



# LED Display Product Data Sheet LTD-5521AKE-TJ

Spec No.: DS30-2004-228

Effective Date: 10/03/2007

Revision: B

**LITE-ON DCC**

**RELEASE**

BNS-OD-FC001/A4

# **LITEON** LITE-ON TECHNOLOGY CORPORATION

Property of Lite-On Only

## **LED DISPLAY**

### **LTD-5521AKE-TJ**

### **DATA SHEET**

<b>Rev</b>	<b>Description</b>	<b>By</b>
-	Original Spec	TH Chen
A	Modify some Parameter wrong	TH Chen
B	Add packing spec, date code description and some info	Phanomkorn J.

**SPEC. NO.:** DS30-2004-228

**D A T E** : 03/Sep/'07

**REV. NO.:** B

# **LITEON** LITE-ON TECHNOLOGY CORPORATION

Property of Lite-On Only

## **FEATURES**

- \* 0.56 inch (14.22 mm ) DIGIT HEIGHT
- \* EXCELLENT SEGMENT UNIFORMITY
- \* LOW POWER REQUIREMENT
- \* HIGH BRIGHTNESS AND HIGH CONTRAST
- \* WIDE VIEWING ANGLE
- \* SOLID STATE RELIABILITY
- \* BINNED FOR LUMINOUS INTENSITY
- \* **LEAD-FREE PACKAGE (ACCORDING TO ROHS)**

