



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

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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>

SPEC NO. : DS30-2010-0070

DATE : July 29/2010

REV. NO. : -

PAGE NO. : 0 OF 7

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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).**

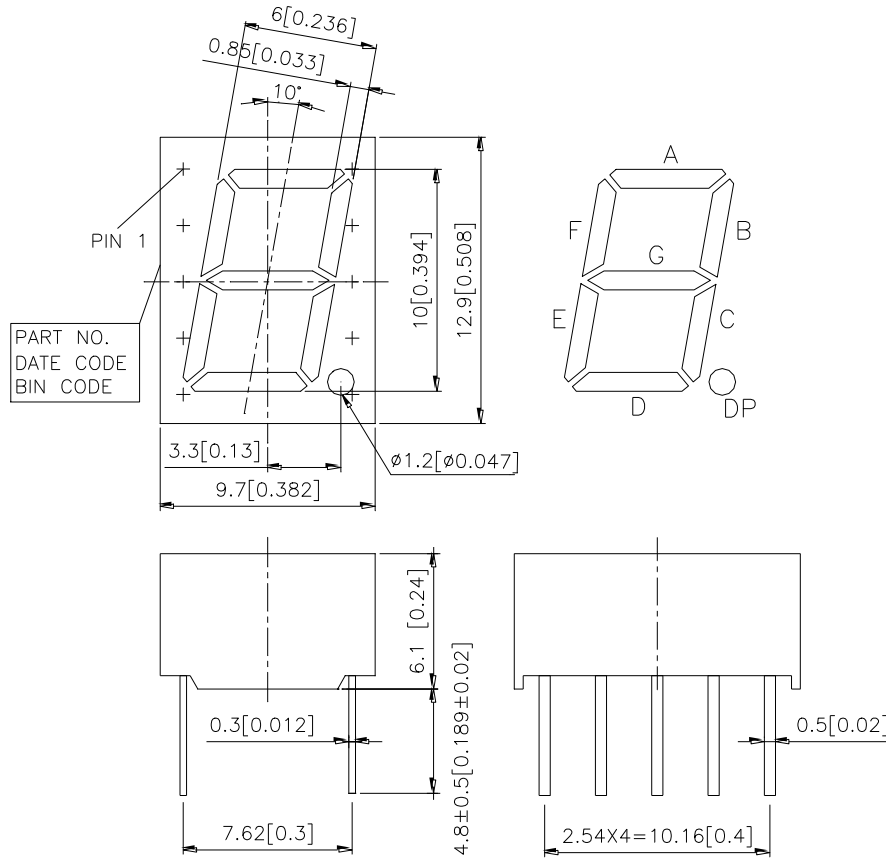
DESCRIPTION

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
LTS-4302BHR-H2	Rt. Hand Decimal

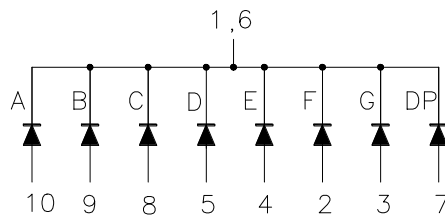
PACKAGE DIMENSIONS



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 $\cong 10$ mils
4. Ink contamination (surface) $\cong 20$ mils
5. Bending $\cong 1\%$ of reflector length
6. Bubble in segment $\cong 10$ 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°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 Temperature 1/16 inch Below Seating Plane for 5 Seconds at 260°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 $\cong 2.5\%$

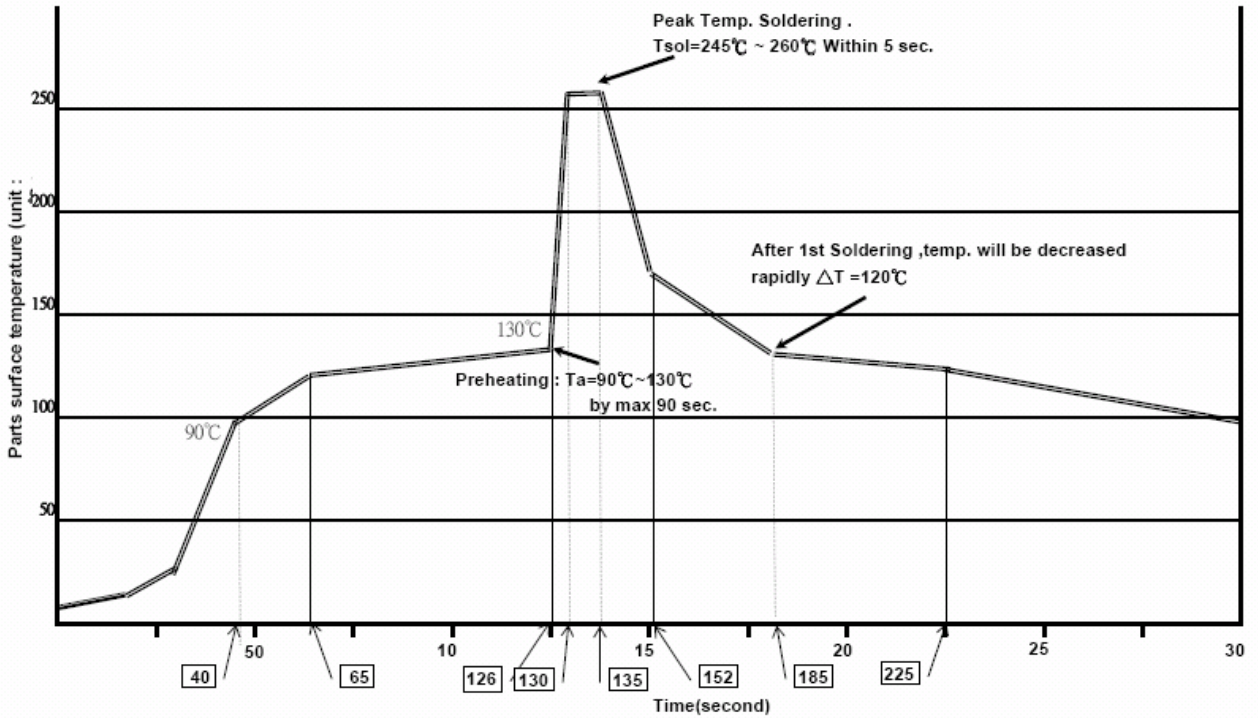
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** Flow(=Wave soldering) condition with temperature for Pb free Soldering



