



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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FLD00030 Analog Ambient Light Sensor

Features

- Spectral response close to human eye
- Good output linearity across wide illumination range
- Small footprint: 1.7mm x 0.8mm
- Low profile: 0.6mm
- Phototransistor with filter technology

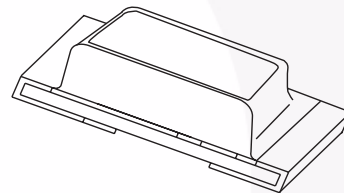
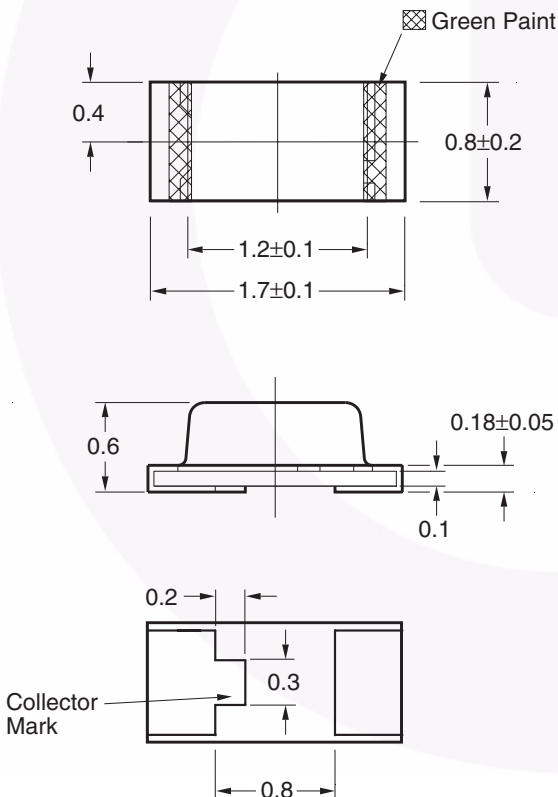
Applications

- Cell Phones, Notebook PCs, PDAs, Digital Still Cameras

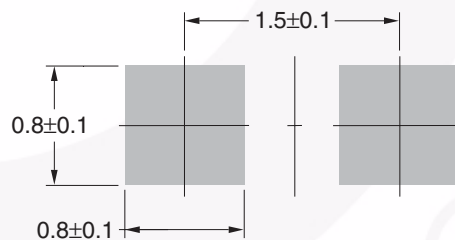
Description

The FLD00030 is a small, low profile photo detector. It incorporates a phototransistor detector chip which makes it an ideal choice for low cost ambient light measurement applications like mobile appliances backlighting.

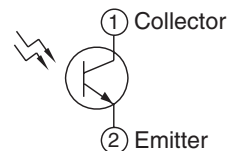
Package Dimension



Recommended Solder Screen Pattern (for reference only)



Schematic



Note:
All dimensions are in mm, tolerances are ± 0.1 mm unless otherwise specified.

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only.

| Symbol | Parameter | Min. | Max. | Unit |
|-----------|---------------------------|------|------|------|
| V_{CE} | Collector-Emitter Voltage | | 6.0 | V |
| T_{OPR} | Operating Temperature | -40 | +85 | °C |
| T_{STG} | Storage Temperature | -40 | +100 | °C |

