



QLSP05WCWW



■ Product Outline:

This high output reflector type 2835S LEDs are available in Dual white color (cold white and Warm white) to suit customer's application. These 0.5W LEDs are equipped with heat sink to enhance operating performance. With special binning technology, these LEDs are ideal for architecture lighting and special lighting needs.

■ Features:

- High brightness output @ 20mA
- Max. current @ 60mA
- Package Dimension = 3.8mmX2.8mmX0.65mm
- RoHS compliant
- Custom Bin available upon special request

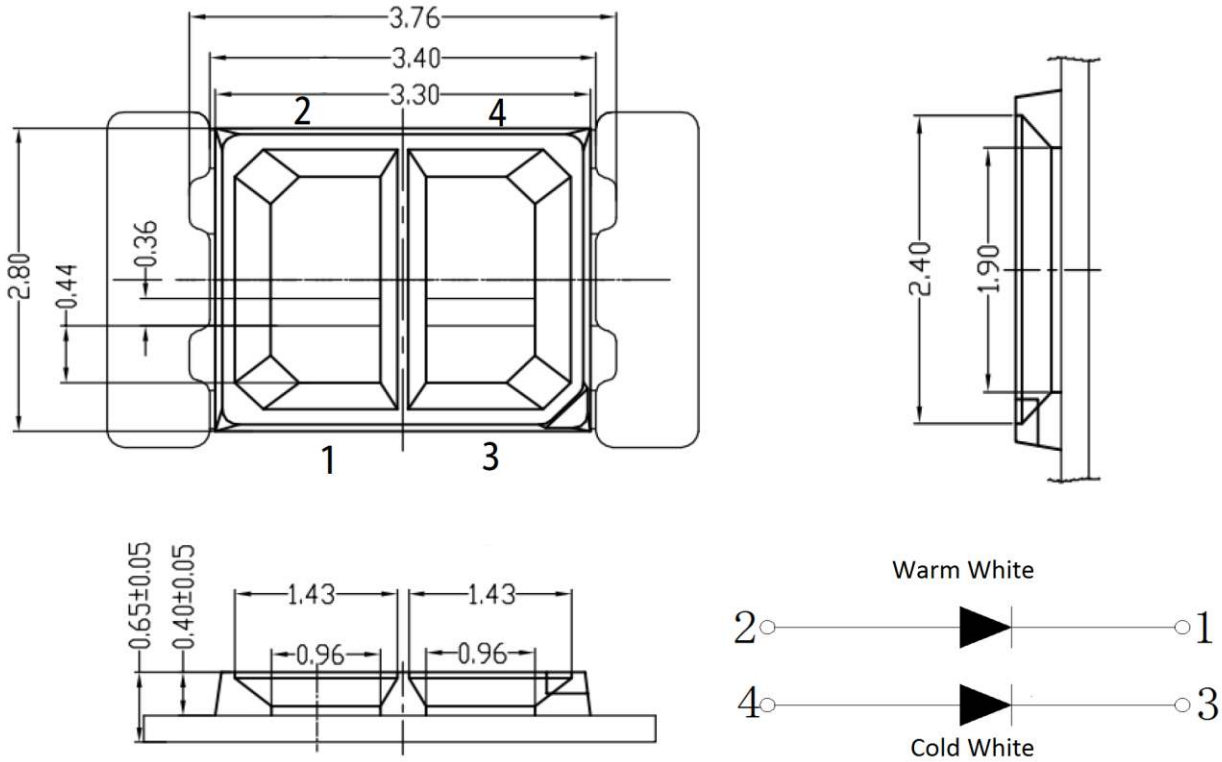
■ Application:

- Architecture Lighting
- Tube Lighting
- Interior Lighting
- General Lighting

Compliance and Certification:

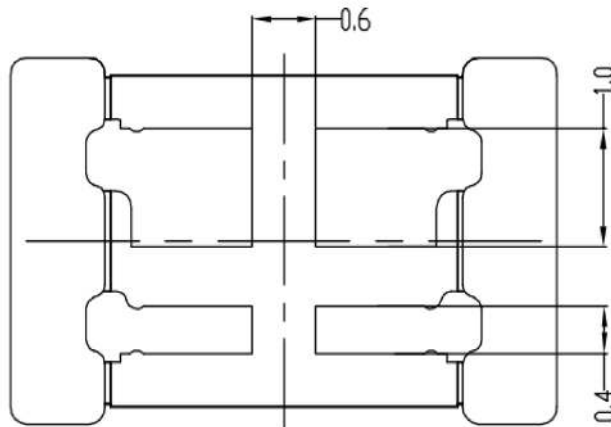


**■ Mechanical Property:
(Dimension)**



Unit: mm

Recommended Solder footprint:



