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FOUR DIGIT SMD DISPLAY (0.28")

LSFD215/66F-XX

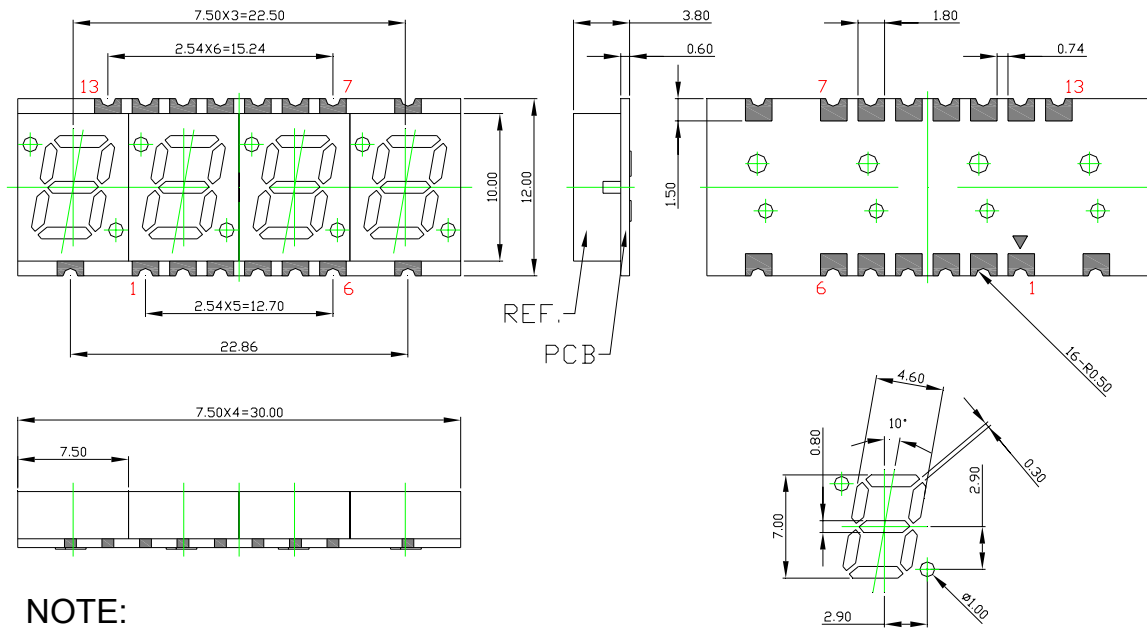
DATA SHEET

DOC.NO : QW0905- LSFD215/66F-XX

REV. : B

DATE : 18 – Jan. – 2016

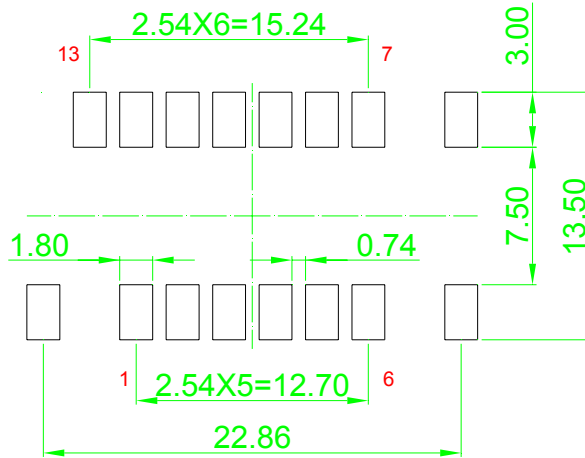
Package Dimensions



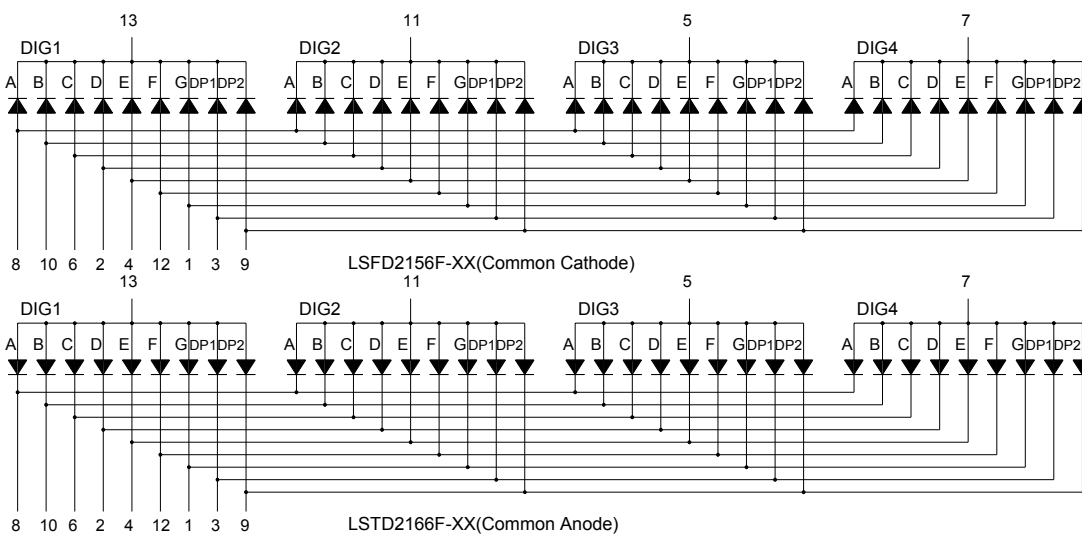
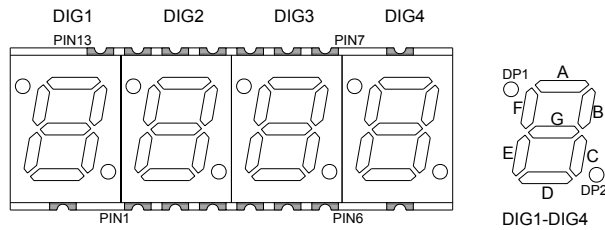
NOTE:

Dimension in millimeters (inches),
and tolerances are $\pm 0.25\text{mm}$ (.01") specified.

Recommended Soldering Pad Dimensions



Internal Circuit Diagram



Electrical Connection

PIN NO.	LSFD2156F-XX	PIN NO.	LSFD2166F-XX
1	Anode G	1	Cathode G
2	Anode D	2	Cathode D
3	Anode DP1	3	Cathode DP1
4	Anode E	4	Cathode E
5	Common Cathode DIG3	5	Common Anode DIG3
6	Anode C	6	Cathode C
7	Common Cathode DIG4	7	Common Anode DIG4
8	Anode A	8	Cathode A
9	Anode DP2	9	Cathode DP2
10	Anode B	10	Cathode B
11	Common Cathode DIG2	11	Common Anode DIG2
12	Anode F	12	Cathode F
13	Common Cathode DIG1		Common Anode DIG1

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Ratings	UNIT
