



LED Display

Product Data Sheet

LTS-4302BHR-H2

Spec No.: DS30-2010-0070

Effective Date: 08/18/2010

Revision: -

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

LED DISPLAY**LTS-4302BHR-H2**
DATASHEET

<u>Rev</u>	<u>Description</u>	<u>By</u>
01	ORIGINAL (Refer to contour drawing Revision (-))	<u>KITTISAK</u> <u>March 12/2010</u>
02	Put wave soldering profile and reliability test item	<u>KITTISAK B.</u> <u>May 18/2010</u>
(Above data for PD and Customer tracking only)		
-	NPPR Received and Upload on OPNC	<u>KITTISAK B.</u> <u>July 29/2010</u>

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FEATURES

- * 0.39 INCH (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).**

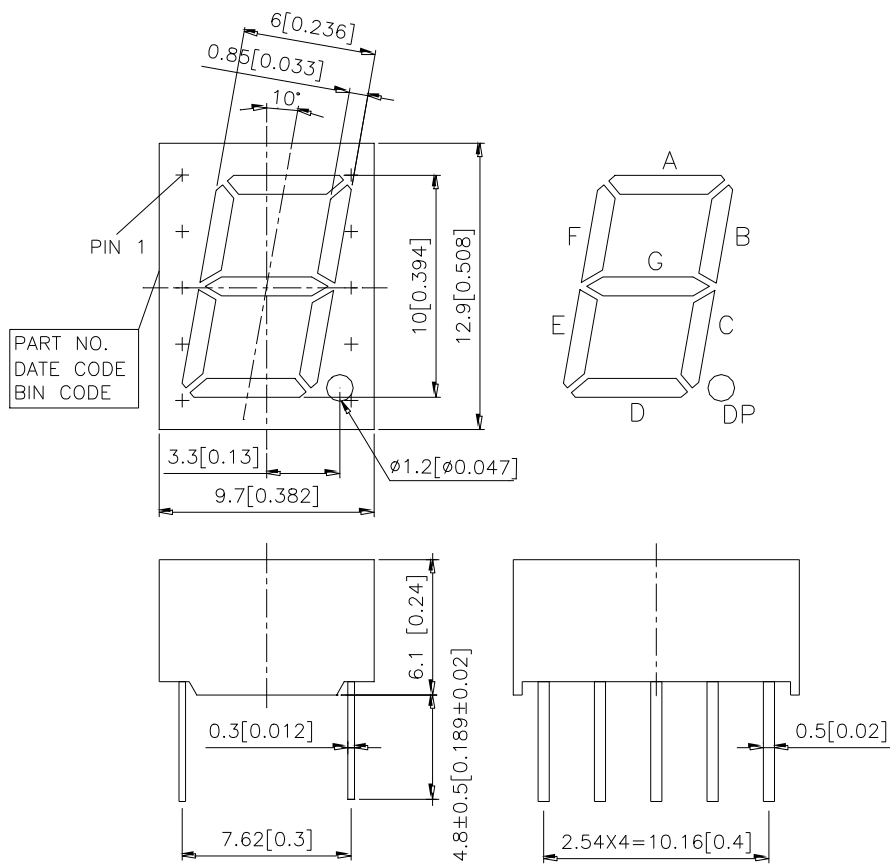
DESCRIPTION

The LTS-4302BHR-H2 is a 0.39 inch (10.0mm) height digit display. This device uses HI-EFF. RED LED chips (GaAsP epi on GaP substrate). And has a black face and red segments.

DEVICE

PART NO.	DESCRIPTION
HI-EFF. RED	Common Cathode Rt. Hand Decimal
LTS-4302BHR-H2	

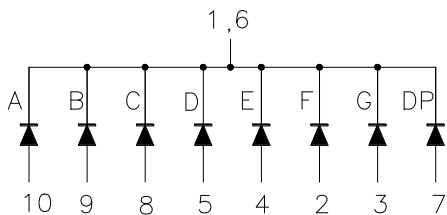
PACKAGE DIMENSIONS



NOTES: 1. All dimensions are in millimeters. Tolerances are ± 0.25 -mm (0.01“) unless otherwise noted.

