



# LITE-ON TECHNOLOGY CORPORATION

Property of Lite-On Only

## LED DISPLAY

### LTC-4624JR-16J DATASHEET

<u>Rev</u>	<u>Description</u>	<u>By</u>
01	ORIGINAL VERSION	<u>Kittisak B (Sep 08/2008)</u>
02	Add dimension as request	<u>Warin S. (Sep 12/2008)</u>
03	Add cross section & Material list on page 4/8 Add description for symbol code on page 5/8	<u>Kittisak B</u> <u>Oct 02/2008</u>
04	Change BIN TABLE 2 TO BIN TABLE 2/1	<u>Kittisak B (Oct 03/2008)</u>
05	Add tolerance PIN dimension +/-0.1mm on page 2 of 8	<u>Kittisak B</u> <u>Oct 14/2008</u>
06	Add type resin on page 4 of 8	<u>Warin S (Oct 16 /2008)</u>
07	Add type of reflector material as customer request on page 4 of 8	<u>Warin S</u> <u>Oct 21 /2008</u>
08	Add PIN tip's ship tolerance +/- 0.4mm on page 2 of 8	<u>Kittisak B</u> <u>Oct 22/2008</u>
09	Change pin length from 15.00mm±0.5mm to 14.5mm±0.5mm and add more dimension	<u>Kittisak B</u> <u>Dec 02/2008</u>
10	Add spec packing and Label	<u>Kittisak B (Dec25/2008)</u>
11	Revise spec packing on Label	<u>Kittisak B (Jan 05/09)</u>
12	Change pin length from 14.50mm±0.5mm to 14.00mm±0.5mm	<u>Kittisak B</u> <u>Feb 26/2009</u>
	<u>Above data for PD and Customer tracking only</u>	
-	NPPR Received and Upload on OPNC	<u>Kittisak B</u> <u>Feb 26/2009</u>
A	1. Add "Foreign material on segment $\leq 10\text{mils}$ " 2. Add "Ink contamination ( surface) $\leq 20\text{mils}$ "	<u>Kittisak S</u> <u>Dec 24/2010</u>