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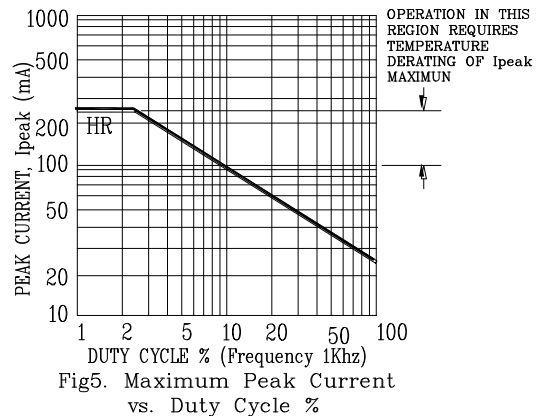
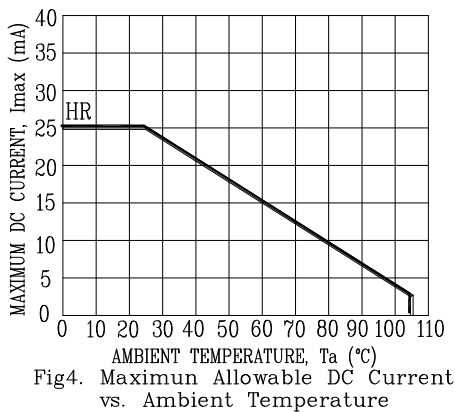
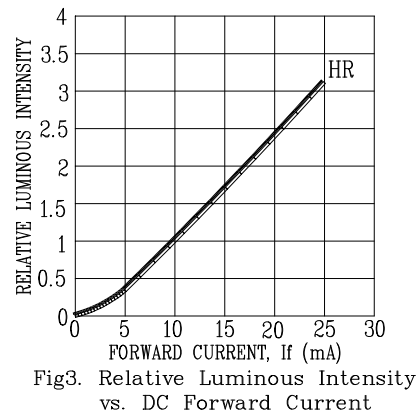
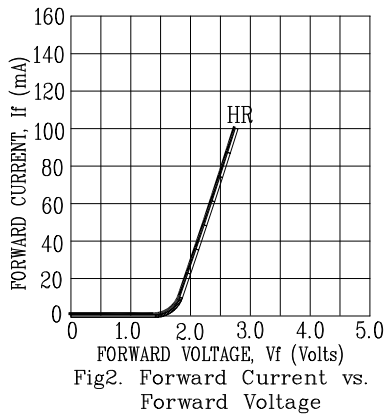
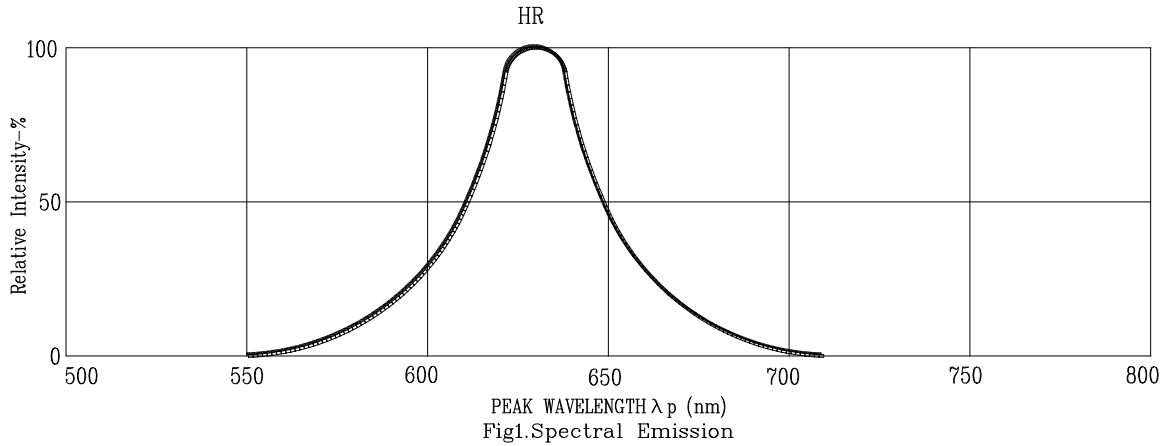
RELIABILITY TEST FOR N/D

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