

DATA SHEET

PART NO. : SZC292WDT-5A

REV : A / 0

CUSTOMER'S APPROVAL : _____

DCC : _____

DRAWING NO. : DS-51-20-006

DATE : 2020-02-29

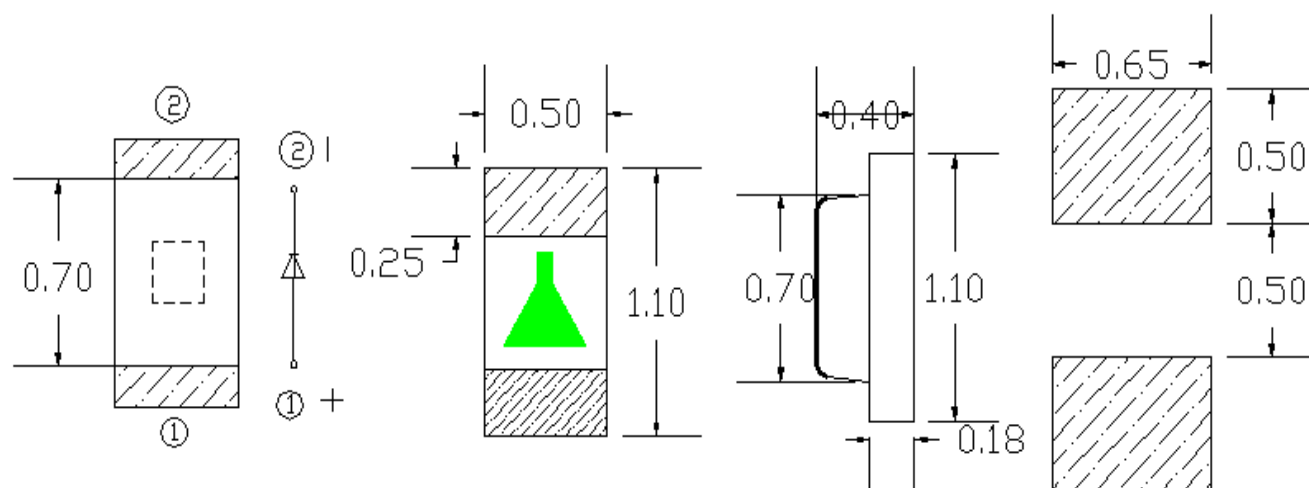
Page : 1

1.0*0.5*0.3 mm SMD LED

SZC292WDT-5A

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PACKAGE DIMENSIONS



Note:

Tolerance unless mentioned is $\pm 0.1\text{mm}$, Unit = mm.

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FEATURES

- * 1.0*0.5*0.3 mm SMD LED
- * Top view LED
- * Compatible with infrared and vapor phase reflow solder process
- * Wide viewing angle

CHIP MATERIALS

- * Dice Material : InGaN
- * Light Color : White
- * Lens Color : Yellow Diffused

ABSOLUTE MAXIMUM RATING : (Ta = 25°C)

SYMBOL	PARAMETER	Rating	UNIT
PD	Power Dissipation	100	mW
If	Forward Current	20	mA
Ifp	Peak Forward Current (1/10 duty cycle 0.1ms)	60	mA
Topr	Operating Temperature Range	-40 ~ + 85	°C
Tstg	Storage Temperature Range	-40 ~ + 85	°C
Tsol	Soldering Temperature	Reflow Soldering 260°C for 10 sec Hand Soldering 300°C for 3 sec	

ELECTRO-OPTICAL CHARACTERISTICS : (Ta = 25°C)

Parameter	Symbol	Min.	□Typ.	Max.	Unit	Test Condition
Luminous Intensity	Iv	175		360	mcd	IF=5mA
Viewing Angle	2θ1/2		130		deg	IF=5mA
Forward Voltage	VF	2.6		2.8	V	IF=5mA
Reverse Current	IR			10	μA	VR=5V
色座标 CIE 1931 Coordinate	X	---	0.25	---		IF=5mA
	Y	---	0.245	---		IF=5mA