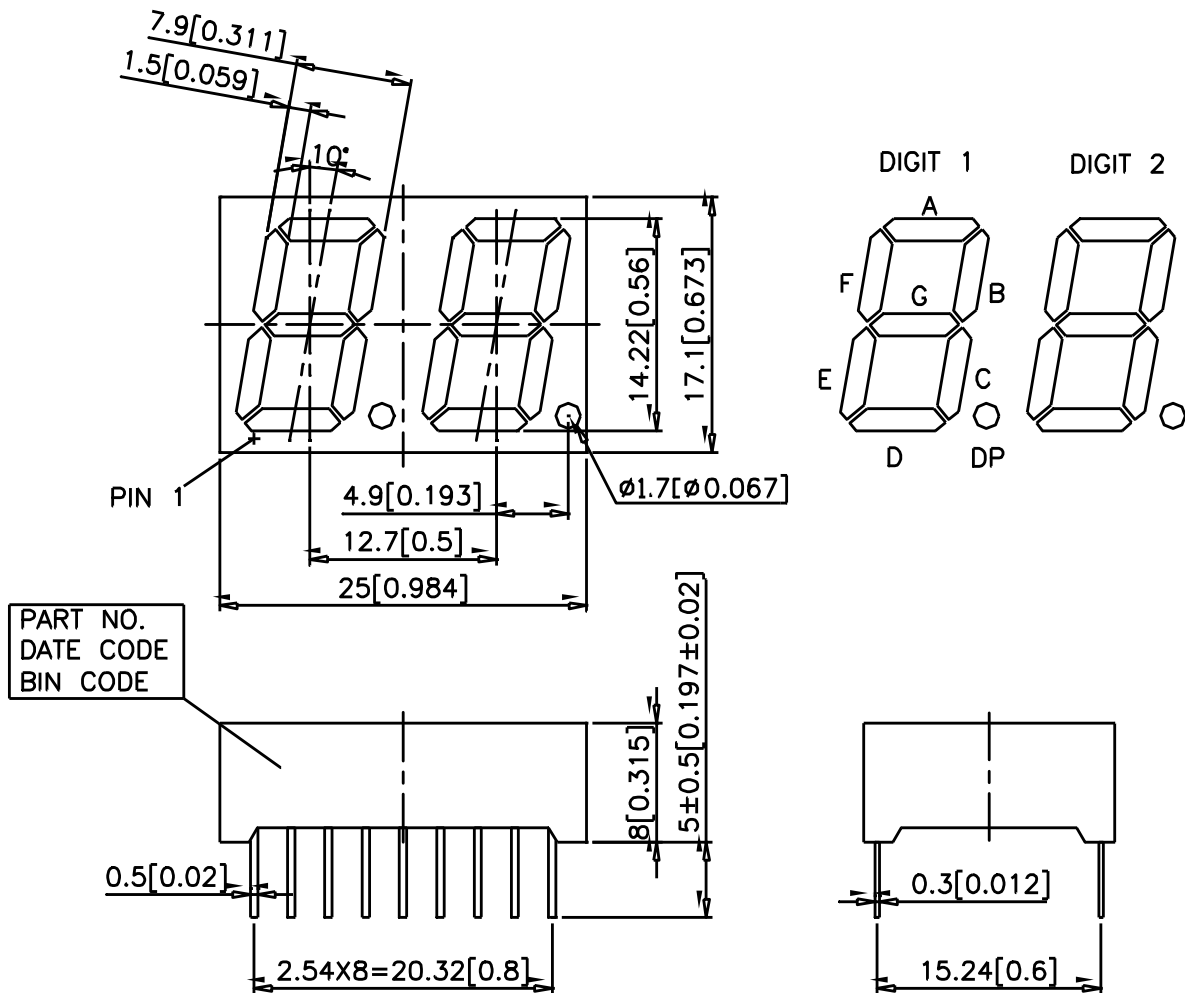
## **DESCRIPTION**

The LTD-5521AKE-TJ is a 0.56 inch (14.22 mm) digit height dual-digit display. This device uses AlInGaP RED LED chips (AlInGaP RED epi on GaAs substrate). The display has gray face and white segments.

## **DEVICE**

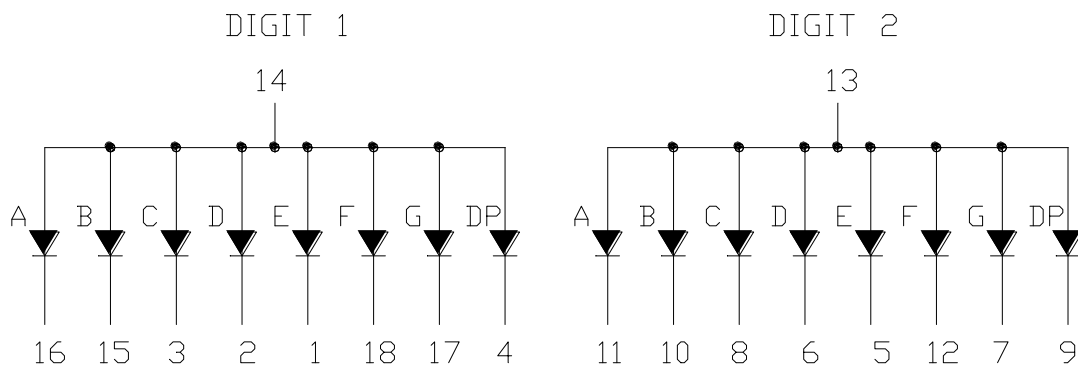
<b>PART NO.</b>	<b>DESCRIPTION</b>
AlInGaP RED	COMMON ANODE
LTD-5521AKE-TJ	RT. HAND DECIMAL

## PACKAGE DIMENSIONS



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

## INTERNAL CIRCUIT DIAGRAM



## **PIN CONNECTION**

<b>No.</b>	<b>CONNECTION</b>
1	Cathode E (Digit 1)
2	Cathode D (Digit 1)
3	Cathode C (Digit 1)
4	Cathode DP (Digit 1)
5	Cathode E (Digit 2)
6	Cathode D (Digit 2)
7	Cathode G (Digit 2)
8	Cathode C (Digit 2)
9	Cathode DP (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)

