

SINGLE DIGIT SMD DISPLAY (0.39")



LSSD305/6DBK-XX

DATA SHEET

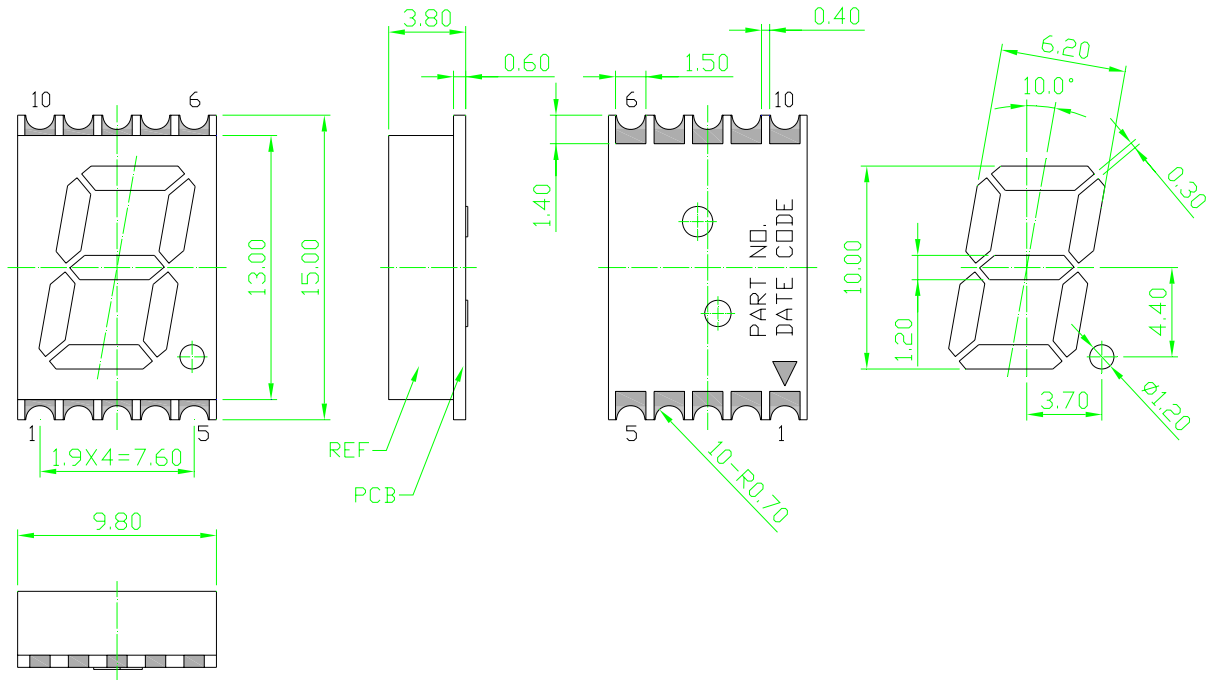
DOC.NO : QW0905- LSSD305/6DBK-XX

REV. : A

DATE : 03 – Jul. – 2013

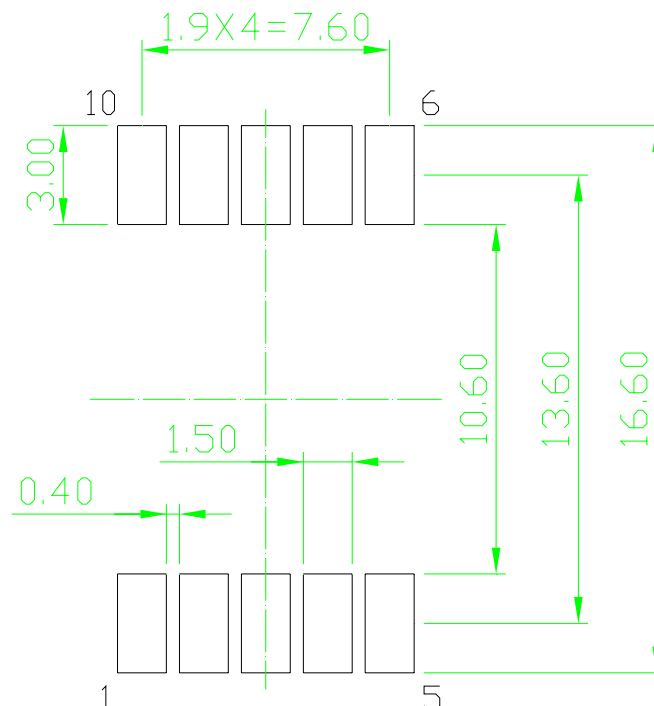


Package Dimensions

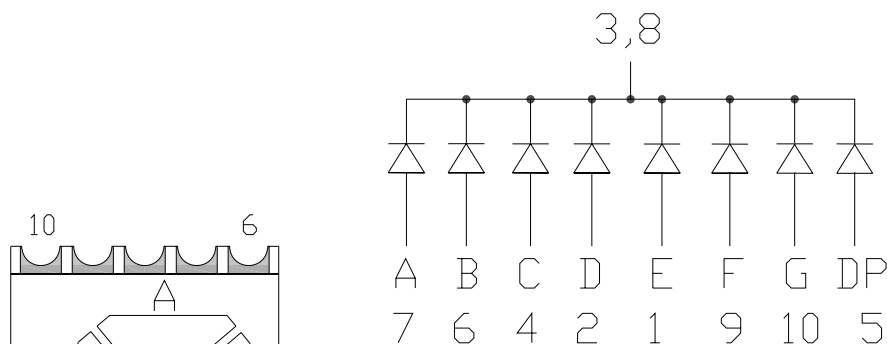


NOTE:
Dimension in millimeters (inches),
And tolerance are $\pm 0.25\text{mm}$ (.01") specified.