Typical Electro-Optical Characteristics Curves

25°C Ambient Temperature Unless Otherwise Noted

Fig.1 - Forward Voltage Shift vs. Junction Temperature

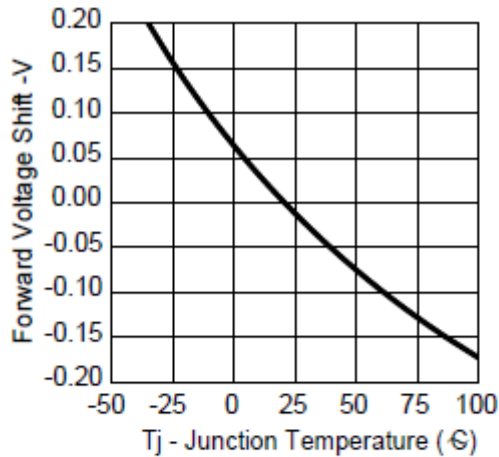


Fig.2 - Relative Luminous Intensity vs. Forward Current

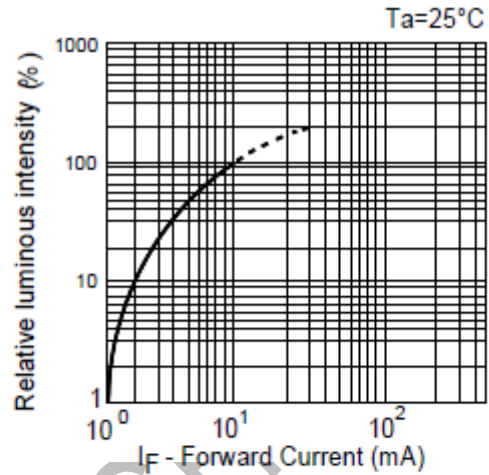


Fig.3-Relative Luminous Intensity vs. Junction Temperature

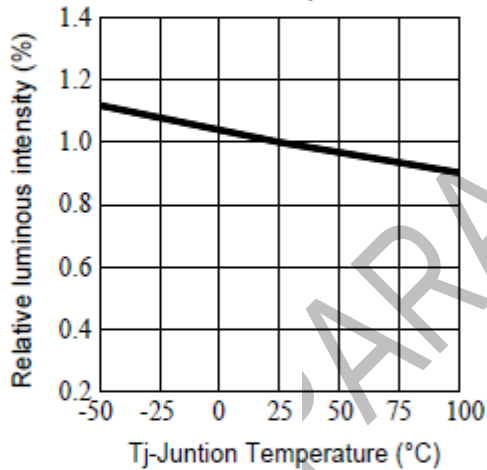


Fig.4-Forward Current vs. Forward Voltage Ta=25°C

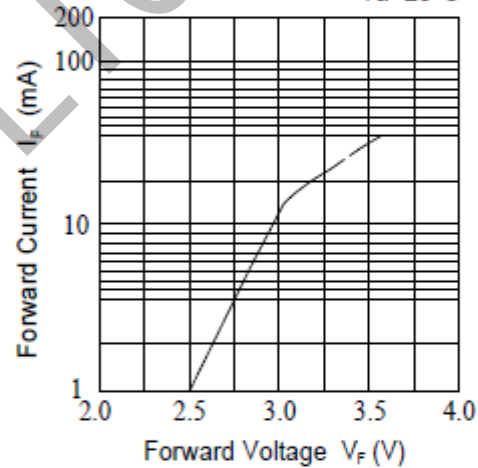


Fig.5-Max.Driving Forward Current vs. Soldering Temperature

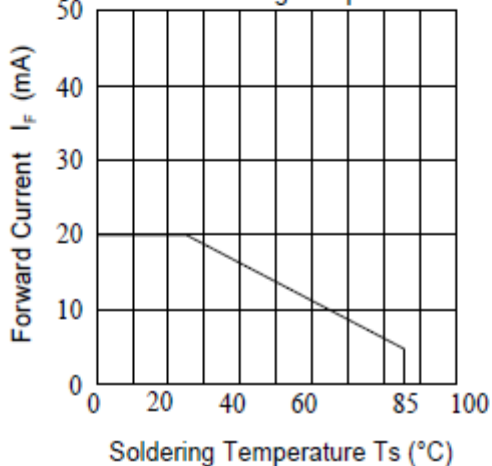
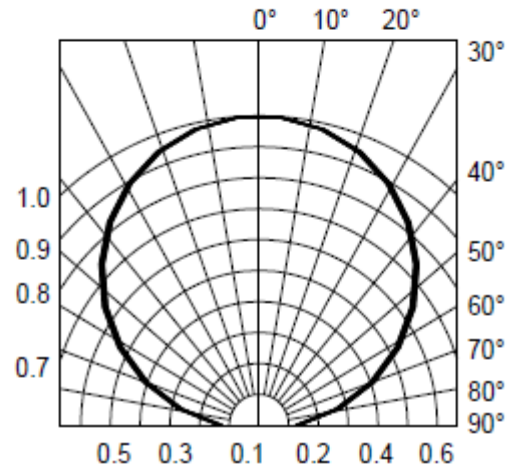


Fig.6-Radiation Diagram Ta=25°C



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Photoelectric parameters are divided into BIN specifications

Bin Range of Luminous Intensity				
Bin Code	Min.	Max.	unit	Condition
P23	175	210	mcd	IF = 5mA
P24	210	250		
P25	250	300		
P26	300	360		