SPEC. NO.: DS30-2009-0028

D A T E : Dec 24/2010

REV. NO. : A

PAGE NO. : 0 OF 10

PART NO.:LTC-4624JR-16J

PAGE: 0 of 10

**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)**

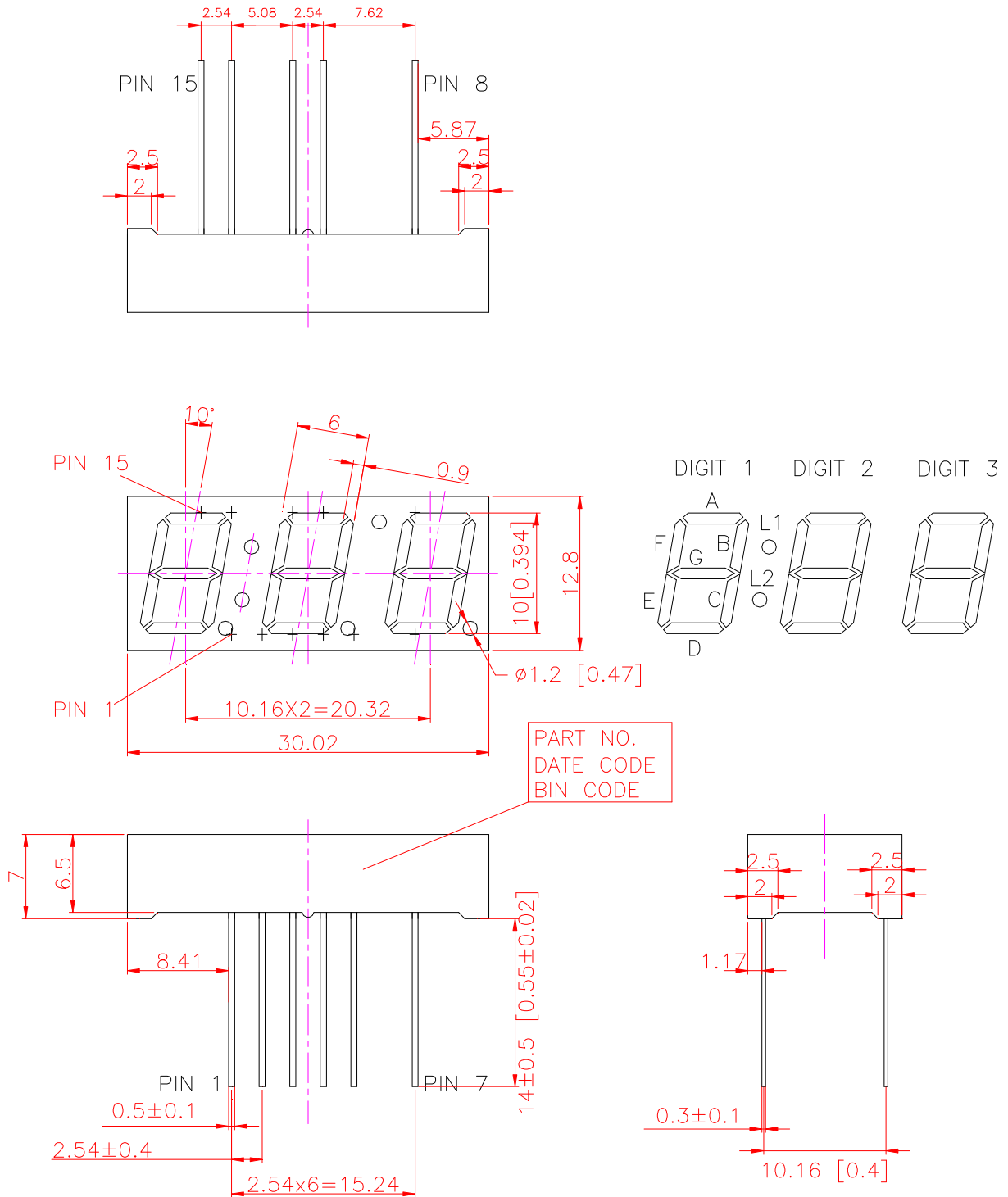
**DESCRIPTION**

The LTC-4624JR-16J is a 0.4 inch (10.0 mm) digit height triple digit seven-segment display. This device utilizes AlInGaP Super Red LED chips, which are made from AlInGaP on a non-transparent GaAs substrate, and has a gray face and white segments.