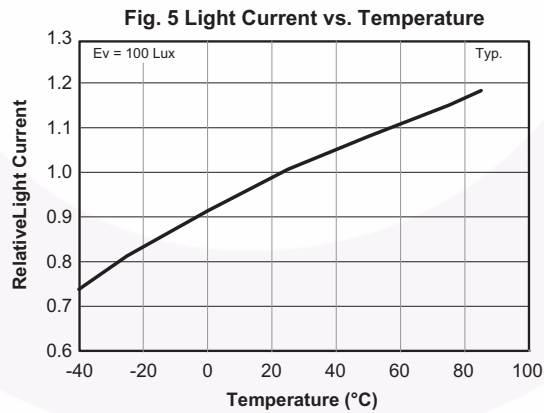
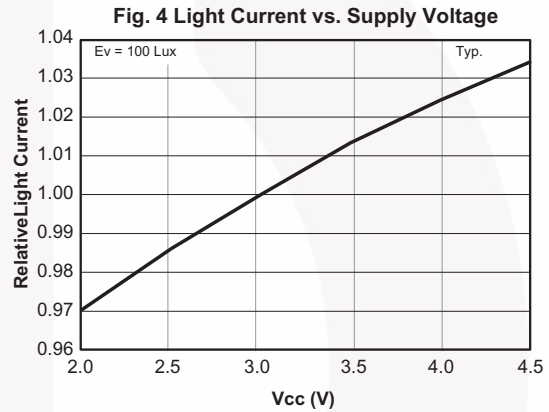
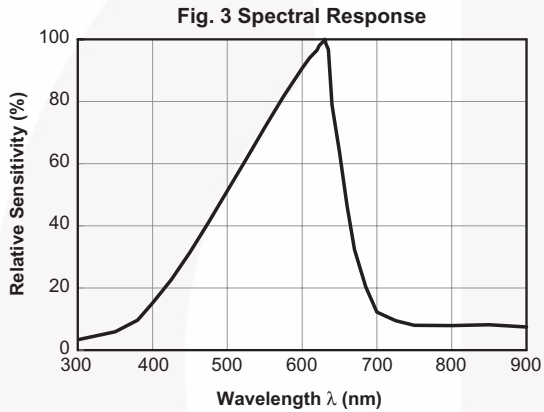
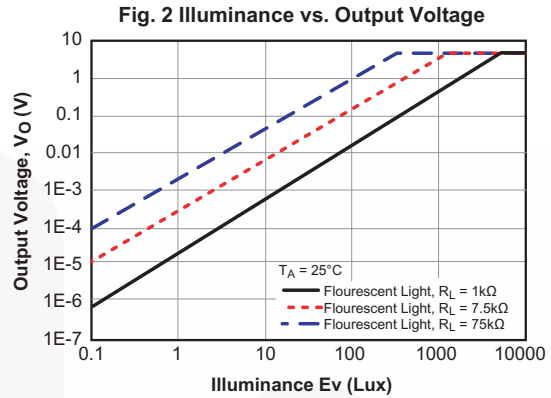
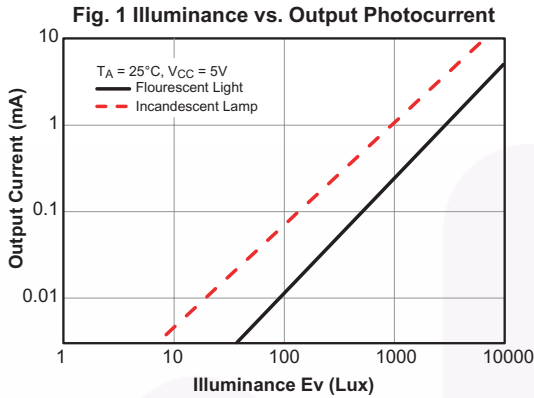
Electrical/Optical Characteristics ($T_A = 25^\circ\text{C}$ and $V_{CE} = 5.0\text{V}$, unless specified otherwise)

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Unit |
|-------------------|------------------------------|---|------|-------|------|---------------|
| $I_L(1)$ | Light Current (1) | $E_V = 100 \text{ Lx}^{(1)}$ | 7 | 10 | | μA |
| $I_L(2)$ | Light Current (2) | $E_V = 1,000 \text{ Lx}^{(1)}$ | 200 | 230 | | μA |
| $I_L(3)$ | Light Current (3) | $E_V = 1,000 \text{ Lx}^{(2)}$ | 950 | 1,100 | | μA |
| $I_L(3) / I_L(2)$ | Light Current Ratio | | | 4.8 | | |
| I_{LEAK} | Dark Current | $V_{CE} = 10\text{V}, E_V = 0$ | | | 0.1 | μA |
| V_O | Saturation Output Voltage | $V_{CC} = 5\text{V}, E_V = 1000 \text{ Lx}^{(2)}, R_L = 75\text{k}\Omega$ | 4.5 | 4.6 | | V |
| λ_p | Peak Sensitivity, Wavelength | | | 630 | | nm |