Note: Tolerance of Luminous Intensity: $\pm 10\%$

Bin Range of Forward Voltage				
Bin Code	Min.	Max.	unit	Condition
VM	2.6	2.7	V	IF = 5mA
VN	2.7	2.8		

Note: Tolerance of Forward Voltage: $\pm 0.05V$

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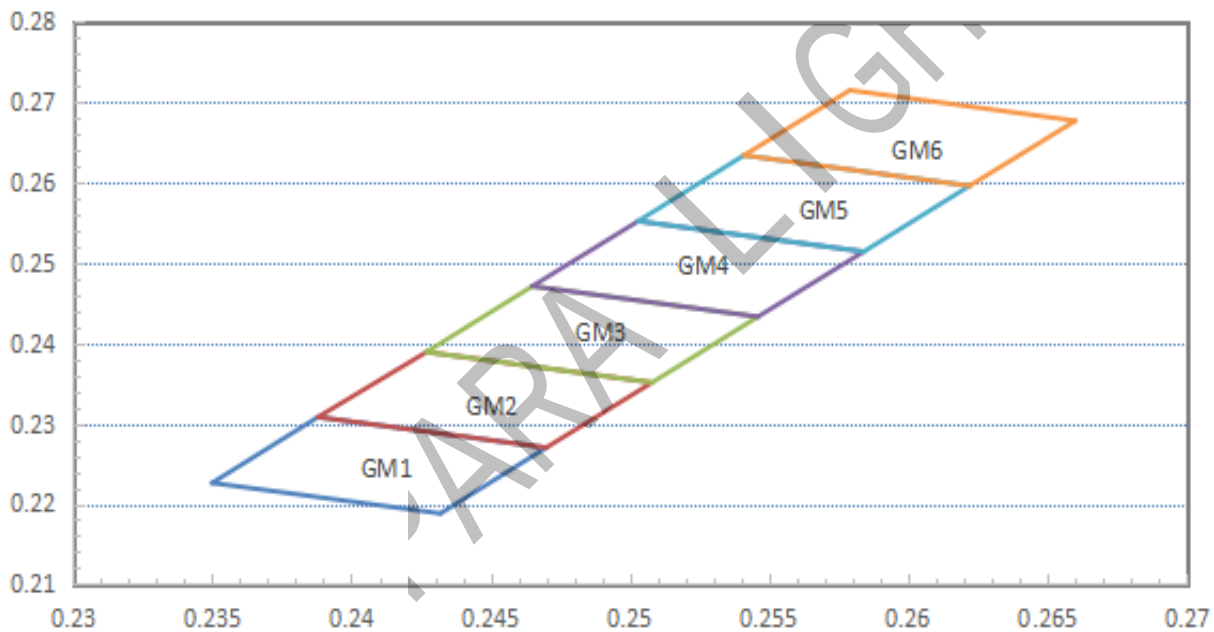
Bin Range of Chromaticity Coordinates

CIE	X1	Y1	X2	Y2	X3	Y3	X4	Y4	(K)
GM1	0.2432	0.2188	0.235	0.2226	0.2388	0.2308	0.247	0.227	51798-94456
GM2	0.247	0.227	0.2388	0.2308	0.2427	0.2389	0.2508	0.2351	34055-51798
GM3	0.2508	0.2351	0.2427	0.2389	0.2465	0.2471	0.2546	0.2433	24959-34055
GM4	0.2546	0.2433	0.2465	0.2471	0.2503	0.2552	0.2584	0.2514	19745-24959
GM5	0.2584	0.2514	0.2503	0.2552	0.2541	0.2634	0.2622	0.2596	16395-19745
GM6	0.2622	0.2596	0.2541	0.2634	0.2579	0.2715	0.266	0.2677	14126-16395

Note: 1. The value is based on driving current by 5mA.