# LITEON LITE-ON TECHNOLOGY CORPORATION

Property of Lite-On Only

## ABSOLUTE MAXIMUM RATING

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation Per Segment	70	mW
Peak Forward Current Per Segment ( Frequency 1Khz, 10% duty cycle)	90	mA
Continuous Forward Current Per Segment	25	mA
Forward Current Derating from 25 <sup>0</sup> C	0.33	mA/ <sup>0</sup> C
Reverse Voltage Per Segment	5	V
Operating Temperature Range	-35 <sup>0</sup> C to +105 <sup>0</sup> C	
Storage Temperature Range	-35 <sup>0</sup> C to +105 <sup>0</sup> C	
Soldering Conditions: 1/16 inch below seating plane for 3 seconds at 260 <sup>0</sup> C or of temperature unit (during assembly) not over max. temperature rating above.		

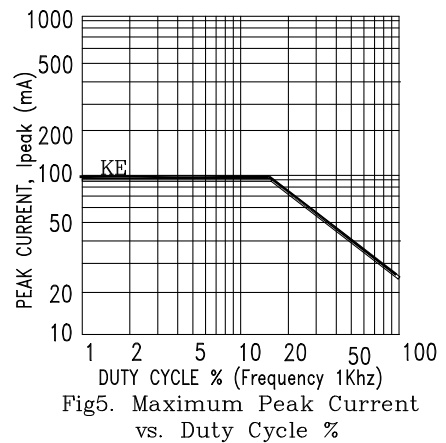
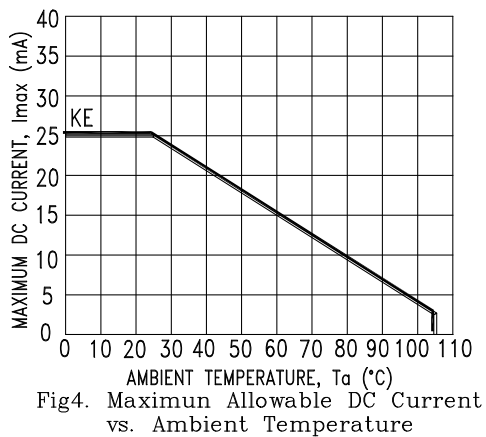
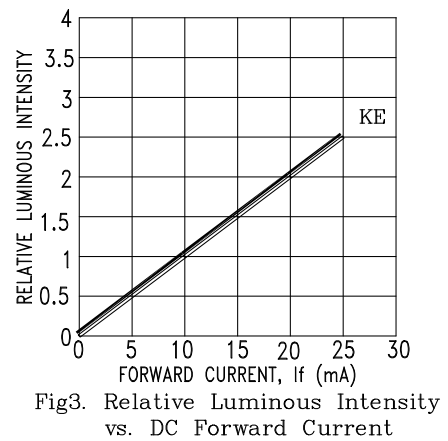
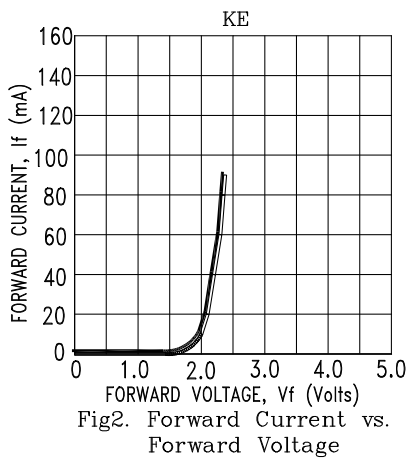
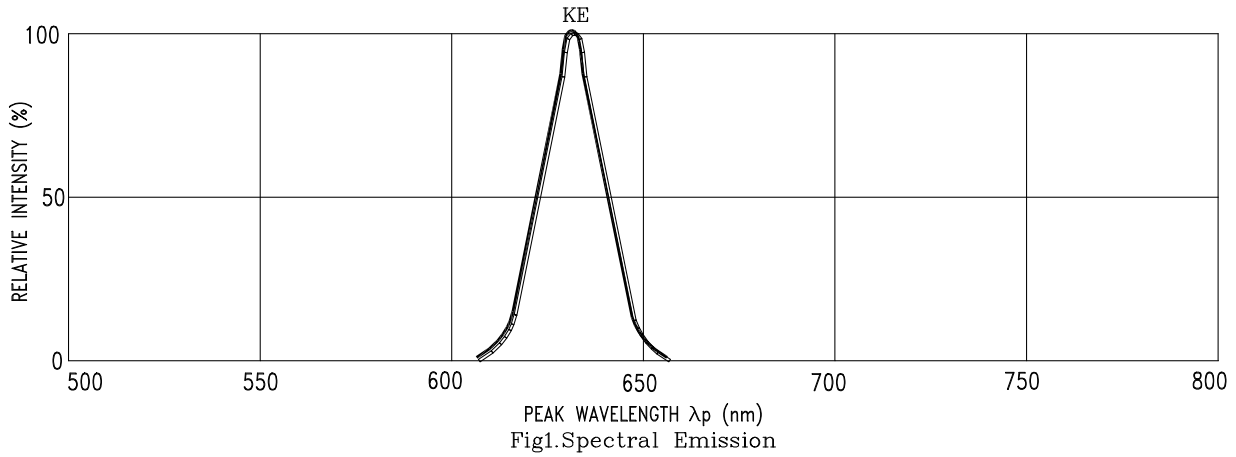
## ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25<sup>0</sup>C

