

Sample Approval Sheet

Customer Name: Quiwi srl

Product Name: 3.5x2.8x1.9mm Super Blue SMD LED

Model: SLQTVAZ

Date: Oct.24, 2008

Prepared by	Checked by	Approved by	Marketing Dept.
Feiyu Liu	KH Chen	Landy Lan	Daisy Tsai

CUSTOMER CONFIRMATION		
Confirmed by	Checked by	Approved by

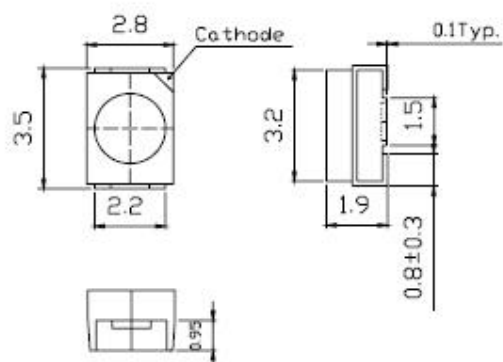
■ Features

- High Luminous PLCC2 Top SMD LEDs
- 3.5x2.8x1.9mm Standard Directivity
- Superior Weather-resistance
- UV Resistant Epoxy
- Water Clear Type

■ Applications

- Automotive Dashboard Lighting
- Small Area Illuminations
- Back Lighting
- Other Lighting
-

■ Outline Dimension

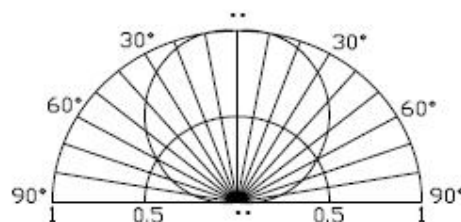


■ Absolute Maximum Rating

(Ta=25°C)

■ Directivity

Item	Symbol	Value	Unit
DC Forward Current	I_F	30	mA
Pulse Forward Current*	I_{FP}	100	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	108	mW
Operating Temperature	T_{opr}	-30 ~ +85	°C
Storage Temperature	T_{stg}	-40 ~ +100	°C
Lead Soldering Temperature	T_{sol}	260°C/5sec	-



*Pulse width Max. 10ms , Duty ratio max 1/10**

■ Electrical -Optical Characteristics

(Ta=25°C)

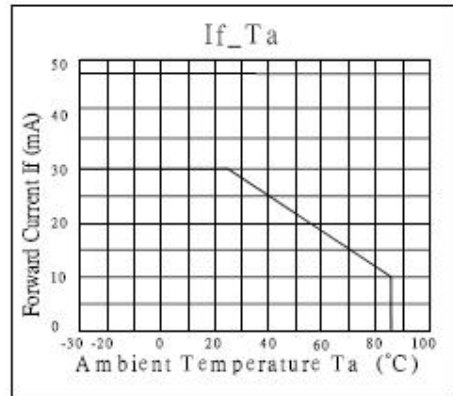
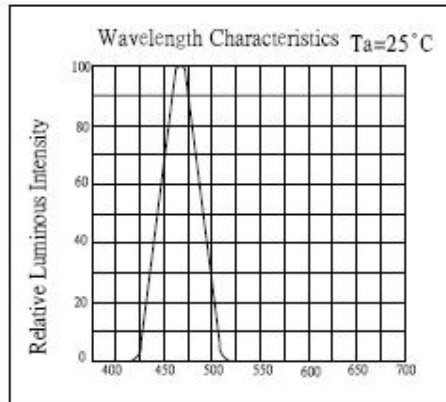
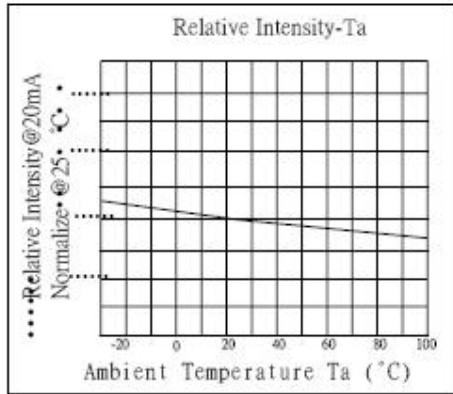
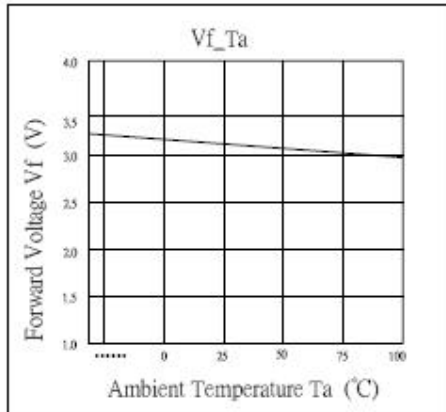
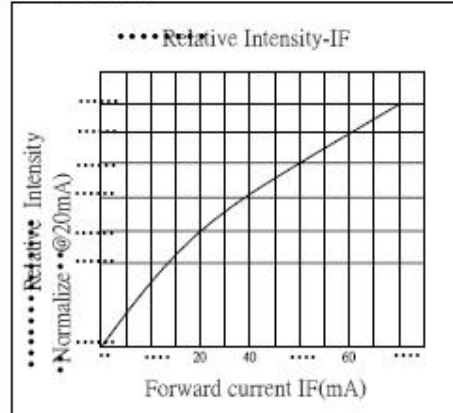
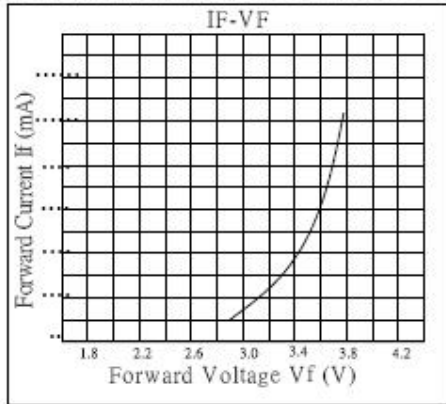
Item	Symbol	Condition	Min.	Typ	Max.	Unit
DC Forward Voltage	V_F	$I_F=20mA$	2.9	3.1	3.6	V
DC Reverse Current	I_R	$V_R=5V$	-	-	10	μA
Domi. Wavelength*	λ_D	$I_F=20mA$	465	470	475	nm
Luminous Intensity*	I_v	$I_F=20mA$	220	330	500	md
50% Power Angle	$2\theta_{1/2}$	$I_F=20mA$	-	120	-	deg