2. Pin tip's shift tolerance are ± 0.40 mm
3. Foreign material on segment ≤ 10 mils
4. Ink contamination (surface) ≤ 20 mils
5. Bending $\leq 1\%$ of reflector length
6. Bubble in segment ≤ 10 mils

INTERNAL CIRCUIT DIAGRAM



PIN CONNECTION

No.	CONNECTION
1	COMMON CATHODE
2	ANODE F
3	ANODE G
4	ANODE E
5	ANODE D
6	COMMON CATHODE
7	ANODE D.P
8	ANODE C
9	ANODE B
10	ANODE A

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)	100	mA
Continuous Forward Current Per Segment	25	mA
Derating Linear From 25 ⁰ C Per Segment	0.28	mA/ ⁰ C
Reverse Voltage Per Segment	5	V
Operating Temperature Range	-35 ⁰ C to +105 ⁰ C	
Storage Temperature Range	-35 ⁰ C to +105 ⁰ C	
Solder Temperature 1/16 inch Below Seating Plane for 5 Seconds at 260 ⁰ C		
Or of temperature 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 _v	200	750		μcd	I _F =10mA
Peak Emission Wavelength	λ _p		635		nm	I _F =20mA
Spectral Line Half-Width	Δλ		40		nm	I _F =20mA
Dominant Wavelength	λ _d		623		nm	I _F =20mA
Forward Voltage Per Segment	V _F		2.1	2.6	V	I _F =20mA
Reverse Current Per Segment	I _R			100	μA	V _R =5V
Luminous Intensity Matching Ratio	I _v -m			2:1		I _F =10mA

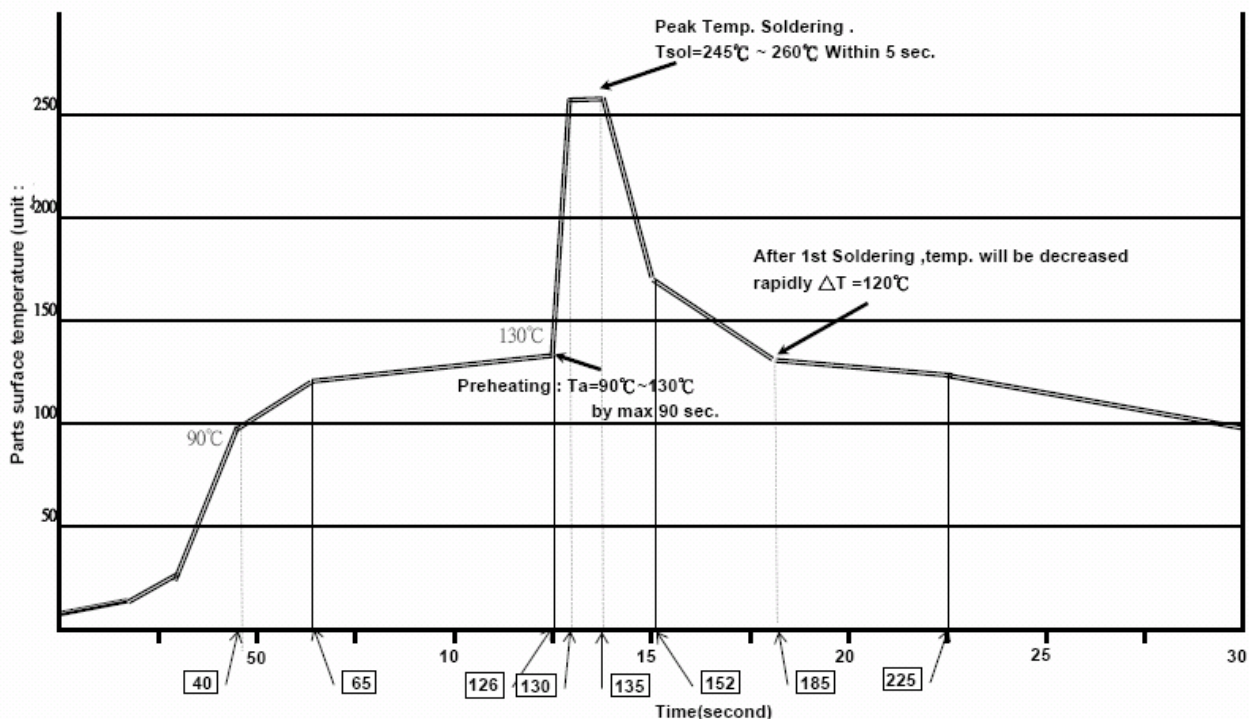
Note: 1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commision Internationale De L'Eclairage) eye-response curve.