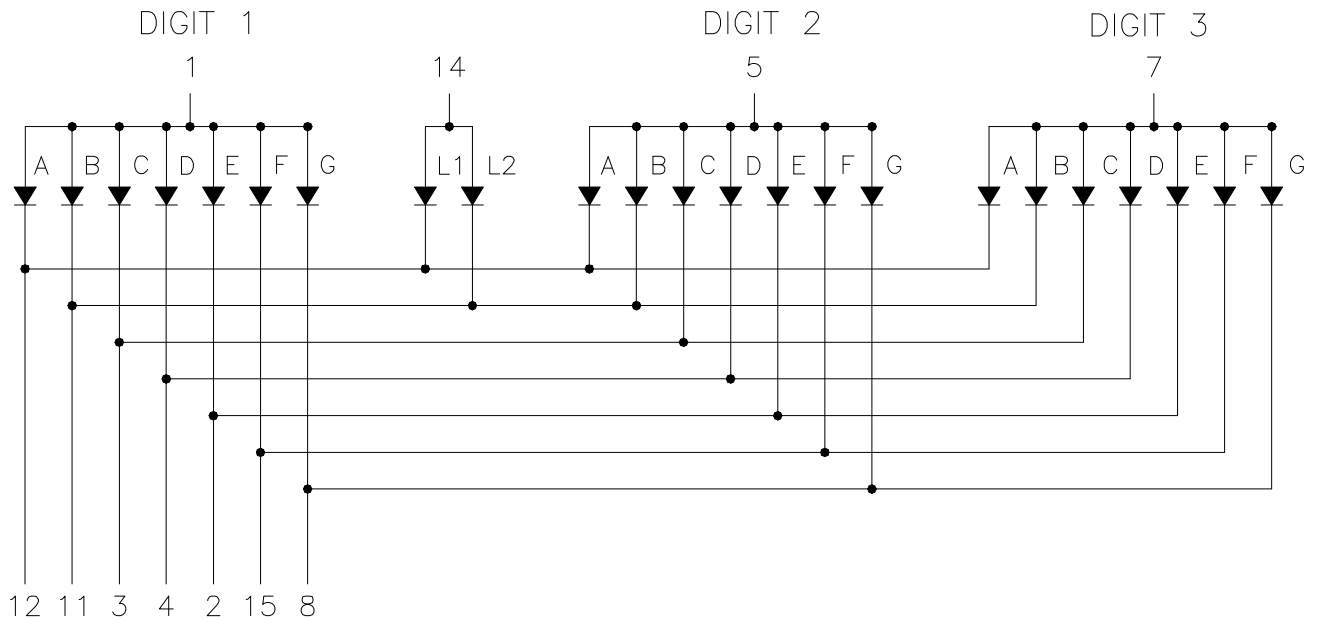
**DEVICE**

<b>PART NO.</b>	<b>DESCRIPTION</b>
AlInGaP Super Red	Multiplex Common Anode
LTC-4624JR-16J	Rt. Hand Decimal

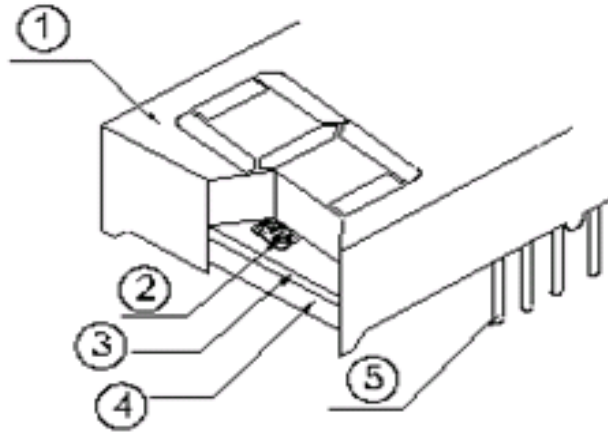
## PACKAGE DIMENSIONS



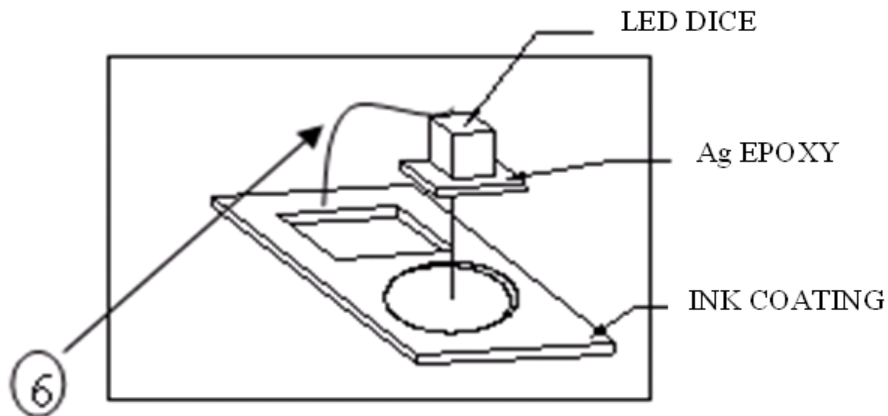
- NOTES: 1. All dimensions are in millimeters. Tolerances are  $\pm 0.25$  mm (0.01") unless otherwise noted.  
 2. Pin tip's shift tolerance are  $\pm 0.40$  mm  
 3. Foreign material on segment  $\leq 10$  mils  
 4. Ink contamination ( surface)  $\leq 20$  mils