■ Electrical / Optical Characteristic

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward voltage ⁽¹⁾	V _f	I _f =20mA	2.8	-	3.4	V
Color Rendering Index ⁽²⁾	R _a		70	-	-	-
View angle	θ		-	120	-	Deg
Thermal Resistance ⁽³⁾	R _{th}		-	25	-	°C/W

(1) The forward voltage tolerance is $\pm 0.1V$

(2) The Color Rendering Index tolerance is ± 2

■ Performance at Commonly Used Drive Currents

Product	Color	Color range (CCT)	Drive Current ¹ (mA)	Typical V _f T _{sp} = 25°C (V)	Viewing Angle (Degree)	Typical Pulsed Flux ² T _{sp} = 25°C (lm)
QLSP05WCWW	Warm white	2800-3200	20	3.2	120	23
QLSP05WCWW	Cold white	6000-6500	20	3.2	120	23

■ Absolute Maximum Rating

(T=25 °C)

Part #	P _d (mW)	I _F (mA)	I _{FP} (mA)*	V _R (V)	T _{OP} (°C)	T _{ST} (°C)	T _{SOL} (°C)**
QLS05WCWW	200	60	100	5	-40 – 85	-40 - 85	260

*Duty 1/10 @ 10Khz

** IR Reflow for no more than 10 sec @ 250 °C



■ Binning

Luminous Flux Bin:

lm rank (lm) @ 20mA			
Code name	Low	High	Unit
QJ	20	22.5	lm
QK	22.5	25	
QL	25	28	

The luminous flux tolerance is $\pm 10\%$

Forward Voltage (V_F) Bin:

VF rank @ 20mA			
Code name	Low	High	Unit
			V
2	3	3.1	
3	3.1	3.2	
4	3.2	3.3	
5	3.3	3.4	
6	3.0	3.4	

The forward voltage tolerance is $\pm 0.1V$

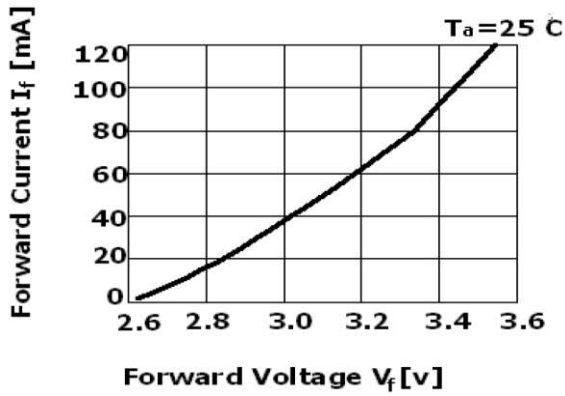


Color Bin (CCT) :

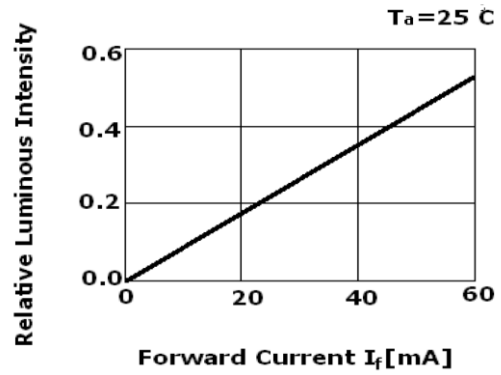
lm rank (lm) @ 20mA			
Code name	Low	High	Unit
WW	2800	3200	CCT
WC	6000	6500	