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITION
Average Luminous Intensity Per Segment	I <sub>v</sub>	800	1667		μcd	I <sub>F</sub> = 1mA
Peak Emission Wavelength	λ <sub>p</sub>		632		nm	I <sub>F</sub> = 20mA
Spectral Line Half-Width	Δλ		20		nm	I <sub>F</sub> = 20mA
Dominant Wavelength	λ <sub>d</sub>		624		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

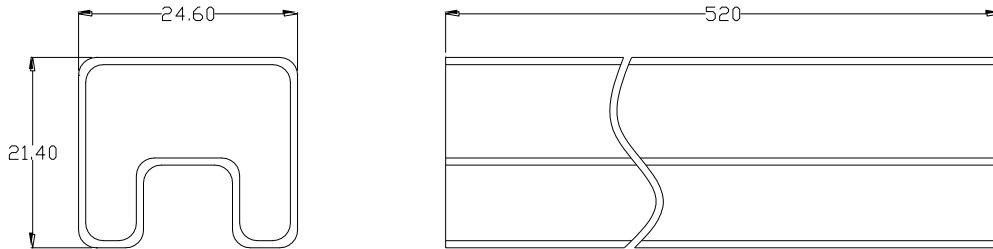
(25°C Ambient Temperature Unless Otherwise Noted)