**INTERNAL CIRCUIT DIAGRAM**

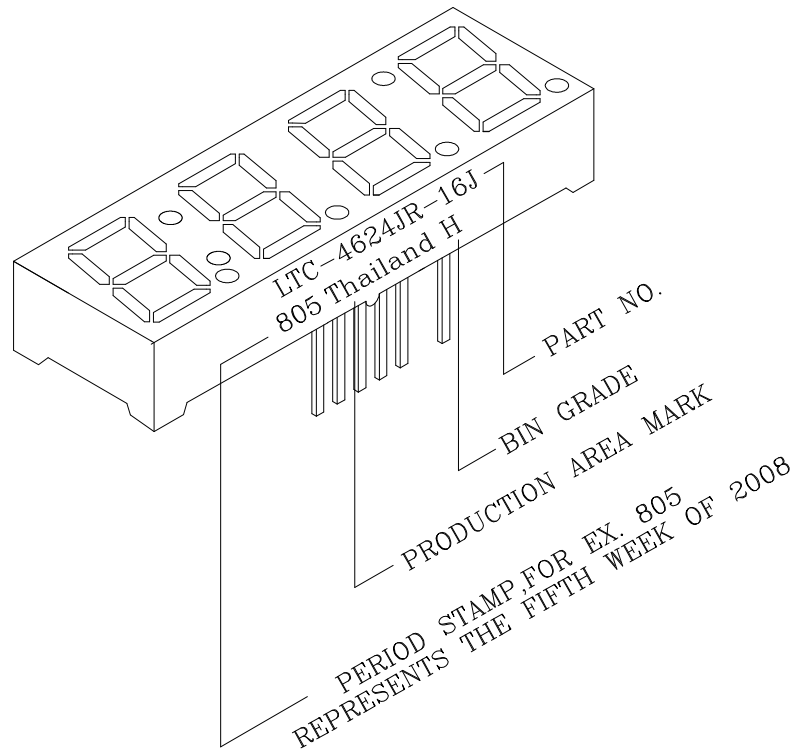
### Cross Section & Material List



- 1. Ag CONDUCTIVE EPOXY USING
- 2. ON THE PCB, COATING A LAYER OF INK FOR CONTROLLING THE Ag EPOXY SCOPE



No.	Items	Material	CRITICAL POINT (SC)
1	Reflector (China)	Polycarbonate PCM-910G2N	N/A
2	LED chip (Taiwan)	AlInGaP Super Red	N/A
3	PCB (China)	CEM-3 + Glass + Fiber	N/A
4	Epoxy (Taiwan)	Resin (12E183,12E184,12E082)	N/A
5	Round pin (China)	Cu + Fe + Sn	N/A
6	Wire Bonding (Singapore)	Al	SC FOR WIRE PULL TEST AND BOND SIZE

**DESCRIPTION FOR SYMBOL CODE**

**PIN CONNECTION**

<b>NO.</b>	<b>CONNECTION</b>
1	COMMON ANODE DIGIT 1
2	CATHODE E
3	CATHODE C
4	CATHODE D
5	COMMON ANODE DIGIT 2
6	NO PIN
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

**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°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 Condition: 1/16 inch below seating plane for 5 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>	631	975		μcd	I <sub>F</sub> =1mA
Peak Emission Wavelength	λ <sub>p</sub>		639		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		20		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>		631		nm	I <sub>F</sub> =20mA
Forward Voltage Per Segment	V <sub>F</sub>		2.0	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 (Same 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.

