

## **FEATURES**

- \* 0.4 inch (10.0 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)**

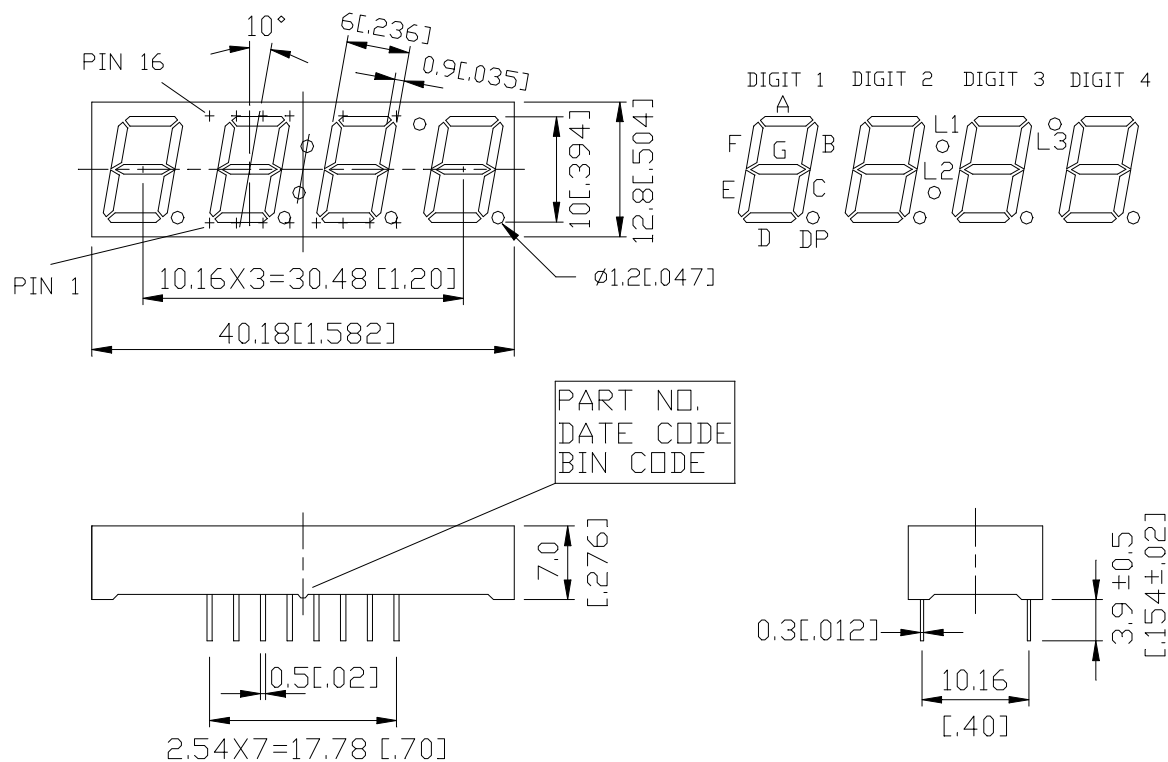
## **DESCRIPTION**

The LTC-4727JG is a 0.4 inch (10.0 mm) digit height quadruple digit seven-segment display. This device utilizes AlInGaP Green LED chips, which are made from AlInGaP on a non-transparent GaAs substrate, and has a gray face and white segments..

