SURFACE MOUNT LED TAPE AND REEL

Lead-Free Parts

LZIR9553

DATA SHEET

DOC. NO : QW0905-LZIR9553

REV. : B

DATE : 07 - Apr. - 2016

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立碁電子
DCC

Features:

1. Top view LED.
2. white SMT package.
3. Leadframe package with individual 2 pin.
4. Wide viewing angle.
5. Soldering methods:IR reflow soldering.
6. Feature of the device:more light due to higher optical efficiency;extremely wide viewing angle;ideal for backlighting and coupling in light guide.

Descriptions:

The LZIR9553 SMD has wide viewing angle and optimized light coupling by inter reflector,The low current requirement makes this device ideal for portable equipment or any other application where power is at a premium.

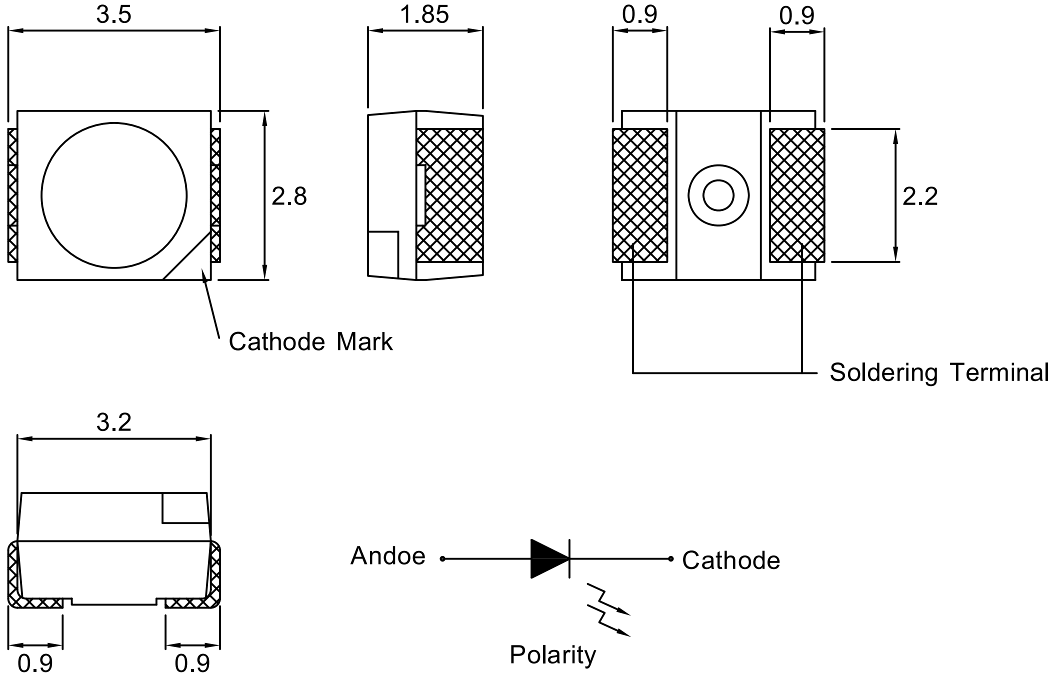
Applications:

1. Smoke detector.
2. VCR.
3. Optoelectronic Switch.
4. Sensor.

Device Selection Guide:

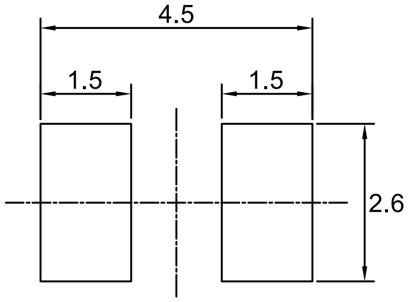
PART NO	MATERIAL	LENS COLOR
LZIR9553	GaAIAs	Water Clear

Package Dimensions



Note : 1.All dimension are in millimeter tolerance is ±0.2mm unless otherwise noted.
2.Specifications are subject to change without notice.

Recommended Soldering Pad Dimensions



Note : The tolerances unless mentioned is ±0.1mm,Angle±0.5. Unit=mm.