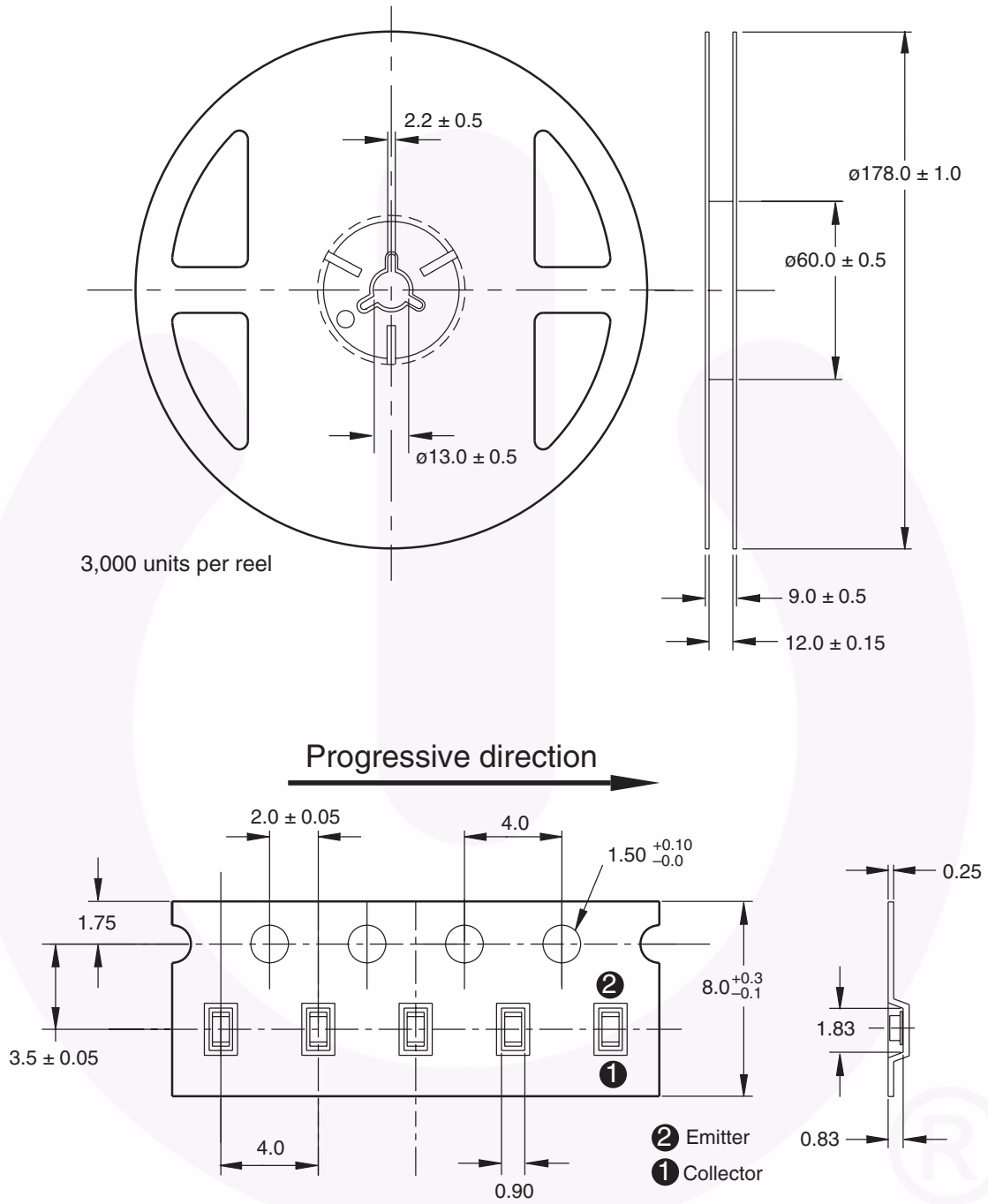
Notes:

- White fluorescent light (color temperature = 6,500K)
- Illuminance by CIE standard illuminant-A / 2856K incandescent lamp.

Typical Performance Characteristics

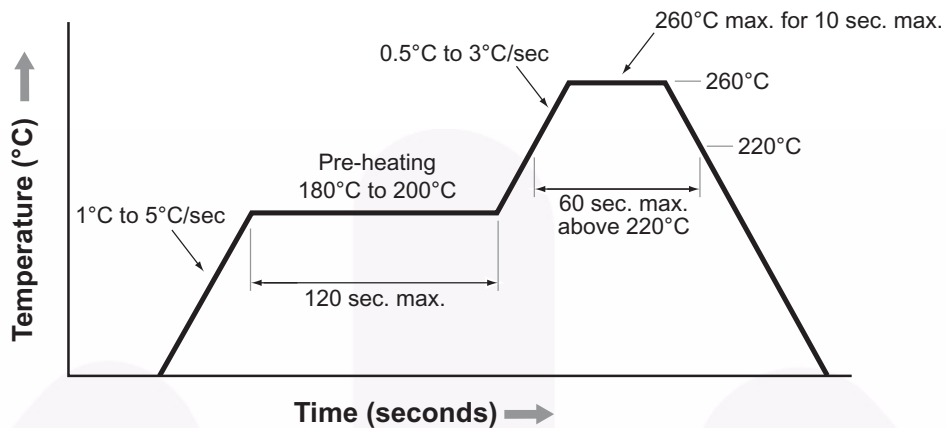


Tape and Reel Dimension



Note: Tolerances are ± 0.1 mm unless otherwise stated. All dimensions in mm.

Reflow Profile








Note: Reflow soldering should not be done more than twice.



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|--------------------------|-----------------------|---|
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| Preliminary | First Production | Datasheet contains preliminary data; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design. |
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