2. Cross talk specification $\leq 2.5\%$

LITEON

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** Flow(=Wave soldering) condition with temperature for Pb free Soldering



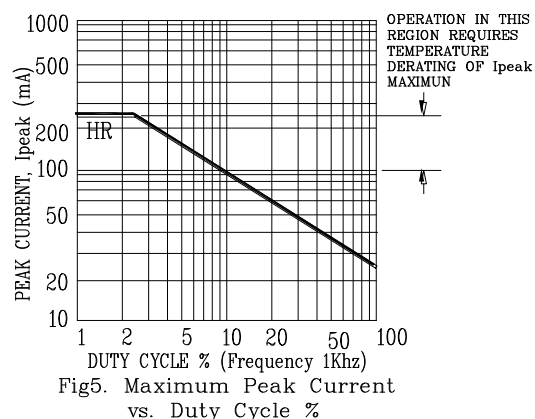
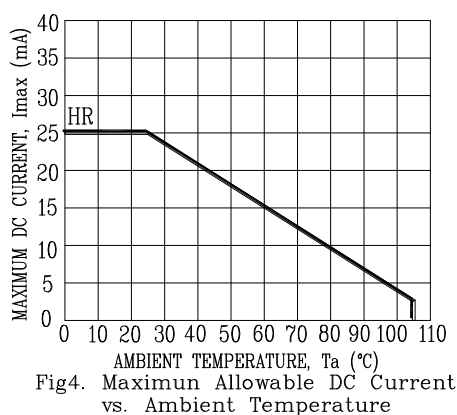
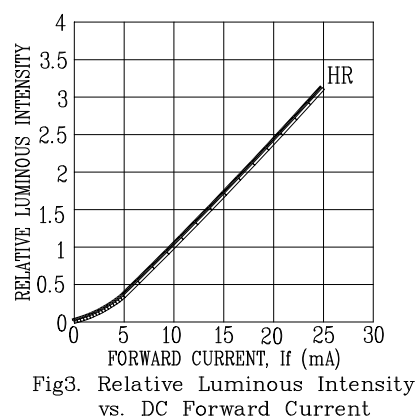
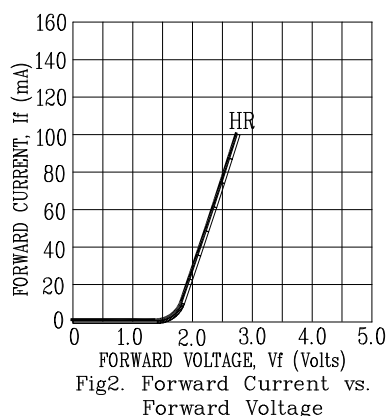
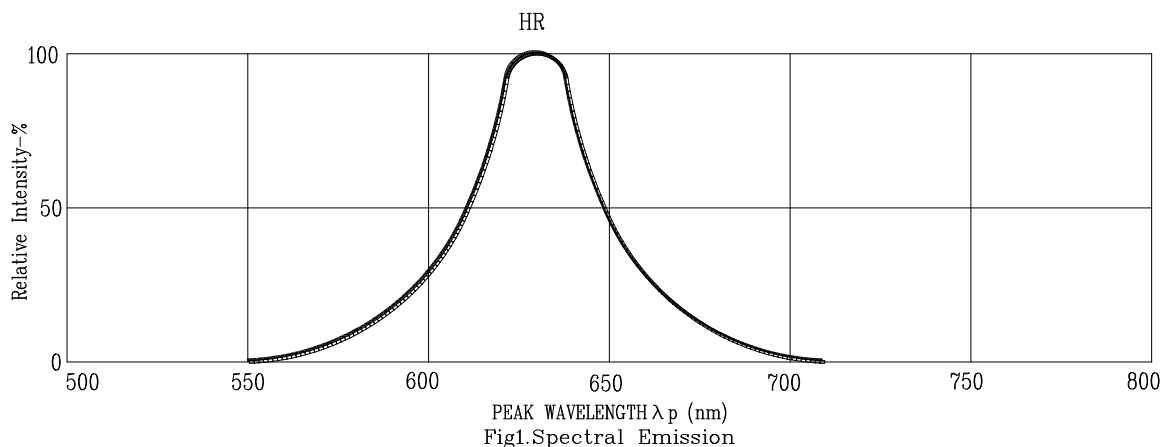
RELIABILITY TEST FOR N/D