Power Dissipation	PD	70	mW
Peak pulse current Duty 1/10@10KHz	I _{FP}	90	mA
Forward Current Per Chip	I _F	25	mA
Debating liner from 25°C per segment	---	0.28	mA / °C
Storage Temperature	T _{stg}	-40 ~ +105	°C
Operating Temperature	T _{opr}	-40 ~ +105	°C

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	IV	10	----	55	mcd	IF=20mA
Dominant Wavelength	λ D	619	----	629	nm	IF=20mA
Spectral Line Half-Width	Δ P	----	20	----	nm	IF=20mA
Forward Voltage	VF	----	2.0	2.6	V	IF=20mA
Reverse Current	I _r	----	----	10	μ A	VR=5V

Note : 1.The forward voltage data did not including $\pm 0.1V$ testing tolerance.

2.The luminous intensity data did not including $\pm 15\%$ testing tolerance.

Luminous Intensity Classification

BIN CODE	Iv(mcd) at 20mA	
	Min	Max
K	10.1	25
L	25.1	40
M	40.1	55

Dominant Wavelength Classification

BIN CODE	Iv(nm) at 20mA	
	Min	Max
1	619	622
2	622.1	626
3	626.1	629

Typical Electro-Optical Characteristics Curve

(25 °C Free Air Temperature Unless Otherwise Specified)

