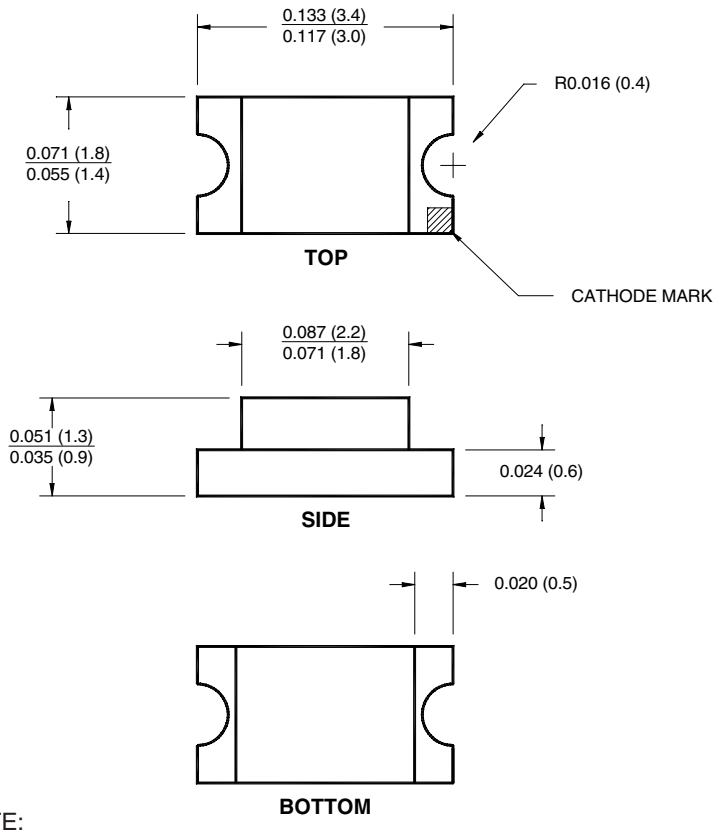
FAIRCHILD SEMICONDUCTOR™

SURFACE MOUNT LED LAMP

1206 CHIP TYPE - Diffused

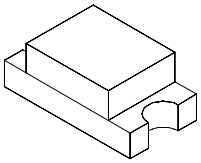
PACKAGE DIMENSIONS



NOTE:

Dimensions for all drawings are in inches (mm).

HER	**QTLP650D-2**
YELLOW	**QTLP650D-3**
GREEN	**QTLP650D-4**
AlGaAs RED	**QTLP650D-7**



FEATURES

- Ultra-miniature
- Extremely low profile
- Industrial standard footprint
- Wide viewing angle of 160°
- Diffused optics
- Moisture-proof packaging

DESCRIPTION

These surface mount lamps are designed to fit industry standard profile and footprint for ultra-miniature chip type 1206. The low profile and 160° viewing angle make this chip type LED ideal for panel illumination, push-button backlighting and membrane switch applications.

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise specified)

Parameter	HER QTLP650D-2	Yellow QTLP650D-3	Green QTLP650D-4	AlGaAs Red QTLP650D-7	Units
Continuous Forward Current - I_F	30	20	30	30	mA
Peak Forward Current - I_F (f = 1.0 KHz, Duty Factor = 1/10)	160	160	160	160	mA
Reverse Voltage - V_R (I_R = 10 µA)	5	5	5	5	V
Power Dissipation - P_D	100	85	100	100	mW
Operating Temperature - T_{OPR}	-40 to +85				°C
Storage Temperature - T_{STG}	-40 to +100				°C
Lead Soldering Time - T_{SOL} Reflow	240 for 5 sec				°C

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1206 CHIP TYPE - Water Clear

HER	**QTLP650D-2**
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GREEN	**QTLP650D-4**
AlGaAs RED	**QTLP650D-7**

ELECTRICAL / OPTICAL CHARACTERISTICS (T_A =25°C)