2. Tolerance of Chromaticity Coordinates: ± 0.01

The C.I.E. 1931 Chromaticity Diagram

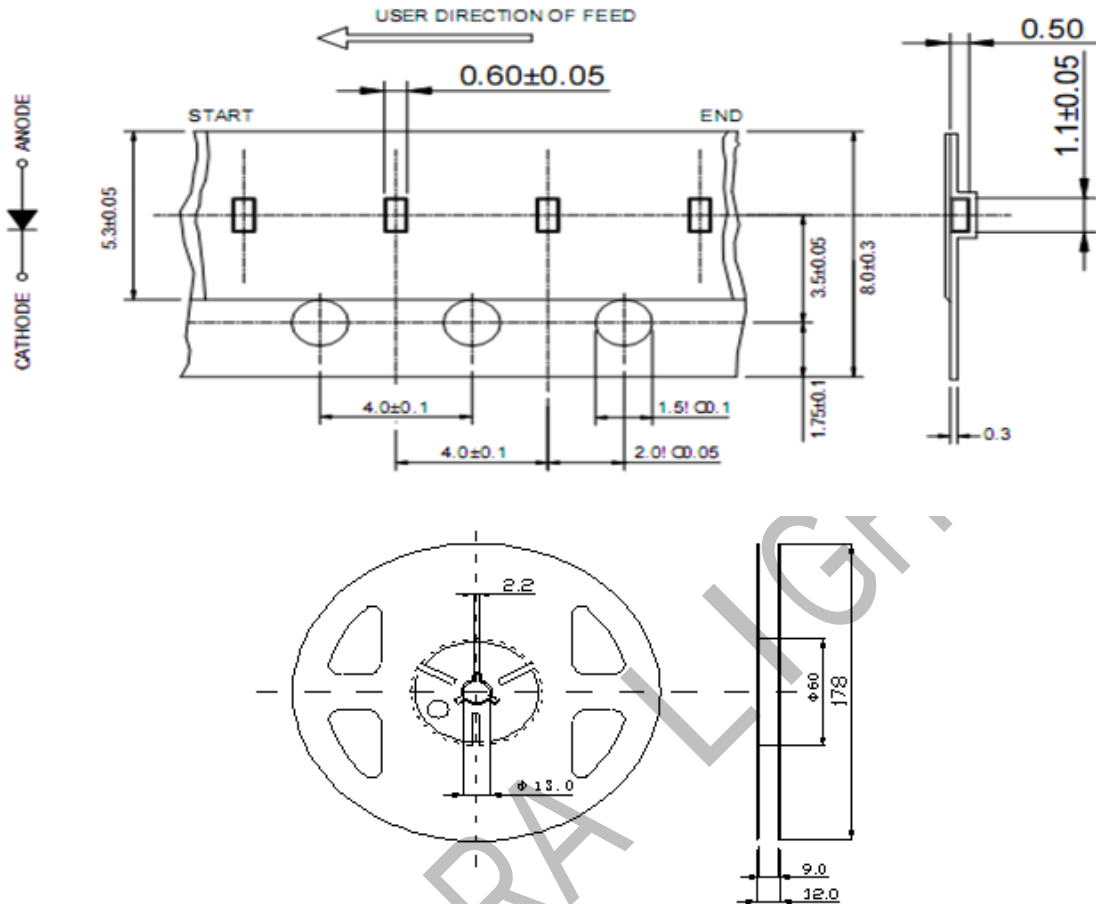


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Packing quantity: 4000 PCS/rolls



Note: Tolerances unless mentioned $\pm 0.1\text{mm}$, Unit=mm

Precautions for Use**1. Over-current-proof**

Customer must apply resistors for protection; otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Storage

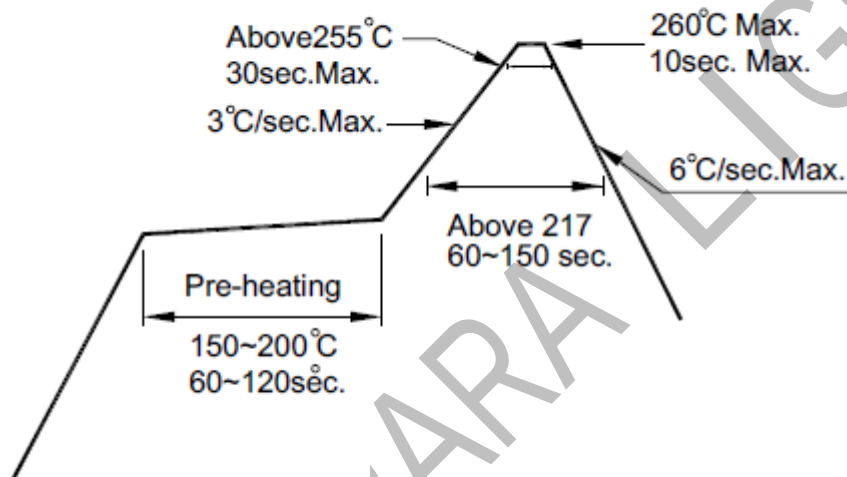
2.1 Do not open moisture proof bag before the products are ready to use.

2.2 Before opening the package: The LEDs should be kept at 30°C or less and 90%RH or less.

2.3 After opening the package: The LED's floor life is 1 year under 30°C or less and 60% RH or less. If unused LEDs remain, it should be stored in moisture proof packages.

2.4 If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.

Baking treatment: 60±5°C for 24 hours.

3. Soldering Condition**3.1 Pb-free solder temperature profile**

3.2 Reflow soldering should not be done more than two times.

3.3 When soldering, do not put stress on the LEDs during heating.

3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

5. Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.