*1 Tolerance of dominant wavelength is $\pm 1nm$

*2 Tolerance of luminous intensity is $\pm 15\%$

InGaN LED

TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES



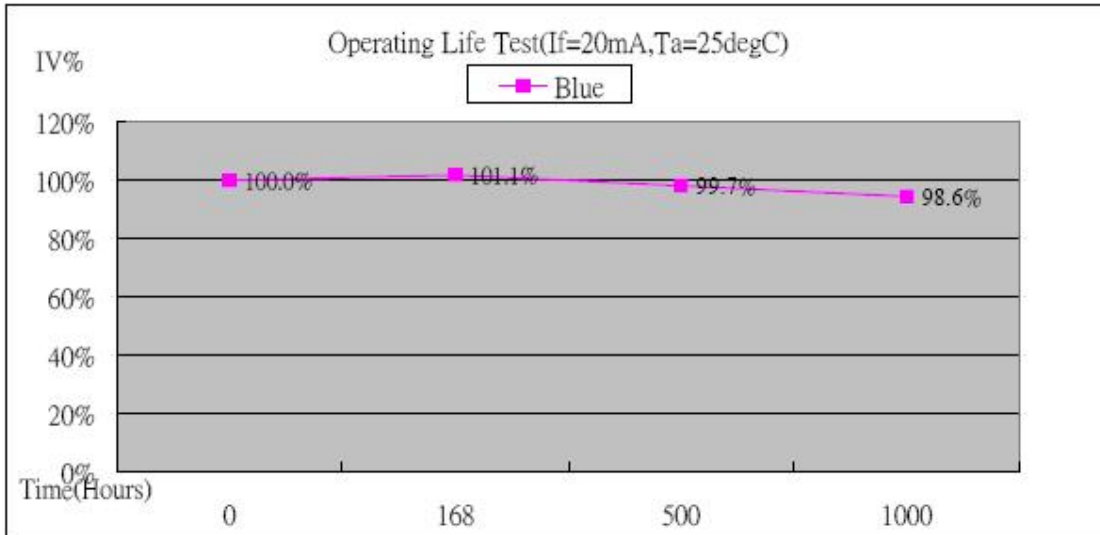
RELIABILITY TEST REPORT

CLASSIFICATION	TEST TIME	TEST CONDITON
ENDURANCE TEST	OPERATION LIFE	If: 20mA Ta: 25±5 TEST TIME=1000HRS(-24HRS,+72HRS)
	HIGH TEMPERTURE HIGH HUMIDITY STORAGE	R.H:90-95% Ta: 65±5°C TEST TIME=240HRS(+2HRS)
	HIGH TEMPERTURE STORAGE	Ta: 105±5°C TEST TIME=500HRS(-24HRS,+48HRS)
	LOW TEMPERTURE STORAGE	Ta: -55±5°C TEST TIME=500HRS(-24HRS,+48HRS)
ENVIRONMENTAL TEST	TEMPERTURE CYCLING	105°C ~25°C ~-55°C ~-25°C 60min 10min 60min 10min 20cycles
	THERMAL SHOCK	105°C ~-55°C 10min 10min 10cycles
	SOLDER RESISTANCE	Ta: 260±5°C TEST TIME=10±1sec
	SOLDERABILITY	Ta: 230±5°C TEST TIME=5±1sec