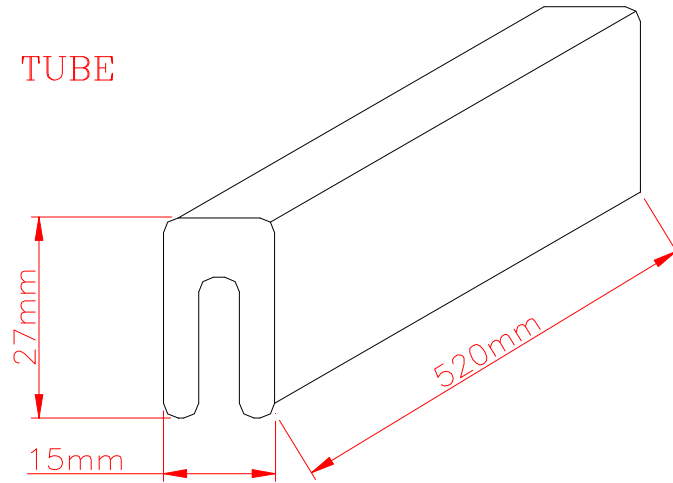
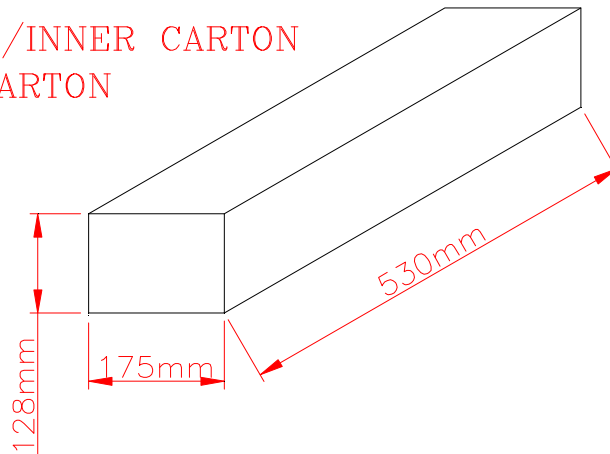
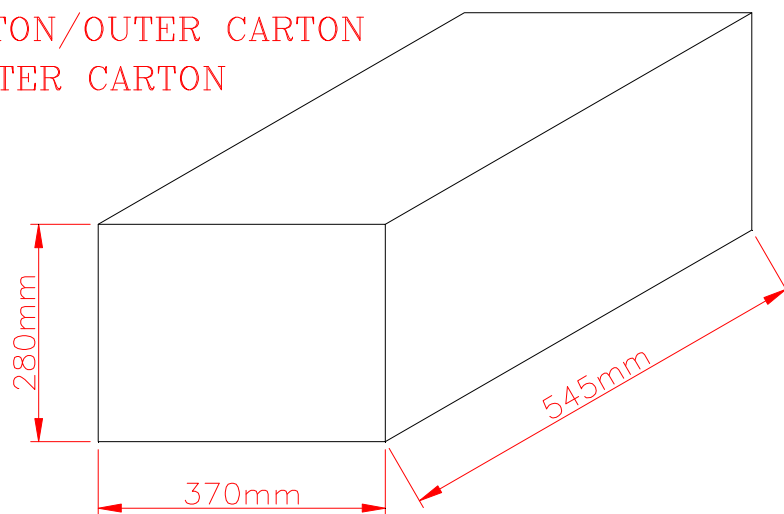
**BIN TABLE**
**BIN TABLE 2/1 FOR LUMINOUS INTENSITY**

BIN GRADE	G2	H1	H2	J1	J2
RANGE(μcd)I <sub>F</sub> =1mA	631-800	801-1020	1021-1300	1301-1650	1651-2100

The Luminous Intensity Tolerance ±15percentage

## PACKING SPEC

17 PCS/PACKING TUBE

42 PACKING TUBE/INNER CARTON  
714 PCS/INNER CARTON4 INNER CARTON/OUTER CARTON  
2856 PCS/OUTER CARTON

Property of Lite-On Only

**EXAMPLE: The bin rank  
maked on the device / tube / carton.**

**ONTUBE**

	MATERIAL NO. :	LTC-4624R-16	BATCH :	H2
	QUANTITY :	17	MACHINE :	PBFREE
	CUSPN :			205/03/27 2022 TR048
	DATE CODE :	088		

**ONINNER CARTON**

	MATERIAL NO. :	LTC-4624R-16	BATCH :	H2
	QUANTITY :	714	MACHINE :	PBFREE
	CUSPN :			205/03/27 2022 TR048
	DATE CODE :	088		

**LITEON FINISHEDGOODSSTOCKLABEL**

TAGNO :	T025085	
CUSTOMER :	MATSUBITA:JH	
CUSPARTNO. :		
MATERIAL GROUP :	0800CHG	
MATERIAL NO. :	LTC-4624R-16	
BATCH :	H2	
QUANTITY :	285	
DATE CODE :	088	
COMMENT :	PBF	SHELF : BA1

