

ZBOE

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LED DISPLAY

ZDD-0312A02-11

DATA SHEET

■ SPEC NO.: ZBOE200103
■ DESIGN NO.:
■ REV. NO.: 01
■ CUSTOMER:
■ APPLICATION:
■ EFFECTIVE: December 28, 2019

Approver		Checker		Engineer	
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FEATURES

- ☒ 0.31 inch (8.0mm)DIGIT HEIGHT
- ☒ CONTINUOUS UNIFORM SEGMENTS
- ☒ LOW POWER REQUIREMENT
- ☒ EXCELLENT CHARACTERS APPEARANCE
- ☒ HIGH BRIGHTNESS & HIGH CONTRANCE
- ☒ VIEWING ANGLE 170°
- ☒ SOLID STATE RELIABILITY
- ☒ MEET RoHS EU DIRECTIVE

DESCRIPTION

The ZDD-0312A02-11 is a 0.31 inch (8.0mm) double digit seven-segment display.

This device is single-color applicable display.

This device uses Super Bright Amber Chips (AlGaInP).

This epoxy-molding device is covered with a gray face and the segment/ icon is milky white for better clear view.

DEVICE

PART NO.	DESCRIPTION
SINGLE-COLOR	Multiplex Common Anode
ZDD-0312A02-11	

■ Dice Material	AlGaInP
■ Light Color	Super Bright Amber
■ Lens Color	Milky Diffusion
■ Surface Color	Gray Ink

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

ITEM	PARAMETER	DICE TYPE	MAX.	UNIT
P _D	Power Dissipation / chip	Amber	50	mW
V _R [*]	Reverse Voltage / chip	Amber	5	V
I _{AF}	Average Forward Current / chip	Amber	20	mA
I _{PF}	Peak Forward Current (Duty=0.1,1KHz) / chip	Amber	60	mA
-	Derating Linear From 25°C	Amber	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)260 °C For 5 Seconds

Electro-Optical CHARACTERISTICS/CHIP (Ta = 25°C)

ITEM	PARAMETER	TEST CONDITION	DICE TYPE	MIN.	TYP.	MAX.	UNIT
VF	Forward Voltage	IF = 20mA	Amber		2.0	2.5	V
IR	Reverse Current	VR* = 5V	Amber			100	uA
λ P	Peak Emission Wavelength	IF = 20mA	Amber		607		nm
λ D	Dominant Wave length	IF = 20mA	Amber		602		nm
Δ λ	Spectral Half-Width	IF = 20mA	Amber		20		nm
IV	Luminous Intensity	IF = 20mA	Amber	45		85	mcd
IV-m	Luminous Intensity Matching Ratio (Similar Light Area)	IF = 20mA	Amber			2:1	-

■ Optical crosstalk for adjacent segment less than 3 %.

■ Note1: Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commission Internationale De L'Eclairage) eye-response curve

■ Note2: Color coordinates (Cx,Cy) variation of display is:

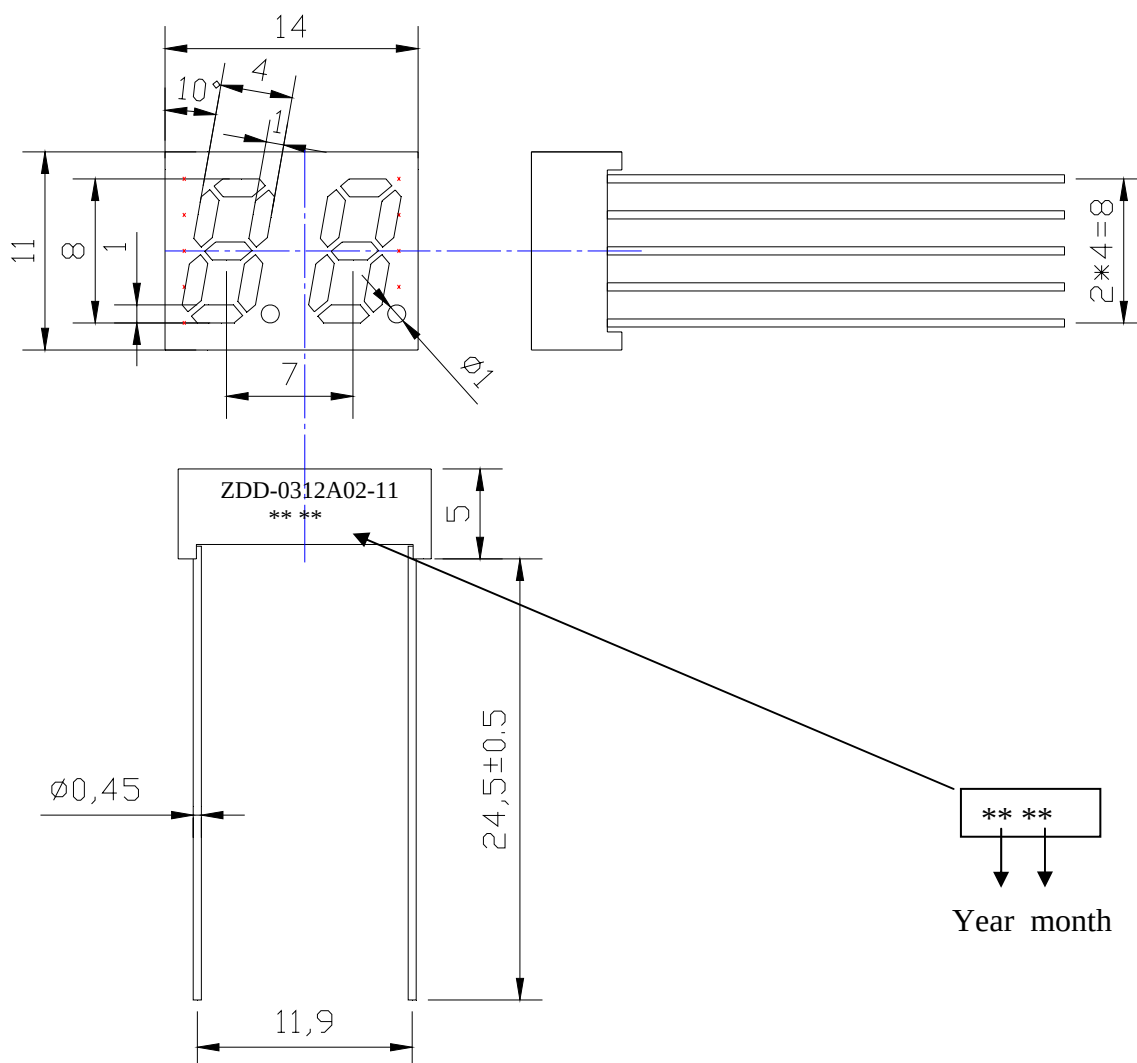
On single display: +/- 0.02, part-to-part: +/- 0.05

