		nm	$I_F=20\text{mA}$
Dominant Wavelength	λ_d		605		nm	$I_F=20\text{mA}$
Forward Voltage. Per Segment	V_F		2.05	2.6	V	$I_F=20\text{mA}$
Reverse Current, Per Segment	I_R			100	μ A	$V_R=5\text{V}$
Luminous Intensity Matching Ratio	$I_V\text{-m}$			2:1		$I_F=1\text{mA}$

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

TYPIGSAI ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

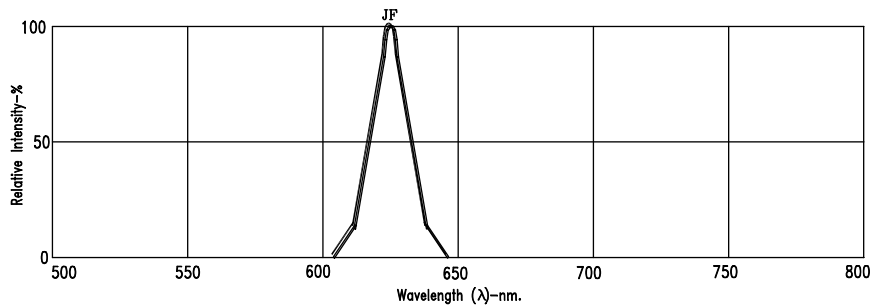


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

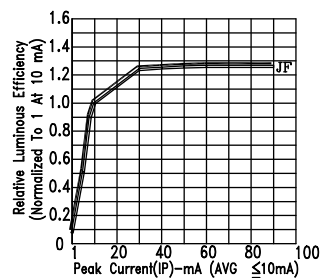


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT

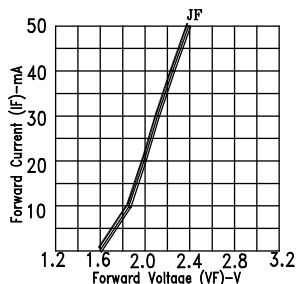


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

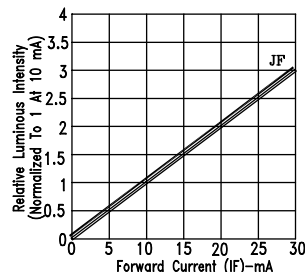


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

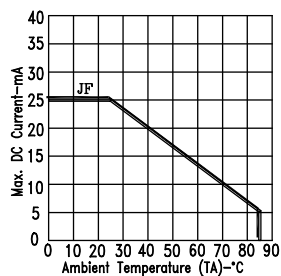


Fig5. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

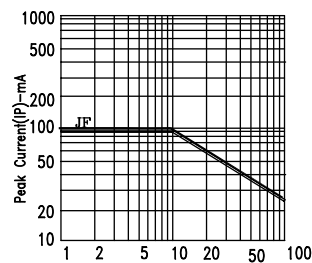


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE : JF=AlInGaP YELLOW ORANGE (REFRESH RATE 1KHz)