Part Number	HER QTLP650D-2	Yellow QTLP650D-3	Green QTLP650D-4	AlGaAs Red QTLP650D-7	Condition
Luminous Intensity (mcd)					I_F = 20mA
Minimum	2.4	2.4	4.0	4.0	
Typical	4.0	4.0	6.5	7.0	
Forward Voltage (V)					I_F = 20mA
Maximum	2.8	2.8	2.8	2.4	
Typical	2.0	2.0	2.1	1.9	
Peak Wavelength (nm)	635	585	565	660	I_F = 20mA
Spectral Line Half Width (nm)	45	35	30	20	I_F = 20mA
Viewing Angle (°)	160	160	160	160	I_F = 20mA

TYPICAL PERFORMANCE CURVES

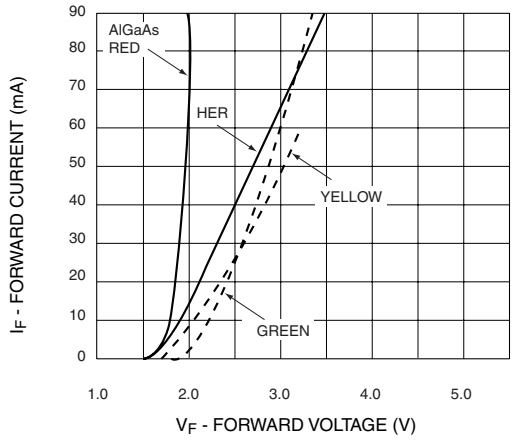

Fig. 1 Forward Current vs. Forward Voltage

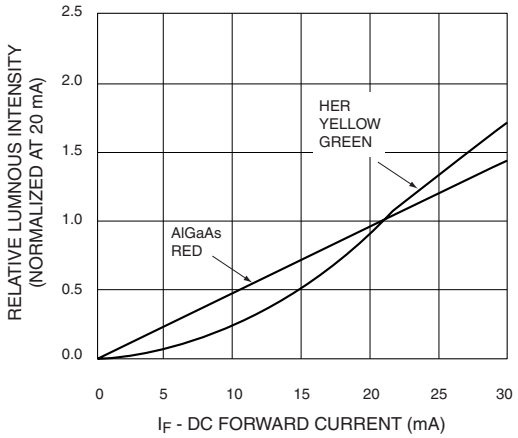

Fig. 2 Relative Luminous Intensity vs. DC Forward Current

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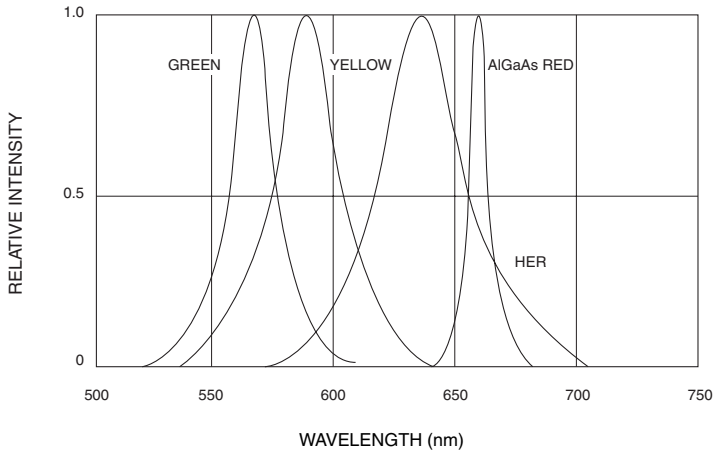