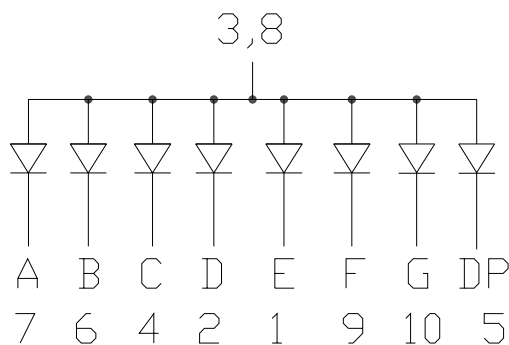
Recommended Soldering Pad Dimensions



Internal Circuit Diagram



LSSD305DBK-XX (Common Cathode)



LSSD306DBK-XX (Common Anode)

Electrical Connection

PIN NO.	LSSD305DBK-XX	PIN NO.	LSSD306DBK-XX
1	Anode E	1	Cathode E
2	Anode D	2	Cathode D
3	Common Cathode	3	Common Anode
4	Anode C	4	Cathode C
5	Anode DP	5	Cathode DP
6	Anode B	6	Cathode B
7	Anode A	7	Cathode A
8	Common Cathode	8	Common Anode
9	Anode F	9	Cathode F
10	Anode G	10	Cathode G

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Ratings	UNIT
Power Dissipation	PD	120	mW
Peak pulse current Duty 1/10@10KHz	I _{FP}	100	mA
Forward Current Per Chip	I _F	30	mA
Debating liner from 25°C per segment	---	0.3	mA / °C
Storage Temperature	T _{stg}	-40 ~ +105	°C
Operating Temperature	T _{opr}	-40 ~ +105	°C
Soldering Temperature	T _p	260	°C

Typical Electrical & Optical Characteristics (Ta=25°C)

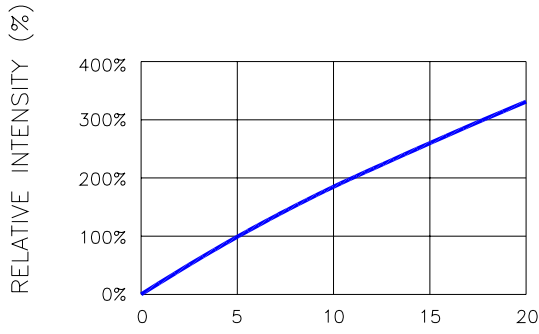
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	IV	----	40	----	mcd	IF=20mA
Dominant Wavelength	λ D	----	470	----	nm	IF=20mA
Spectral radiation bandwidth	Δλ	----	30	----	nm	IF=20mA
Forward Voltage	VF	----	3.2	4.0	V	IF=20mA
Reverse Current	I _r	----	----	10	μA	VR=5V

Note : 1.The forward voltage data did not including ±0.1V testing tolerance.
2.The luminous intensity data did not including ±15% testing tolerance.

Typical Electro-Optical Characteristics Curve

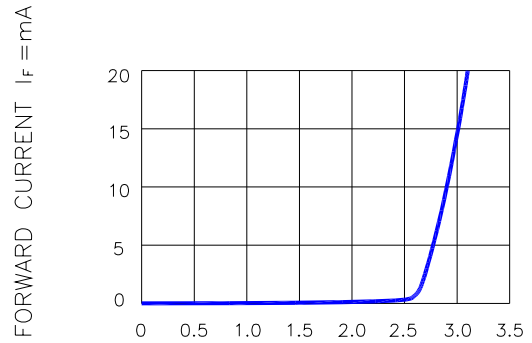
(25 °C Free Air Temperature Unless Otherwise Specified)

DBK: Super Bright RED (InGaN) CURVE



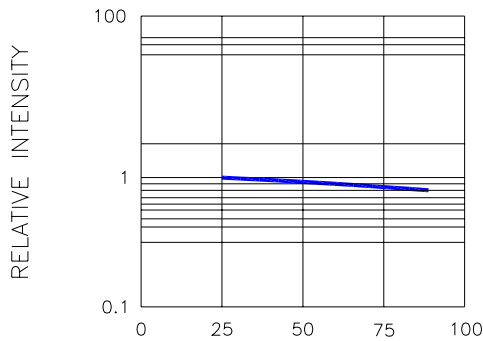
$I_F @ 20\text{mA}$ (mA)