Absolute Maximum Ratings at Ta=25℃

Parameter	Symbol	Ratings	UNIT
		ZIR	
Power Dissipation	PD	100	mW
Peak Forward Current (300pps,10 μs Pulse)	I_{FP}	1	A
Forward Current	I_F	50	mA
Reverse Voltage	Vr	5	V
Operating Temperature	T_{opr}	- 40 ~ + 85	℃
Storage Temperature	Tstg	- 40 ~ + 100	℃

Typical Electrical & Optical Characteristics (Ta=25℃)

PARAMETER	SYMBOL	Min.	Typ.	Max.	UNIT	CONDITION
Radiant Intensity	Le	1.8	3.2	----	mW/sr	IF=20mA
Peak Emission Wavelength	λP	----	810	----	nm	IF=20mA
Spectral Line Half Width	△λ	----	50	----	nm	IF=20mA
Forward Voltage	V_F	1.2	----	1.7	V	IF=20mA
Reverse Current	IR	----	----	100	μA	VR=5V
Viewing Angle	2θ 1/2	----	120	----	deg	

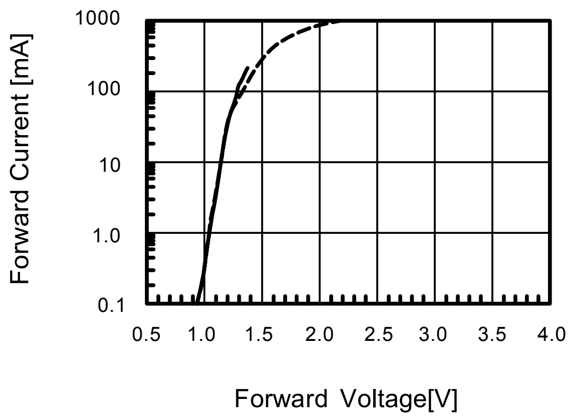
Note : 1.The Radiant intensity data did not including ±15% testing tolerance.

Luminous Intensity Classification

BIN CODE	Po(mw/sr) at 20mA	
	Min.	Max.
M	1.8	2.4
N	2.4	3.2
P	3.2	4.2
Q	4.2	5.5
R	5.5	7.2