CALSSIFICATION	TEST ITEM	TEST CONDITION	REFERENCE STANDARD
ENDURANCE TEST	OPERATION LIFE	Ta= UNDER ROOM TEMPERATURE IF=AS PER DATA SHEET MAXIMUM RATING *TEST TIME= 1000HRS (-24HRS,+72HRS)	MIL-STD-750D : 1026 (1995) MIL-STD-883D : 1005 (1991) JIS C 7021 : B-1 (1982)
	HIGH TEMPERATURE HIGH HUMIDITY STORAGE	Ta= 65±5℃ RH= 90 ~ 95% TEST TIME= 240HRS±2HRS	MIL-STD-202F : 103B(1980) JIS C 7021 : B-11(1982)
	HIGH TEMPERATURE HIGH HUMIDITY REVERSE BIAS	Ta= 65±5℃ RH= 90 ~ 95% VR=5V TEST TIME= 500HRS (-24HRS,+48HRS)	JIS C 7021 : B-11(1982)
	HIGH TEMPERATURE STORAGE	Ta= 85±5℃ TEST TIME= 1000HRS (-24HRS,+72HRS)	MIL-STD-883D : 1008 (1991) JIS C 7021 : B-10 (1982)
	LOW TEMPERATURE STORAGE	Ta= -35±5℃ TEST TIME= 1000HRS (-24HRS,+72HRS)	JIS C 7021 : B-12 (1982)
	TEMPERATURE CYCLING	85℃ ~ 25℃ ~ -35℃ ~ 25℃ 30mins 5mins 30mins 5mins 30CYCLES	MIL-STD-202F : 107D (1980) MIL-STD-750D : 1051(1995) MIL-STD-883D : 1010 (1991) JIS C 7021 : A-4(1982)
	THERMAL SHOCK	85 ± 5℃ ~ -35℃ ± 5℃ 30mins 30mins 30CYCLES	MIL-STD-202F : 107D(1980) MIL-STD-750D : 1051(1995) MIL-STD-883D : 1011 (1991)
ENVIRONMENTAL TEST	SOLDER RESISTANCE	T.sol= 260 ± 5℃ DWELL TIME= 10 ± 1secs	MIL-STD-202F : 210A(1980) MIL-STD-750D : 2031(1995) JIS C 7021 : A-1(1982)
	SOLDERABILITY	T.sol= 230 ± 5℃ DWELL TIME= 5 ± 1secs	MIL-STD-202F : 208D(1980) MIL-STD-750D : 2026(1995) MIL-STD-883D : 2003(1991) JIS C 7021 : A-2(1982)

* (Check Point : 0th,168th,500th,800th,1000th Hr)

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)



NOTE: HR=HL-EFF.RED