JUDGMENT CRITERIA OF FALURE FOR THE RELIABILITY

MEASURING ITME	SYMBOL	CONDITIONS	FAILURE
LUMINOUS INTENSITY	IV	IF=20mA	IV<0.5*INITIAL VALUE
FORWARD VOLTAGE	VF	IF=20mA	VF>1.2*INITIAL VALUE
REVERSE CURRENT	IR	Vr=5V	IR>2*SPEC

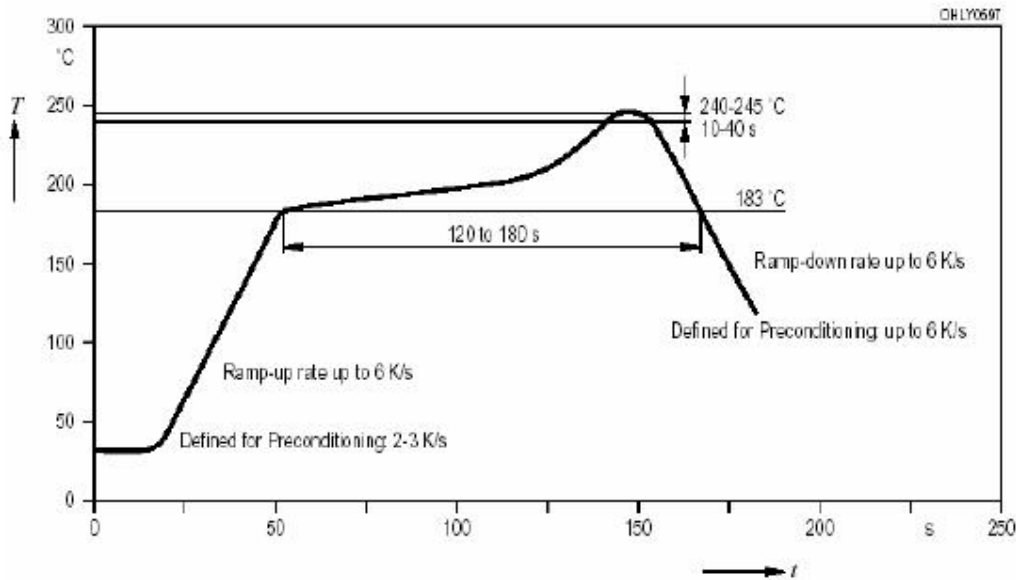
OPERATION LIFE TEST LUMINANCE RATE CURVE



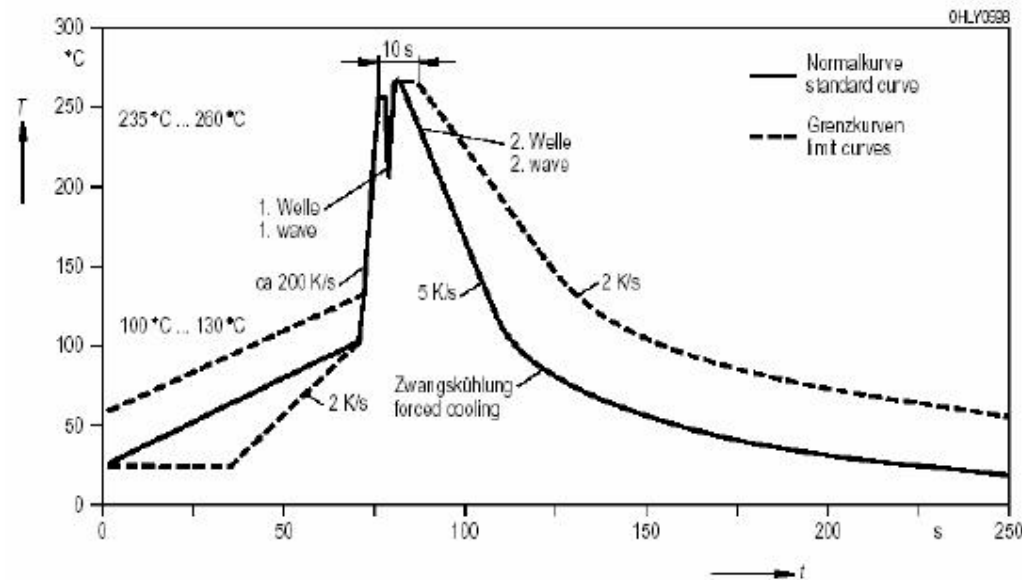
- *Burn-in condition: 20mA
- *Projection of Statistical Average Light Output Degradation Performance for LED Technology Extrapolated from OptoSupply QA Dept. Test Data.
- *According to OptoSupply outgoing Packaged Products Specification
- *MTBF:100,000hrs, 90% Confidence (A Failure is Any LED Which is Open, shorted or fails to Emit Light)
- *The Projected Data is Base on The Feature of LED Itself Under Normal Operation Conditions.
- *Any Improper Circuit Design or External Factors Might Cause a Different Result.