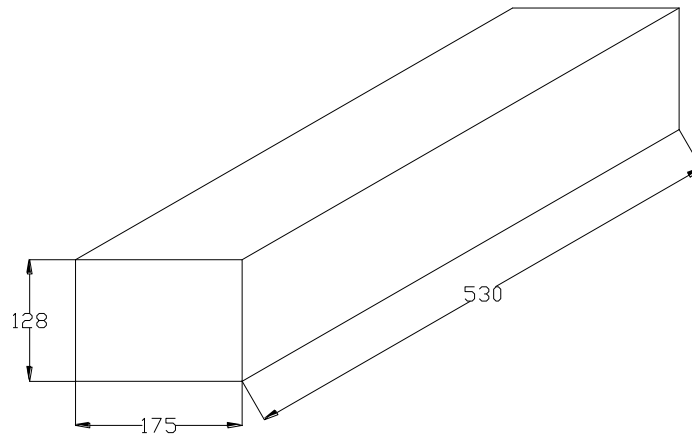
NOTE : KE=AlInGaP RED

## PACKING SPEC

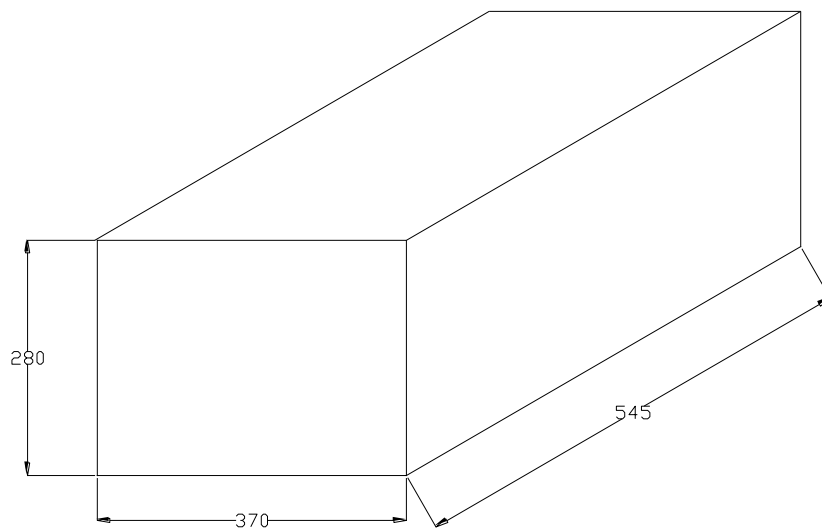
20 PCS / PACKING TUBE



40 PCS PACKING TUBE / INNER CARTON



4 INNER CARTON / OUTER CARTON





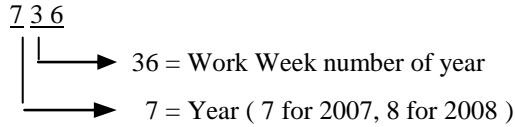
# LITEON LITE-ON TECHNOLOGY CORPORATION

Property of Lite-On Only

## Date Code




The first three number shows date code




The date code is composed of the following characters;



## Label Indication

### TUBE



 MADE IN THAILAND 1019137	MATERIAL NO. : LTD-5521AKE-TJ	BATCH : H
	QUANTITY : 20	
	CUS. P/N :	MACHINE :
	DATE CODE : 0736	
<small>2005/06/01 15:15:15 TIS0698</small>		




 MADE IN THAILAND 1019137	MATERIAL NO. : LTD-5521AKE-TJ	BATCH : H
	QUANTITY : 800	
	CUS. P/N :	MACHINE :
	DATE CODE : 0736	
<small>2005/06/01 15:15:15 TIS0698</small>		

### INNER CARTON

<b>LITEON</b> FINISHED GOODS STOCK LABEL	
TAG NO. : T1941247	
CUSTOMER : Hitachi	
CUS.PART NO. :	
MATERIAL GROUP : O30200DPR	
MATERIAL NO. : LTD-5521AKE-TJ	
BATCH : H	
QUANTITY : 800	
DATE CODE : 0736	
COMMENT : 0736 PBF H	Pb-free/RoHS SHELF HC3
<small>TBNZ027 2007/09/05 17:00:00</small>	

### OUTER CARTON

<b>LITEON</b> FINISHED GOODS STOCK LABEL		CTN.NO. : 1
CUSTOMER : Hitachi		
CUSTOMER P/N : N/A		
MATERIAL NO. : LTD-5521AKE-TJ		Pb-Free/RoHS
BATCH	QUANTITY	
H	3200	
TOTAL	3200	
<small>TBNZ027 2007/09/05 15:30:00</small>		

<b>LITEON</b> FINISHED GOODS STOCK LABEL		CTN.NO. : 1
DELIVERY NOTE :		4101644342
CUSTOMER PO. :		
TYPE OF PACKAGE :		92-SUC02
INVOICE NO. :		0200132607
DATE CODE. :		
<small>TBNZ027 2007/09/05 15:30:00</small>		

PART NO.: LTD-5521AKE-TJ

PAGE: 7 of 7