Wavelength variation of display is:

On single display: +/- 2nm, part-to-part: +/- 5nm

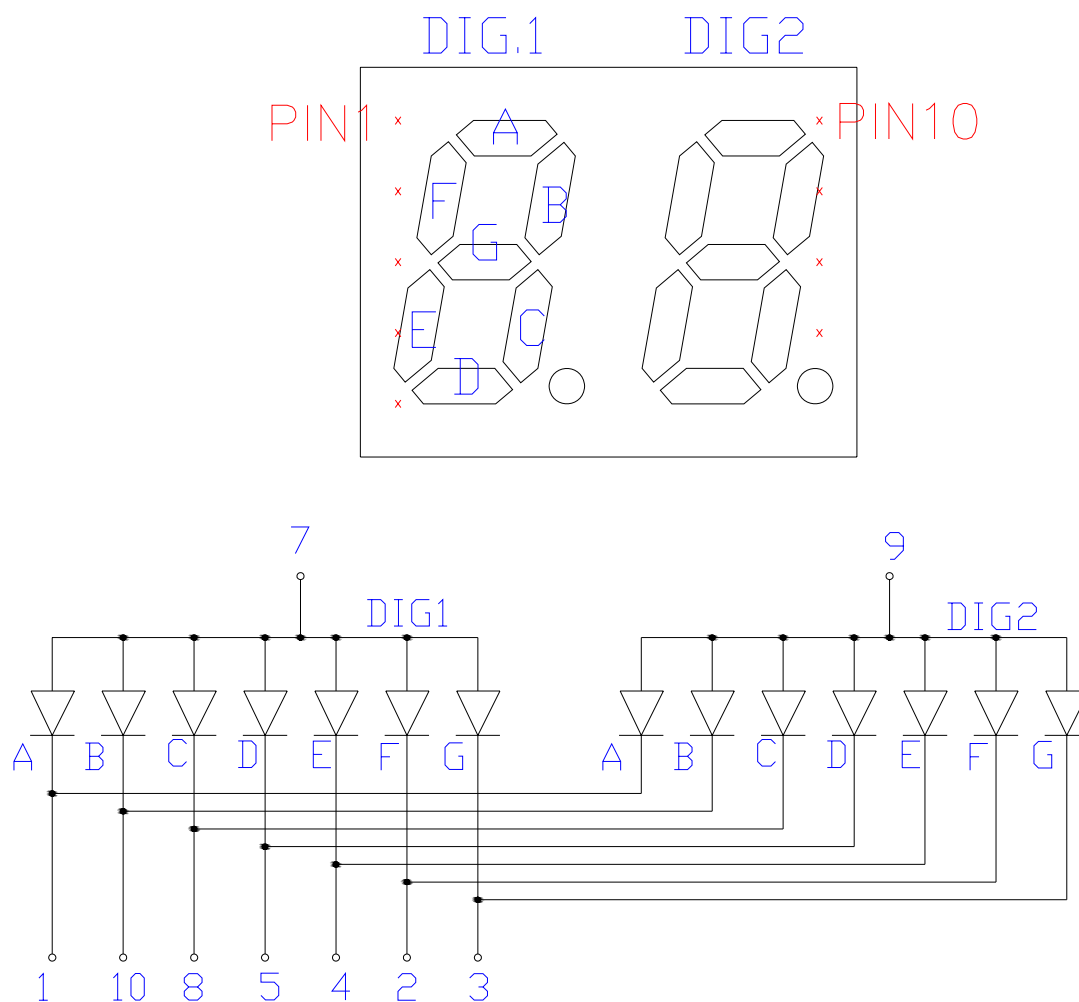
■ * Reverse voltage is only for IR test . It can not continue to operate at this situation.

PACKAGE DIMENSIONS

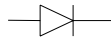


- NOTES: 1、 All dimensions are in millimeters.Unspecified tolerances are ± 0.25 mm.
2、 PIN tip's shift tolerance is ± 0.5 mm.
3、 Case warpage rate $\leq 0.8\%$.
4、 Black spot diameter less than 0.2mm
5、 Scratches, smudges control below 0.5mm
6、 Products do not be repaired (not ink strokes and surface repair)
7、 REF surface scratch ink

INTERNAL CIRCUIT DIAGRAM



NOTE: PIN6 NO PIN

■ THE SIGN  IS STANDARD FOR SUPER BRIGHT AMBER CHIPS

I _v TEST SEGMENT	SUPER BRIGHT AMBER	1G
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Revision History

REV. NO.	Revision content	Revision date	Engineer
01	Originality	2019-12-28	ShiLifeng