Soldering Heat Reliability (DIP):

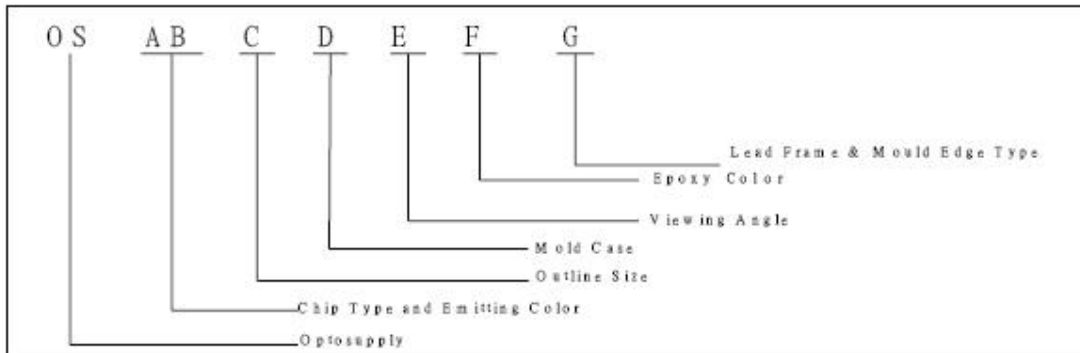
1. IR Reflow soldering Profile



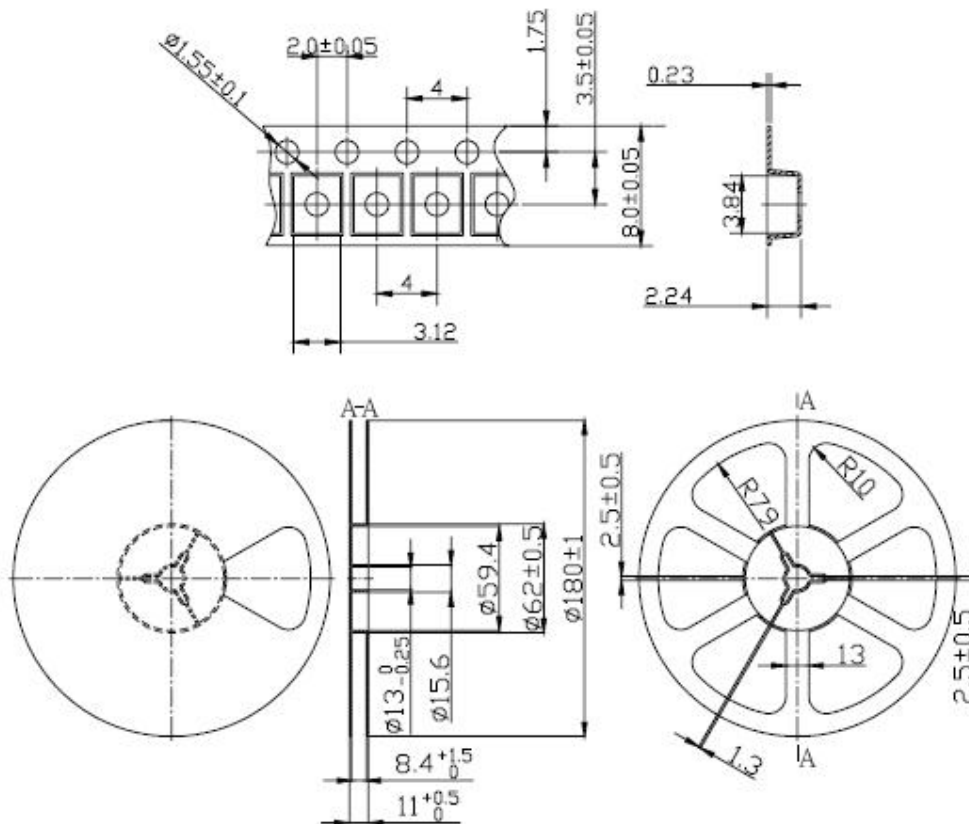
2. TTW Soldering:



PACKING PART NUMBER FORMATION



PACKING DIMENTIONS



Notes:

1. Unit: mm
2. 2000pcs/Reel