Typical Electro-Optical Characteristics Curve

ZIR CHIP



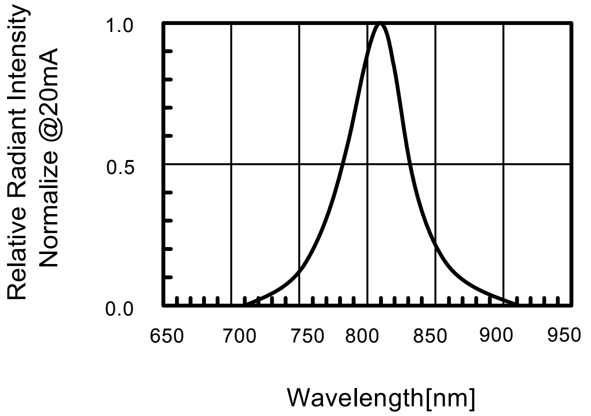


Fig 3. Relative Radiant Power vs. Forward Peak Current

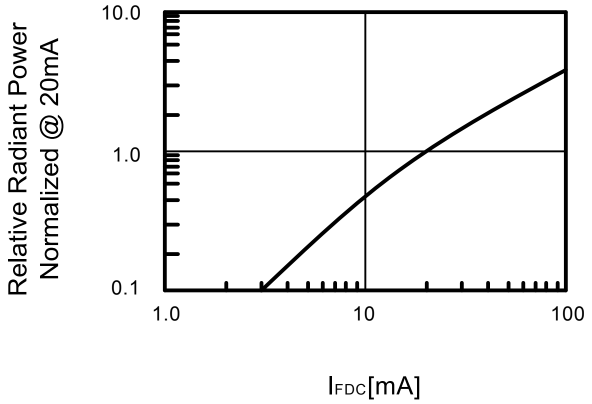


Fig.4 Relative Radiant Power vs. Forward Peak Current

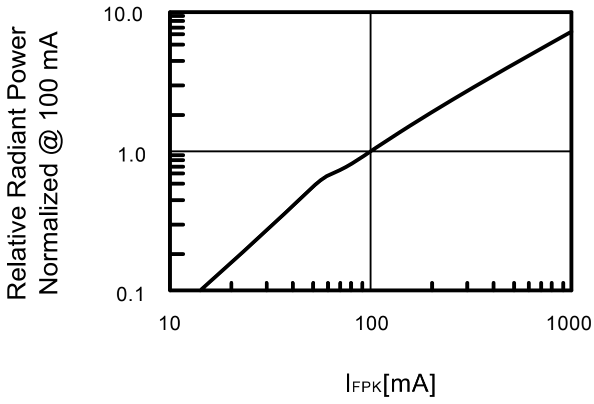


Fig.5 Forward DC Voltage vs. Temperature

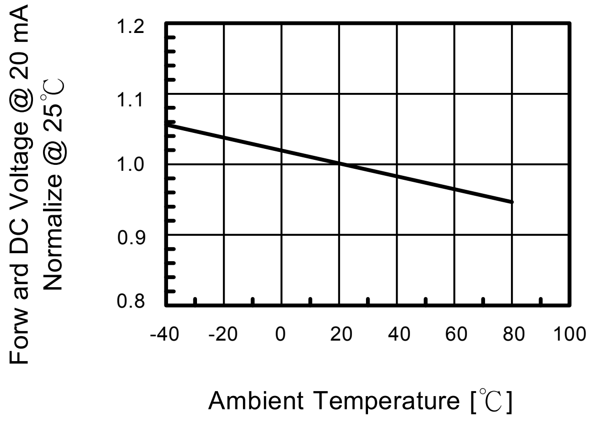
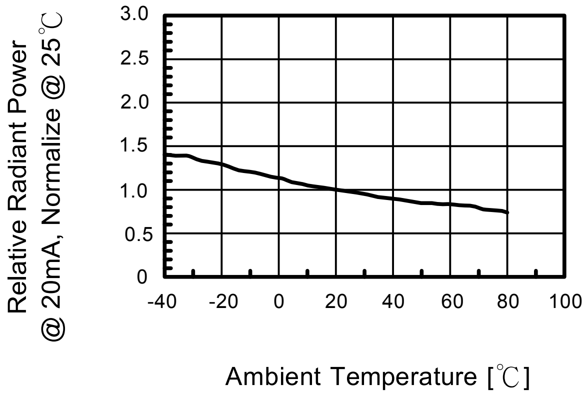
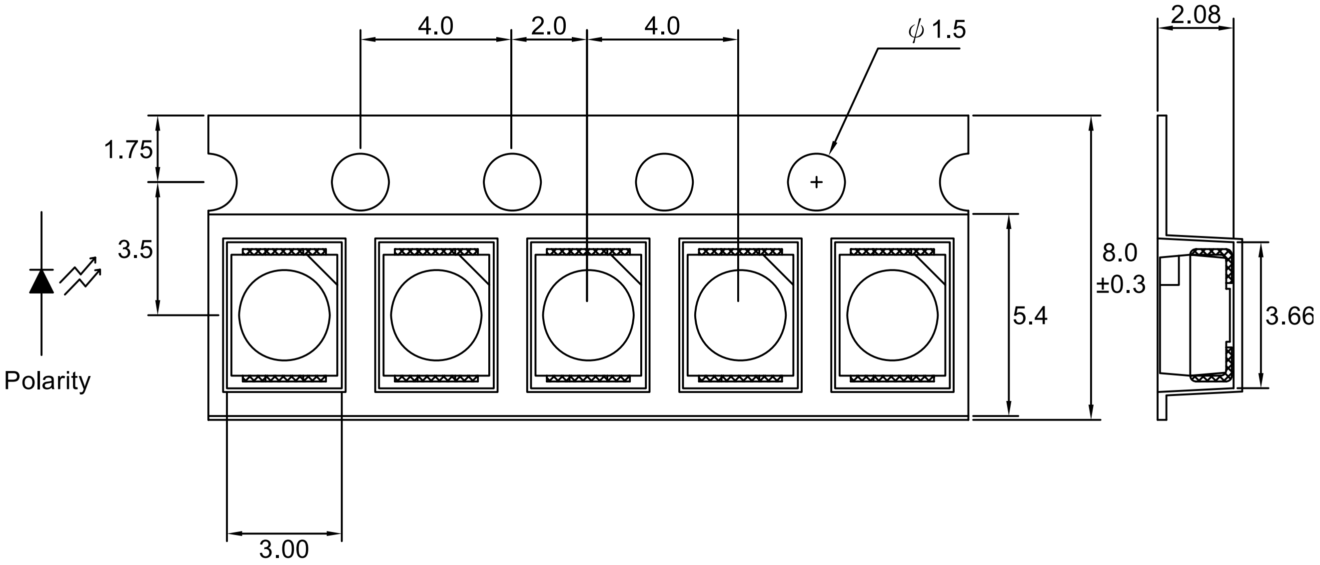


