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LED DISPLAY

ZDS-0391B-11

DATA SHEET

- SPEC NO: ZBOE110318
- DESIGN NO:
- REV. NO: 02
- CUSTOMER:
- APPLICATION:
- EFFECTIVE: December 11, 2012

Approver		Checker		Engineer	
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FEATURES

- 0.39inch(10.0mm)DIGIT HEIGHT
- CONTINUOUS UNIFORM SEGMENTS
- LOW POWER REQUIREMENT
- EXCELLENT CHARACTERS APPEARANCE
- HIGH BRIGHTNESS & HIGH CONTRANCE
- WIDE VIEWING ANGLE
- SOLID STATE RELIABILITY
- MEET RoHS EU DIRECTIVE
- CLASS 1 ESD SENSITIVE(MIL-STD-1686)

DESCRIPTION

The ZDS-0391B-11 is a 0.39 inch (10.0mm) height single digit seven-segment LED display. This device is single-color applicable display. This device uses Super Bright Blue LED Chips (InGaN). The Display has gray ink and white segments.

DEVICE

PART NO.	DESCRIPTION
SINGLE-COLOR	Multiplex Common Cathode
ZDS-0391B-11	



- Dice Material InGaN
- Light Color Super Bright Blue
- Lens Color Milky Diffusion
- Surface Color Gray Ink

ABSOLUTE MAXIMUM RATINGS (Ta = 25C)

ITEM	PARAMETER	DICE TYPE	MAX.	UNIT
P_D	Power Dissipation / chip	Blue	60	mW
V_R	Reverse Voltage / chip	Blue	5	V
I_{AF}	Average Forward Current / chip	Blue	20	mA
I_{PF}	Peak Forward Current (Duty=0.1,1KHz) / chip	Blue	60	mA
-	Derating Linear From 25C	Blue	0.28	mA/C
T_{OPR}	Operating Temperature Range	-25 C to + 85 C		
T_{STG}	Storage Temperature Range	-35 C to + 95 C		

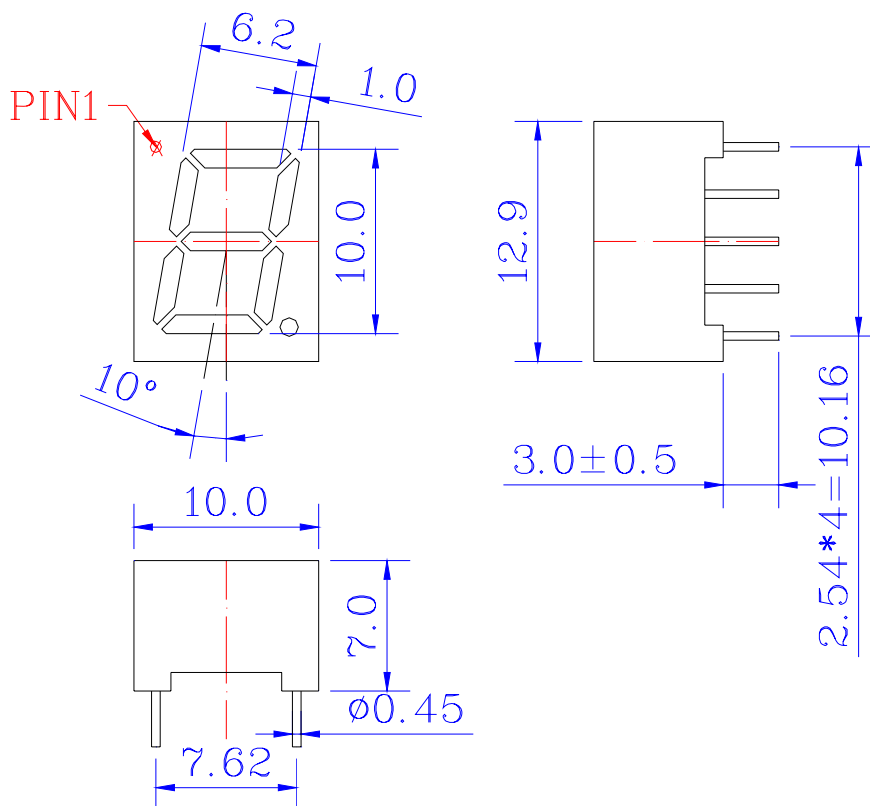
■ Lead Soldering Temperature(1.6 mm (0.063 inch) From Body)265 C For 5 Seconds

ELECTRO-OPTICAL CHARACTERISTICS/CHIP (Ta = 25C)

ITEM	PARAMETER	TEST CONDITION	DICE TYPE	MIN.	TYP.	MAX.	UNIT
V_F	Forward Voltage	I_F = 20mA	Blue		3.5	4.0	V
I_R	Reverse Current	V_R = 5V	Blue			100	uA
λ_D	Dominant Wave length	I_F = 20mA	Blue		468		nm
Δλ	Spectral Half-Width	I_F = 20mA	Blue		25		nm
I_V	Luminous Intensity	I_F = 20mA	Blue	2.0			mcd
IV-m	Luminous Intensity Matching Ratio (Similar Light Area)	I_F = 20mA	Blue			2:1	

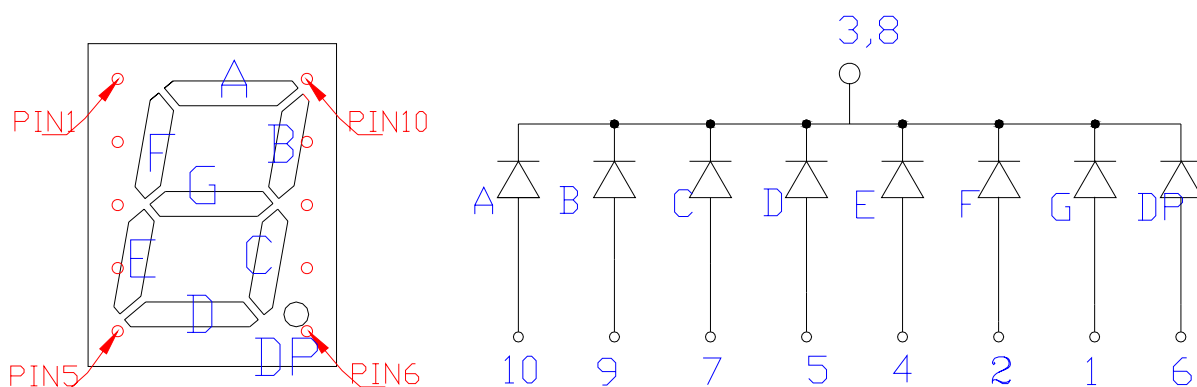
- Optical crosstalk for adjacent segment less than 1 %.
- Note1: Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commision Internationale De L'Eclairage) eye-response curve
- Note2: The customer requirement for wavelength tolerance of all LED modules and discrete LEDs is:
 for one electronic board (LED module and discrete LEDs): +/- 2nm;
 for different electronic boards: +/- 5nm.

PACKAGE DIMENSIONS



- NOTES: All dimensions are in millimeters. Unspecified Tolerances are ±0.25mm.
- Case warpage rate ≤0.8%.

INTERNAL CIRCUIT DIAGRAM



- THE SIGN  IS STANDARD FOR SUPER BRIGHT BLUE CHIP.

I_v TEST SEGMENT	BLUE	G
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BOE

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THE REVISION CURRICULUM

REV. NO.	Revision content	Revision date	Engineer
01	ORIGINALITY	2011-3-14	QiJianming
02	Optical crosstalk for adjacent segment changes from less than 3 % to less than 1%.	2012-12-11	QiJianming