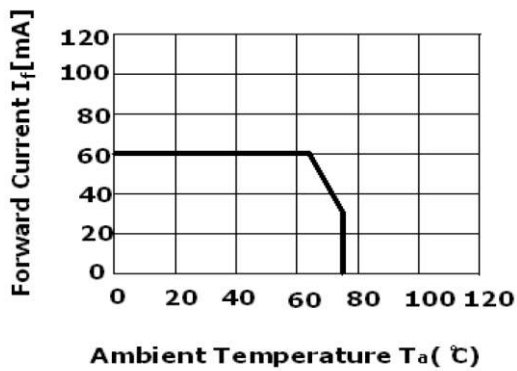
■ Characteristic Curves



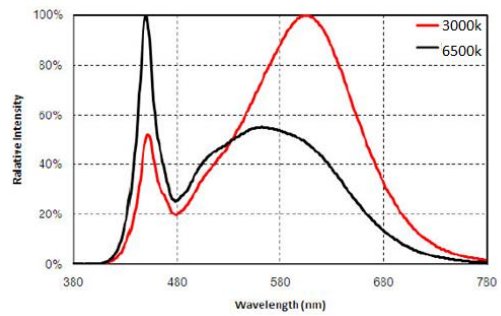
Forward Voltage vs. Forward Current



Forward current vs. Relative luminous intensity

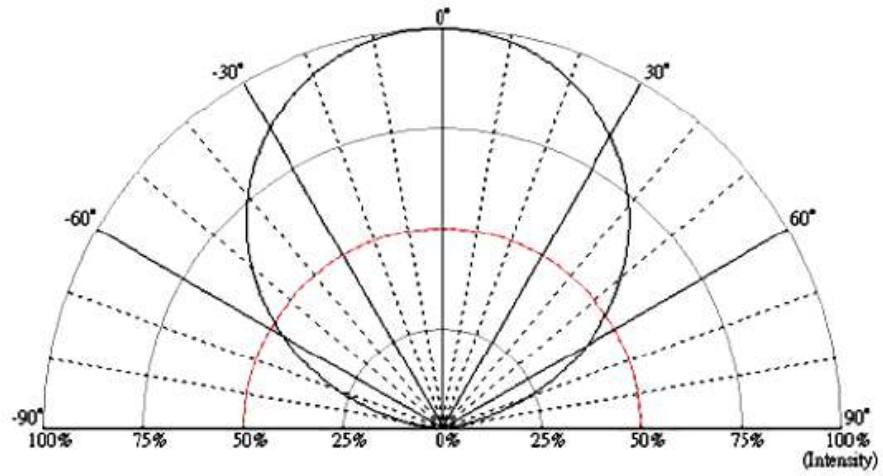


Ambient Temp VS Forward Current



Spectrum Distribution





Radiation Pattern



■ Reliability test:

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

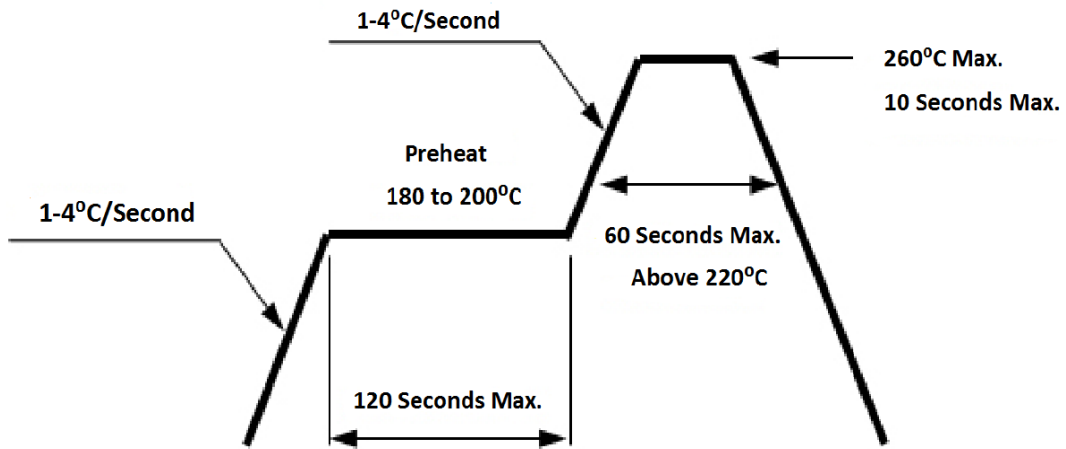
■ Judgment Criteria:

Item	Symbol	Test Condition	Judgment Criteria
Forward Voltage	Vf	150 mA	$\Delta Vf < 10\%$
Luminous Flux	Iv	150 mA	$\Delta Iv < 30\%$