Fig.6 Relative Radiant Power vs. Temperature

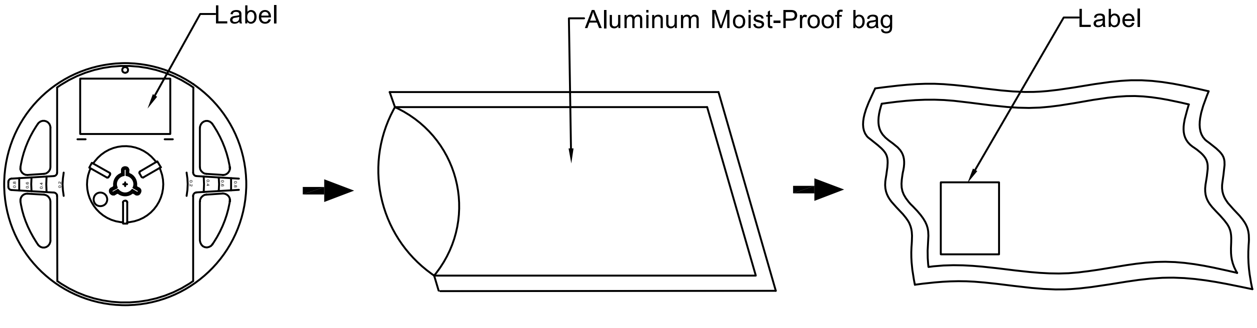


Carrier Type Dimensions



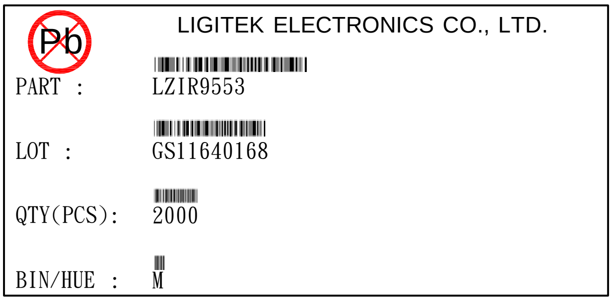
Note : The tolerances unless mentioned is ±0.1mm,Unit=mm.

• Packing Specifications



Part No.	Description	Quantity/Reel
LZIR9553	8.0mm tape,7"reel	2000 PCS

Label Explanation



Pb

LIGITEK ELECTRONICS CO., LTD.