## **DEVICE**

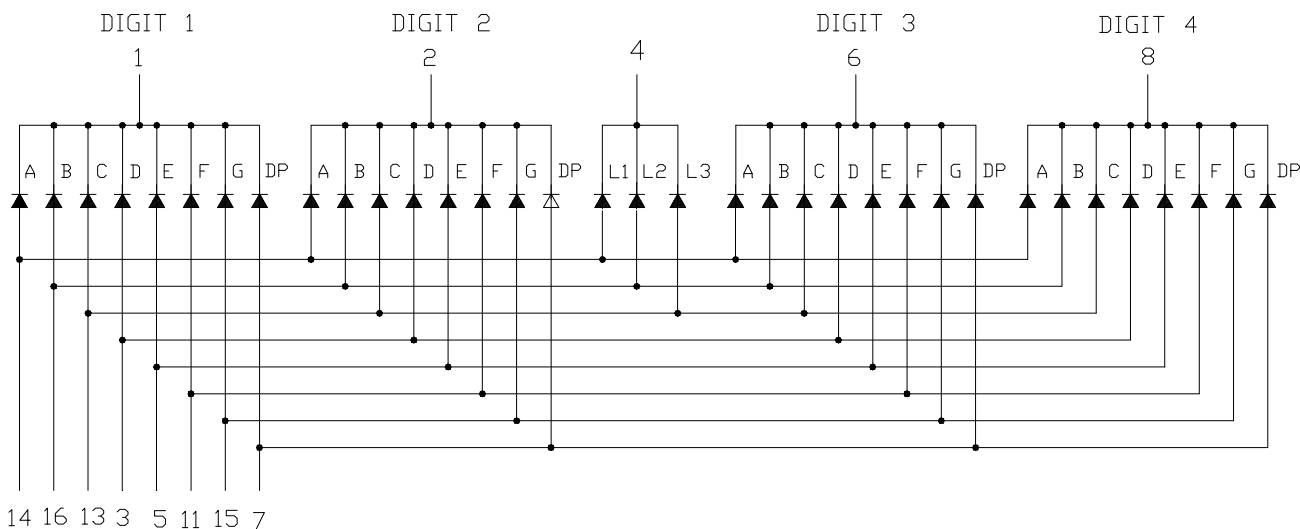
<b>PART NO.</b>	<b>DESCRIPTION</b>
AlInGaP Green	Multiplex Common Cathode
LTC-4727JG	Rt. Hand Decimal

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

## 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 )	60	mA
Continuous Forward Current Per Segment	25	mA
Derating Linear From 25°C Per Segment	0.28	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		

