



QLSP1308YG-288 V1.0 ( 0603 Yellow-Green LED)





# **Product Outline:**

This is the much smaller than lead frame type components, thus enable smaller board size, higher packing density, reduced storage space and finally smaller equipment to be obtained.

# Features:

- Compatible with automatic placement equipment.
- RoHS compliant
- Compatible with infrared and vapor phase reflow solder process.
- Custom Bin available upon special request
- View angel typ. 100°
- 0.8mm Height

# **Application:**

- Backlighting in dashboard and switch.
- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD, switch and symbol.
- General use.

# **Compliance and Certification:**





## Mechanical Property: (Dimension)





Polarity



\* All dimensions are in millimeters,

\* Tolerances are ± 0.10mm.

# **Recommended Solder footprint:**



\* All dimensions are in millimeters.

\* Reflow soldering must not be performed more than twice.





# **Characteristics**

# Absolute Maximum Ratings

■ Absolute Maximum Ratings (Ta			
Parameter	Symbol	Rating	Unit
Reverse Voltage	VR	5	V
DC Forward Current	lf	25	mA
Pulse Forward Current (Duty 1/10 @1KHz)	FP	60	mA
Total Power Dissipation	Pd	60	mW
Electrostatic Discharge (HBM)	ESD	2000	V
Storage Temperature	Tstg	-40 ~ 90	°
Operation Temperature	Topr	-40 ~ 85	°
Soldering Temperature	Tsol	260 < 10 sec	°C

(1) Proper current rating must be observed to maintain junction temperature below maximum at all time

# Electrical / Optical Characteristic

(Ta=25 oC)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Condition
Luminous Intensity	lv	57		112	mcd	
Peak Wavelength	λp		575		nm	I= 20m A
Dominant Wavelength	λd	569.5		575.5	nm	IF=20MA
Forward Voltage	Vf	1.75		2.35	V	
View Angle	θ		100		deg	

(1). Tolerance of Luminous Intensity: ±11%

(2). Tolerance of Dominant Wavelength ±1nm

(3). Tolerance of measurement: VF=+/-0.1V





# ■ Groups Forward Voltage (VF) Bin:

VF Rank (V)				Condition
Color	Code name	Low	High	unit
	0	1.75	1.95	
Yellow Green	1	1.95	2.15	IF=20mA
	2	2.15	2.35	

### Luminous Intensity Bin:

Rank (mcd)				Condition
Color	Code name	Low	High	Unit
	P2	57	72	
Yellow Green	Q1	72	90	IF=20mA
	Q2	90	112	

### Dominant Wavelength Bin:

Rank (nm)				Condition
Color	Code name	Low	High	Unit
	C16	569.5	571.5	
Yellow Green	C17	571.5	573.5	IF=20mA
	C18	573.5	575.5	





# **Characteristic Curves**





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Forward Current Derating Curve (mA) Forward Current Ambient Temperature Ta (\*C)



# Reliability test:

No	ltem	Condition	Time/Cycle	Sample size
1	Steady State Operating Life of Room Temperature	25℃ Operating	1000 Hrs	20 pcs
2	Steady State Operating Life of Low Temperature -40 $^\circ\!\!\mathbb{C}$	-40°C Operating	1000 Hrs	20 pcs
3	Steady State Operating Life of Low Temperature $60^\circ\!\!\mathbb{C}$	60℃ Operating	1000 Hrs	20 pcs
4	Steady State Operating Life of Low Temperature 85 $^\circ\!\mathrm{C}$	85℃ Operating	1000 Hrs	20 pcs
5	Low temperature storage -40 $^\circ\!\mathrm{C}$	-40°C Storage	1000 Hrs	20 pcs
6	High temperature storage 100 $^\circ\!\!{ m C}$	100°C Storage	1000 Hrs	20 pcs
7	Steady State Operating Life of High Humidity Heat $60^\circ C$ 90%	60°C/90% Operating	1000 Hrs	20 pcs
8	Steady State Pulse Operating Life Condition	25°C10Hz duty=1/10 Operating	200 Cycle	20 pcs
9	Resistance to soldering heat on PCB (JEDEC MSL3)	pre-store@60℃, 60%RH for 52hrs Tsld max.=260 10sec	3 Times	20 pcs
10	Heat Cycle Test (JEDEC MRC)	25℃~65℃~-10℃, 90%RH, 24hr/1cycle	10 Cycle	20 pcs
11	Thermal shock	-40℃/ 20minr~ 5minr~100℃ /20min	300 Cycle	20 pcs





# Judgment Criteria:

ltem	Symbol	Test Condition	Judgment Criteria
Forward Voltage	Vf		∆Vf< 10%
Luminous Flux	lv	K · IF=20 MA	∆lv< 30%

# **Solder Profile:**

-The recommended reflow soldering profile is as follows (temperatures indicated are as measured on the surface of the LED resin):

- 1. Operating temp.: Above 220  $^{\circ}$ C ,60 sec.
- 2. Peak temp.:260 °C Max.,10sec Max.
- 3. Reflow soldering should not be done more than two times.
- 4. Never attempt next process until the component is cooled down to room temperature after reflow.
- 5. The recommended reflow soldering profile (measured on the surface of the LED terminal) is as following:

Lead-free Solder Profile





#### Reworking

- Rework should be completed within 5 seconds under 260°C.
- The iron tip must not come in contact with the copper foil.
- Twin-head type is preferred.

# **Taping & Packing:**



Unit : mm







# **Ordering Information:**

Part #	Multiple Quantities	Quantity per Reel
		_04,0 80.50.



#### QLSP1308YG-288 V1.0

QLSP1308YG-288	3000 pcs

# **Revision History:**

Revision Date:	Changes:	Version #:
03-13-2021	Initial release	1.0