PART : LZIR9553

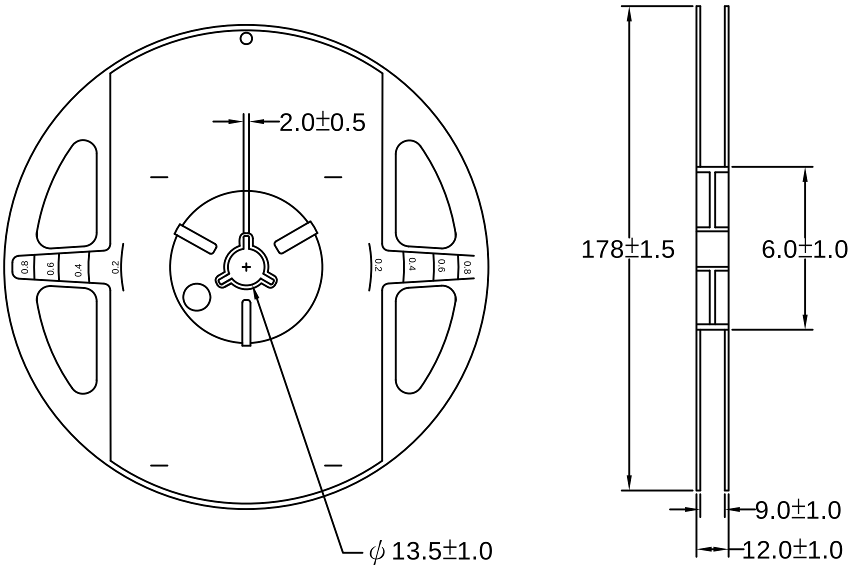
LOT : GS11640168

QTY(PCS): 2000

BIN/HUE : M

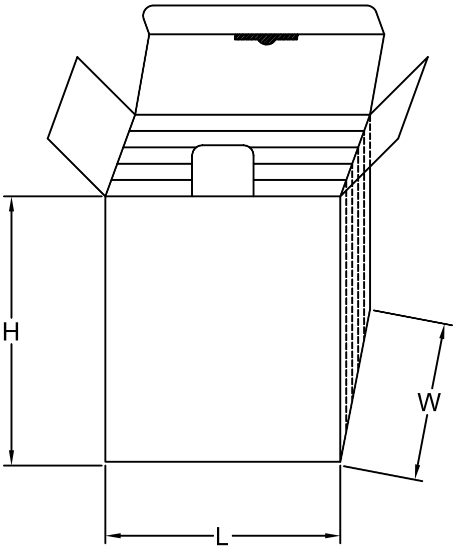
BIN : Radiant Intensity

Reel Dimensions

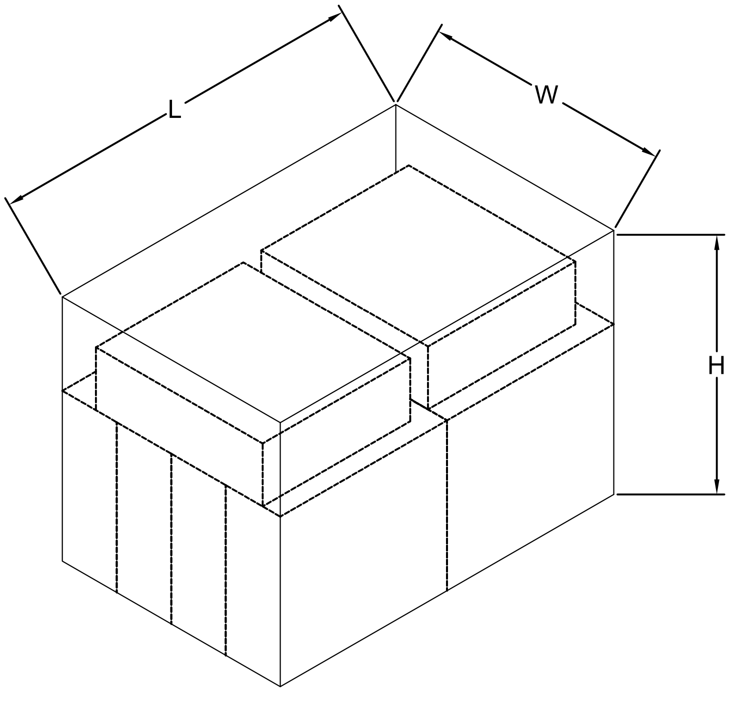


Box Explanation

1. 5 BAG / INNER BOX
2. INNER BOX SIZE : L X W X H 23cm X 8.5cm x 26cm



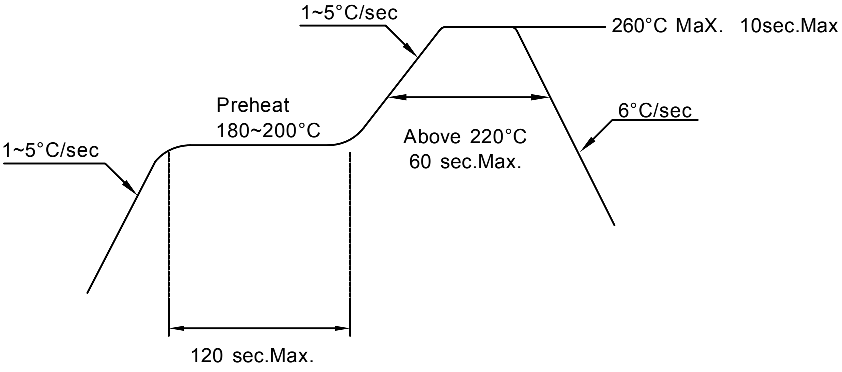
3. 10 INNER BOXES / CARTON
4. CARTON SIZE : L X W X H 58cm X 34cm x 35cm



Recommended Soldering Conditions

1. Hand Solder
   Basic spec is ≦ 320℃ 3 sec one time only.

2. PB-Free Reflow Solder



Note:
1.Reflow soldering should not be done more than two times.
2.When soldering,do not put stress on the LEDs during heating.
3.After soldering,do not warp the circuit board.

Precautions For Use:

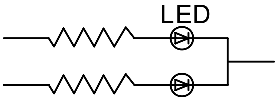
Storage time:

1. Calculated shelf life before opening is 12 months at < 30°C and < 90% relative humidity (RH)
2. After bag is opened, devices which will be subjected to reflow soldering or other high temperature processes must be
   - a) Assemblied within 168 hours in an environment of ≦ 30°C / 60% RH, or
   - b) Stored at ambient of 10% RH or less
3. Devices are required baking before assembly if:
   - a) Humidity Indicator Card reads >10% (for level 2a -5a) or >60% (for level 2) at ambient temperature 23±5°C
   - b) 2.a) or 2.b) doesn't meet
4. If baking is required, devices should be baked for >24 hours at 60±5°C.Performing baking only once, and using the baked devices within 72 hours.

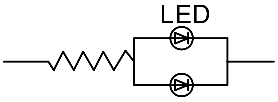
Drive Method:

LED is a current operated device, and therefore, requirer some kind of current limiting incorporated into the driver circuit. This current limiting typically takes the form of a current limiting resistor placed in series with the LED.
Consider worst case voltage variations than could occur across the current limiting resistor. The forwrd current should not be allowed to change by more than 40% of its desired value.

Circuit model A



Circuit model B



(A) Recommended circuit.
(B) The difference of brightness between LED could be found due to the VF-IF characteristics of LED.

Cleaning:

Use alcohol-based cleaning solvents such as isopropyl alcohol to clean the LED.

ESD(Electrostatic Discharge):

Static Electricity or power surge will damage the LED. Use of a conductive wrist band or anti-electrosatic glove is recommended when handing these LED. All devices, equipment and machinery must be properly grounded.

Reliability Test:

Classification	Test Item	Test Condition	Sample Size
Endurance Test	Operating Life Test	1.Ta=25°C 2.If=20mA 3.t=1000 hrs (-24hrs,+72hrs)	22
	High Temperature Storage Test	1.Ta=100°C±5°C 2.t=1000 hrs (-24hrs,+72hrs)	22
	Low Temperature Storage Test	1.Ta=-40°C±5°C 2.t=1000 hrs (-24hrs,+72hrs)	22
	High Temperature High Humidity Storage Test	1.Ta=85°C 2.RH=85% 3.t=1000hrs(-24hrs,+72hrs)	22
Environmental Test	Thermal Shock Test	1.Ta=100°C±5°C ~ -40°C±5°C 20min/ 10sec / 20min 2.total 100 cycles	22
	Temperature Cycling	1.100°C±5°C ~ -40°C±5°C 30mins / 5mins / 30mins 2.100 Cyeles	22
	IR Reflow	1.T=260°C Max. 10sec.Max. 2. 6 Min	22