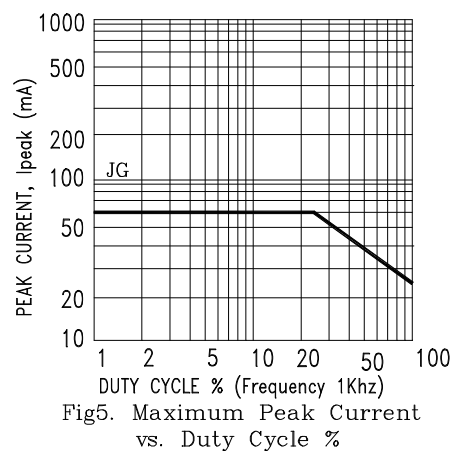
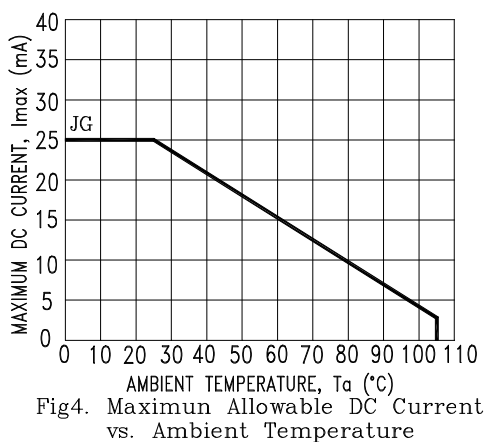
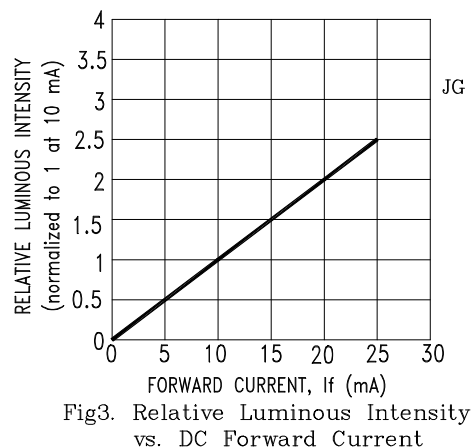
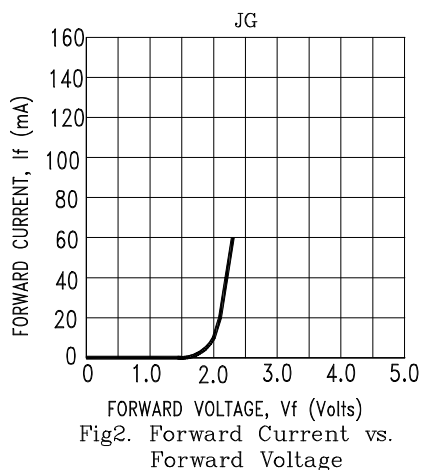
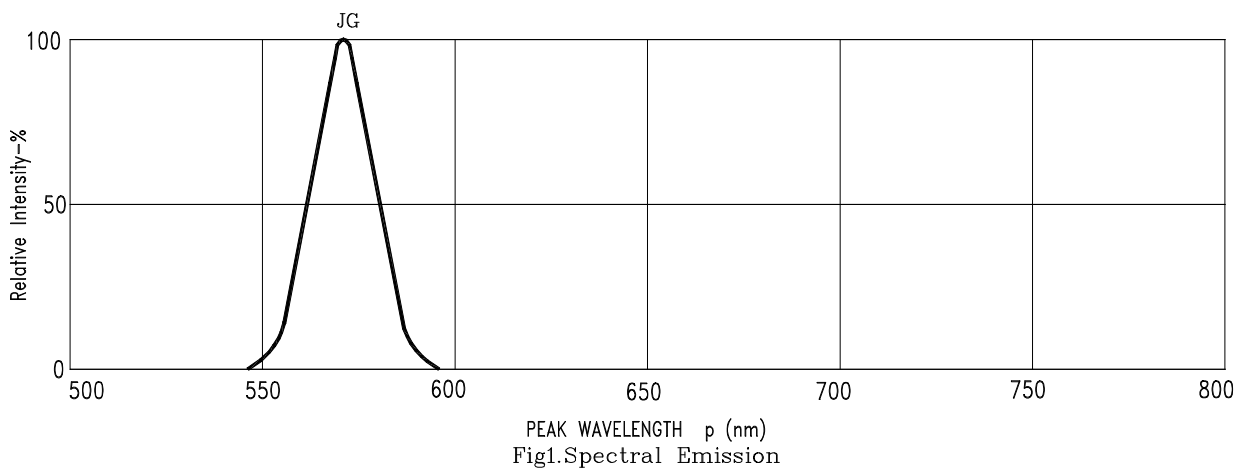
## ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>v</sub>	200	585	2100	μcd	I <sub>F</sub> =1mA
			6435			I <sub>F</sub> =10mA
Peak Emission Wavelength	λ <sub>p</sub>	567	571	575	nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		15		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>	568	572	576	nm	I <sub>F</sub> =20mA
Forward Voltage Per Segment	V <sub>F</sub>	1.5	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</sub> -m			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)