Fig.1 RELATIVE INTENSITY VS. FORWARD CURRENT



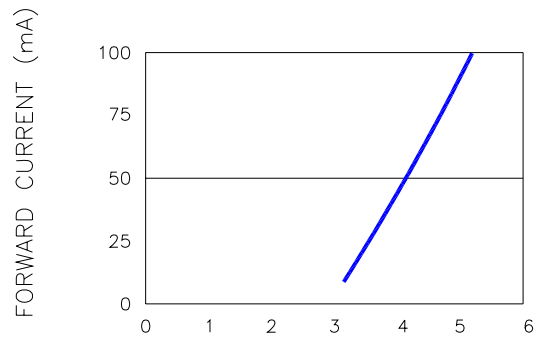
FORWARD VOLTAGE (V)

Fig.2 FORWARD CURRENT VS. FORWARD VOLT.



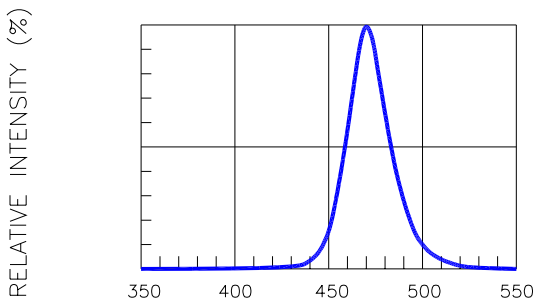
LEAD TEMPERATURE(°C)

Fig.3 RELATIVE INTENSITY VS.LEAD TEMPERATURE
(PULSED 20 mA; 300us
PULSE,10ms PERIOD)



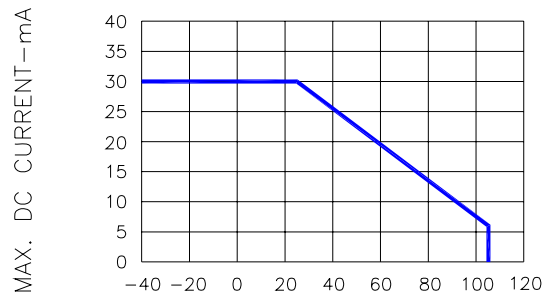
FORWARD VOLTAGE(V)

Fig.4 PEAK FORWARD VOLTAGE
VS.FORWARD(100us TEST PULSE,
1% DUTY CYCLE)



WAVELENGTH (nm)

Fig.5 RELATIVE INTENSITY VS. WAVELENGTH



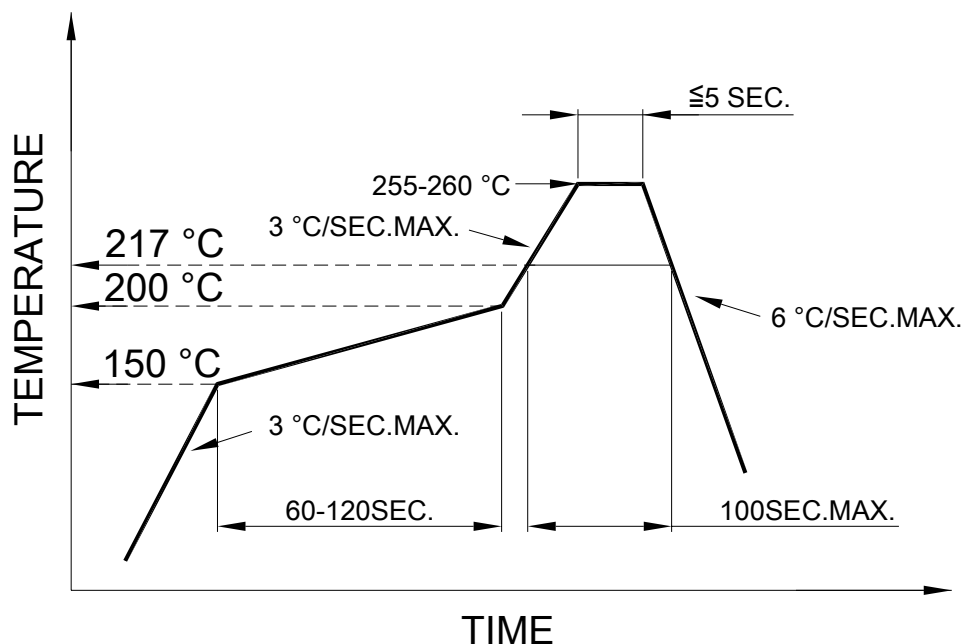
AMBIENT TEMPERATURE (TA)-°C

Fig.6 MAX. ALLOWABLE DC CURRENT
VS. AMBIENT TEMPERATURE

SMT REFLOW SOLDERING INSTRUCTIONS

SMT Soldering Profile

Pb free reflow soldering Profile



SOLDERING IRON

Basic spec is ≤ 4 sec when 260°C. If temperature is higher, time should be shorter (+10°C→1 sec). Power dissipation of Iron should be smaller than 15W, and temperature should be controllable. Surface temperature of the device should be under 230°C.

REWORK

Customer must finish rework within 3 sec. under 350°C.

The head of soldering iron cannot touch copper foil.