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**ONOUTER CARTON**

**LITEON FINISHEDGOODSSTOCKLABEL CTNO: 1**

CUSTOMER :	MATSUBITA:JH
CUSTOMER PN :	NA
CUSTOMER PN :	LTC-4624R-16
BATCH	QUANTITY
H2	285
<b>TOTAL</b>	<b>285</b>

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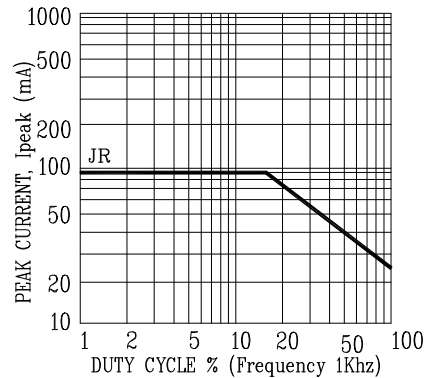
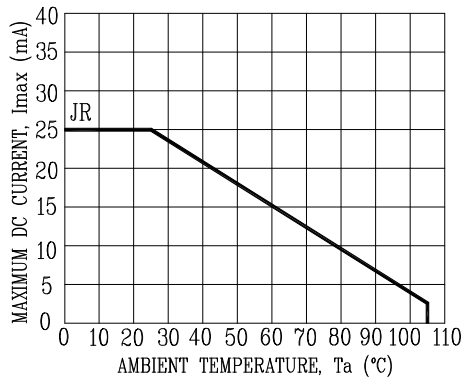
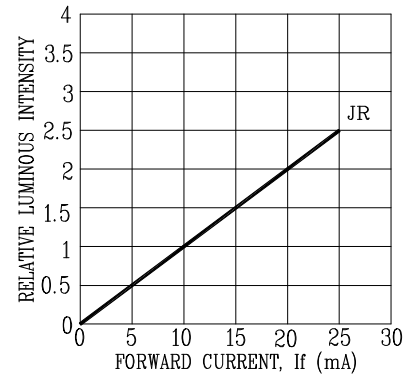
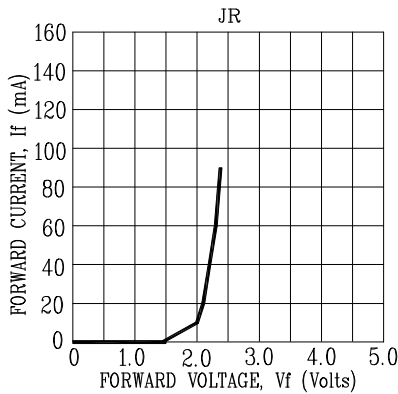
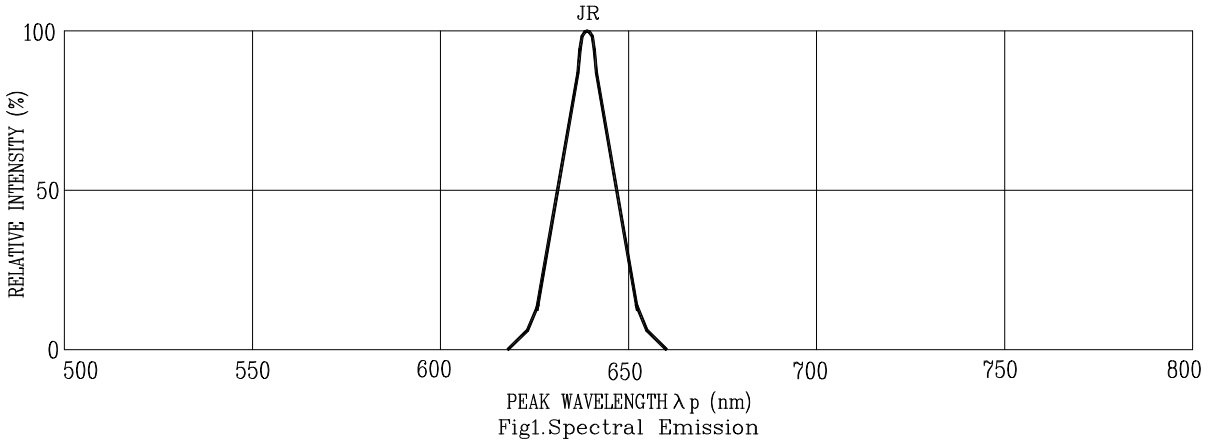
**LITEON FINISHEDGOODSSTOCKLABEL CTNO: 1**

DELIVERY NOTE :	400856
CUSTOMER PO :	
TYPE OF PACKAGE :	92-SU02
INVOICE NO. :	02000808
DATE CODE :	

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**TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES**

(25°C Ambient Temperature Unless Otherwise Noted)



NOTE : JR=AlInGaP SUPER RED