NOTE : JG=AlInGaP Green

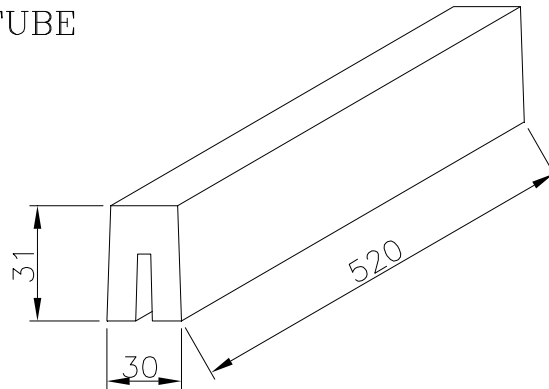
## Property of Lite-On Only

### Reliability Test For LED Display

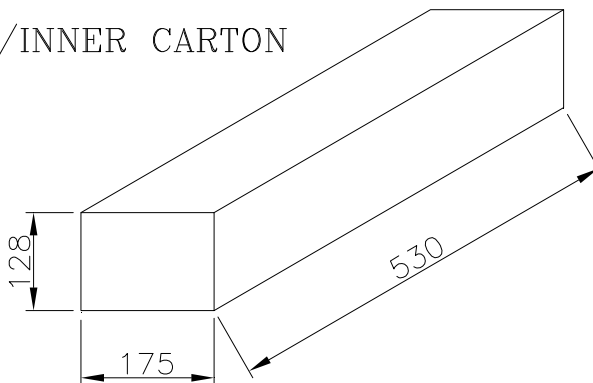
Classification	Test Item	Description and Test Condition	Reference standard
<b>Endurance Test</b>	Operation Life	Evaluates resistance of the device when operated at electrical stress Ta=under room temperature If=12mA~25mA per segment or Ip=80mA/duty =1/8, PW=1.25ms Ip=160mA/duty =1/16,PW=1ms(dot) Test Time = 1000hrs (-24hrs,+72hrs)	MIL-STD-750:1026 MIL-STD-883:1005 JIS C 7021 : B-1
	High Temperature High Humidity Storage	Evaluates moisture resistance of the device when stored for a long term at high temperature and humidity Ta=65 ± 5°C Rh=90~95% Rh Test Time = 240hrs ± 2hrs	MIL-STD-202 : 103B JIS C 7021 : B-11
	High Temperature High Humidity Reverse Bias	Evaluates resistance of leakage current against long term thermal , humidity , and electrical stresses Ta=65 ± 5°C Rh=90~95% Rh            Vr = 5V Test time = 500hrs (-24hrs, +48hrs)	
	High Temperature Storage	Evaluates device durability for long term storage in high temperature Ta=85 ± 5°C Test Time = 1000hrs(-24hrs, +72hrs)	MIL-STD-883 : 1008 JIS C 7021 : B-10
	Low Temperature Storage	Evaluates device durability for long term storage in low temperature Ta=-35 ± 5°C Test Time = 1000hrs(-24hrs, +72hrs)	JIS C 7021 : B-12
	<b>Environmental Test</b>	Temperature Cycling	Evaluates resistance of device at thermal stresses or expansion and contraction 85°C ~ 25°C ~ -35°C ~ 25°C 30min 5min 30min 5min 10 Cycles(Cob : Thot = 65°C Tcold = -25°C)
Thermal Shock		Evaluates device's structure and mechanical resistance when suddenly exposed at severe changes 85±5°C ~ -35±5°C 30min 30min 10 Cycles (Cob:Thot = 65°C Tcold = -25°C)	MIL-STD-202 : 107D MIL-STD-750 : 1051 MIL-STD-883 : 1011
Solder Resistance		Evaluates resistance to thermal stress caused by soldering T.Sol = 260 ± 5°C Dwell Time = 10 ± 1 sec	MIL-STD-202 : 210A MIL-STD-750 : 2031 JIS C 7021 : A-1
Solderability		Evaluates solderability on leads of device T.Sol = 230 ± 5°C Dwell Time = 5 ± 1sec	MIL-STD-202 : 208D MIL-STD-750 : 2026 MIL-STD-883 : 2003 JIS C 7021 : A-2
PART NO.: LTC-4727JG		PAGE: 6 of 7	

THE PACKING SPEC.  
FOR LTC-4727JG

12 PCS/PACKING TUBE



88 PACKING TUBE/INNER CARTON



4 INNER CARTON/OUTER CARTON  
4224 PCS/OUTER CARTON