Fig. 3 Relative Intensity vs. Peak Wavelength

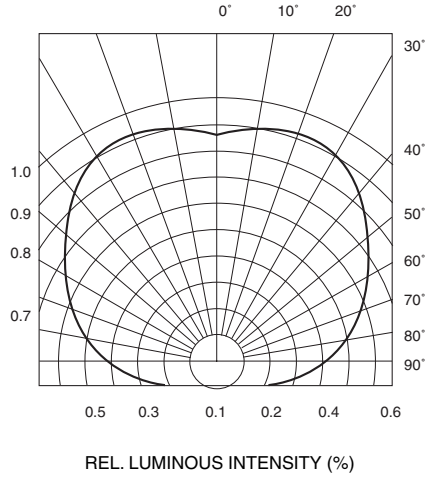

Fig. 4 Radiation Diagram

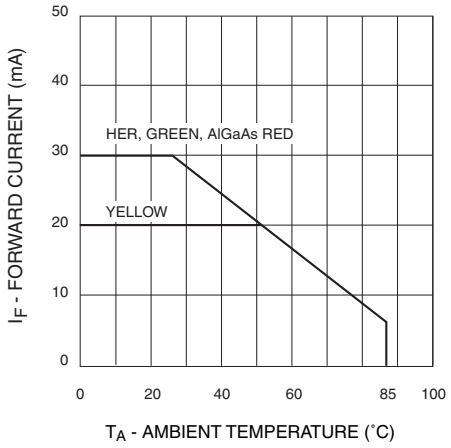

Fig. 5 Current Derating Curve

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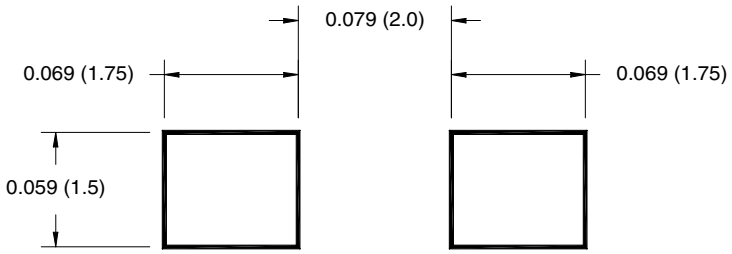
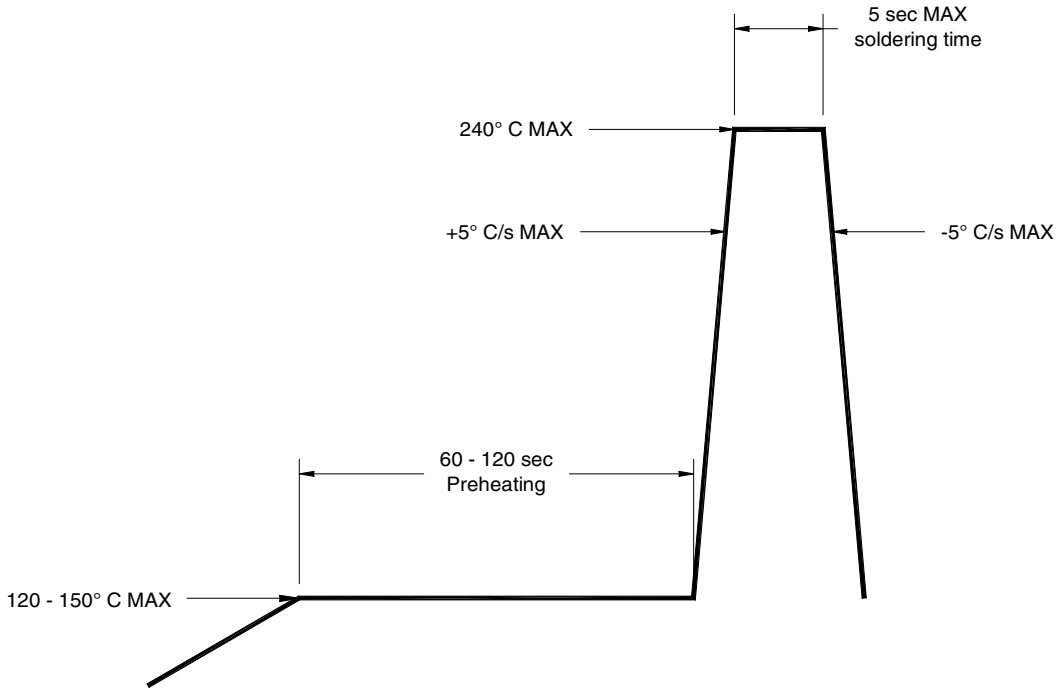
RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED IR REFLOW SOLDERING PROFILE



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2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.