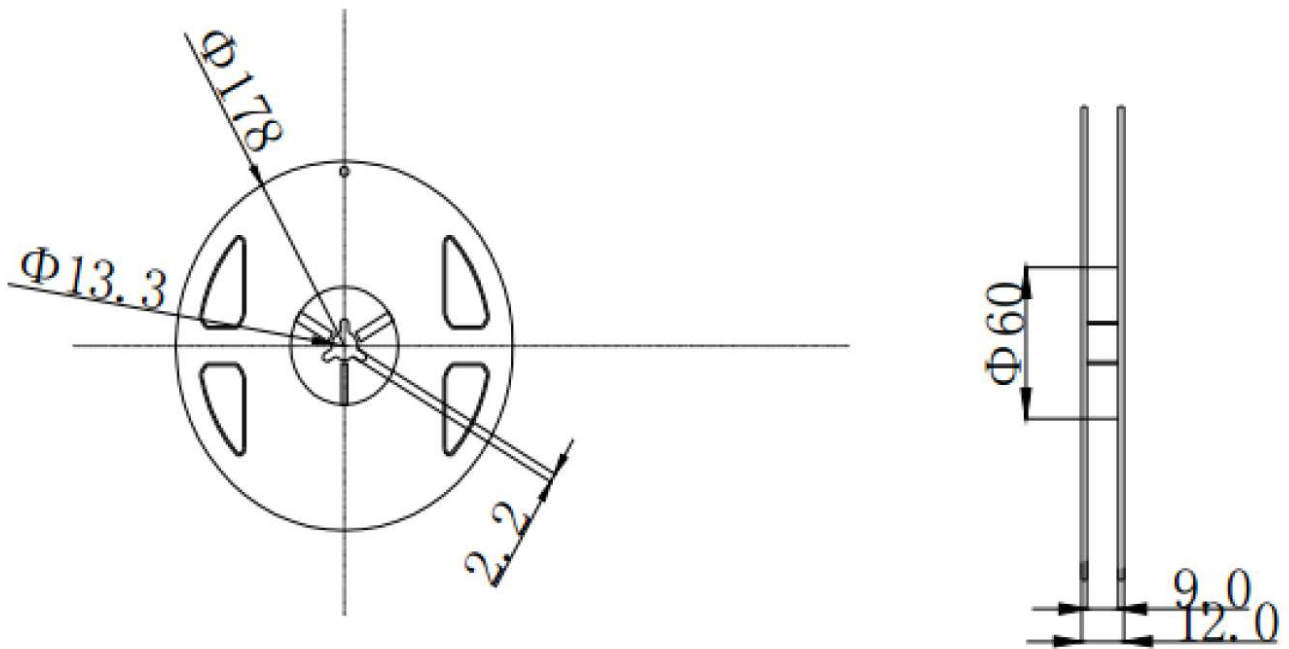
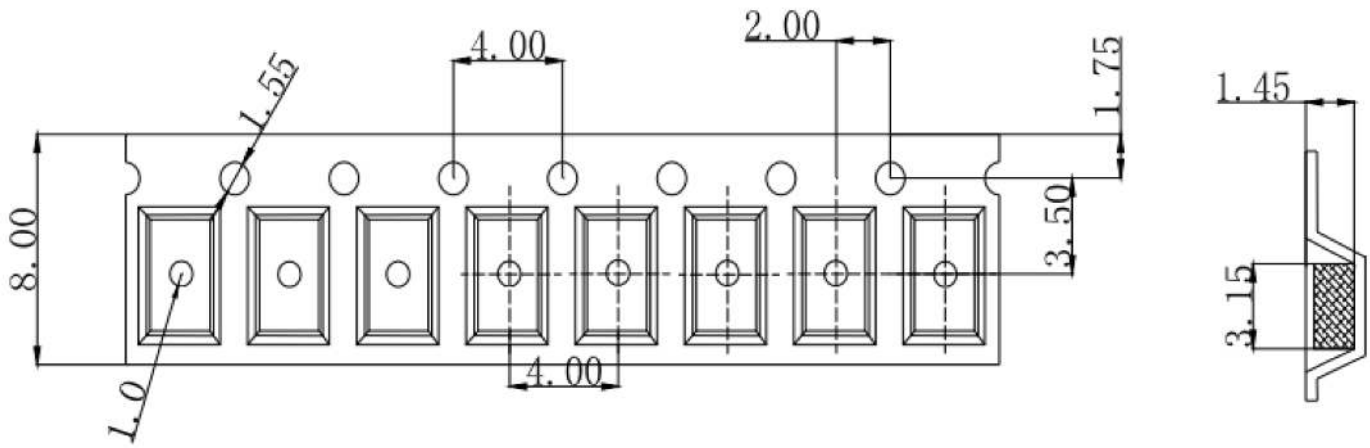


■ Solder Profile:

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




■ Taping & Packing





Unit : mm




Labeling


Quantity: XXXX





Quelighting P/N: XXXXXX



Lot number: XXXXX

Iv Bin: XX

Color Bin: XX

Vf Bin: XX

Date Code: XXXX

Ordering Information:

Part #	Multiple Quantities	Quantity per Reel
QLSP05WCWW		4000 pcs



Revision History:

Revision Date:	Changes:	Version #:
08-10-2020	Initial release	1.0