6F: Super Bright RED (AlGaInP/GaAs) CURVE

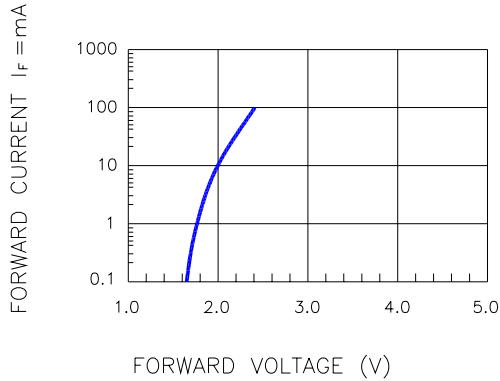


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

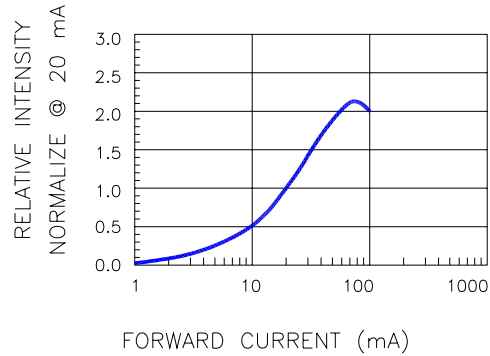


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

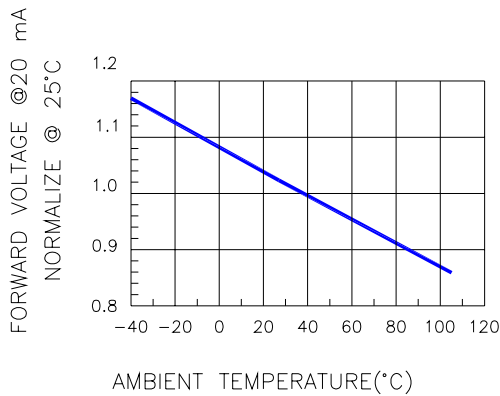


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

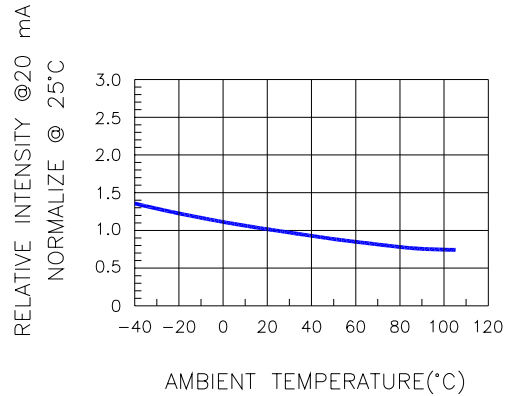


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

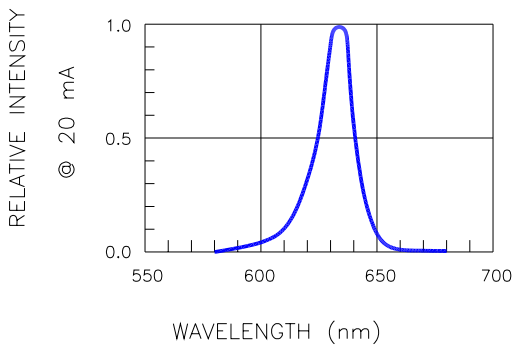


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

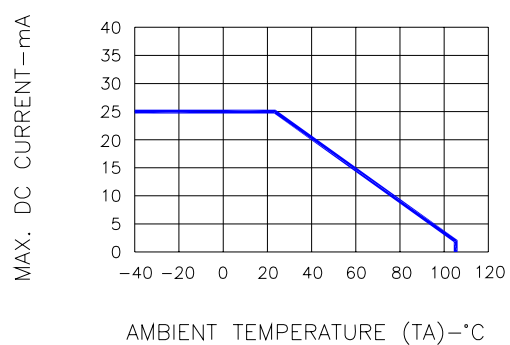
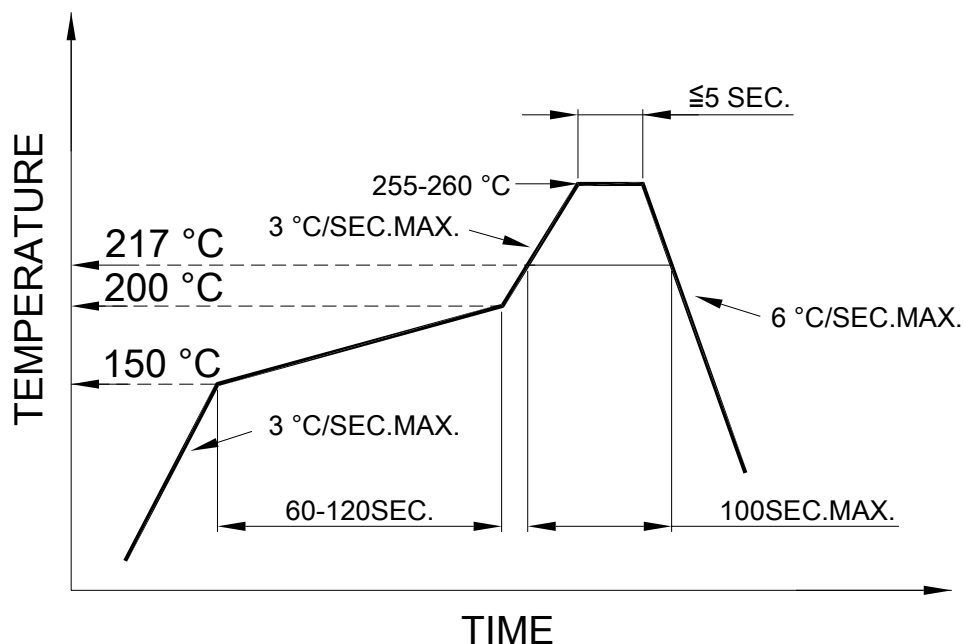


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

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.