

General Description

OIL6 is an infrared LED using a low-cost lens and available at a lower price than other products up to now.

Special glass lens allows parallel beam with a medium divergence of $\pm 18^\circ$.

The metal can covered with glass lens guarantees the high quality for this IR LED.

The high optical output power allows the use of this LED to get high photocurrent output from the photo sensors.



Applications

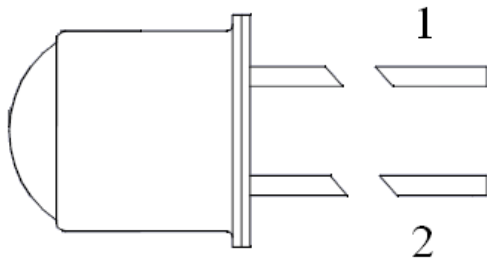
IR Emitter for Encoder

General Purpose

Optical switches

Features

- Low price
- Uses low cost lens
- TO-18 Metal-Glass Case Enclosure
- Infrared Light Emitting at 870 nm
- Compatible with OIL10S06



Pin Functions

| No. | Name | Function |
|-----|------|----------|
| 1 | K | Cathode |
| 2 | A | Anode |

Ordering Information

OIL10S06 IR Led in TO-18 Metal-Glass Case Emitting at

OIL606

ABSOLUTE MAXIMUM RATINGS

(T_A=25°C, unless otherwise noted)

| Symbol | Parameter | Min | Max | Unit |
|------------------|---|-----|------|-------|
| T _{opr} | Operating Temperature Range | -30 | 85 | °C |
| T _{stg} | Storage Temperature | -40 | 100 | °C |
| I _F | Forward Current (DC) | | 80 | mA |
| | Forward Current Reduction Rate | | 0.67 | mA/°C |
| V _R | Reverse Voltage | | 5 | V |
| I _{FP} | Pulse Forward Current (Pulse width=10μm, Duty ratio=1%) | | 0.5 | A |
| | Pulse Forward Current Reduction Rate | | 4.2 | mA/°C |
| P | Power Dissipation | | 150 | mW |

Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rated conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

T_A = 25°C unless otherwise noted.

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|----------------|--------------------------------|--------------------------------|------------------|-----|------|------|
| V _F | Forward Voltage | I _F =30mA | | 1.5 | 1.65 | V |
| I _R | Reverse Current | V _R =5V | | | 5 | μA |
| P _e | Optical Output ¹ | I _F =30mA | 1.5 | 2.1 | | mW |
| λ _p | Peak Emission Wavelength | I _F =30mA | 840 | 870 | 900 | nm |
| Δλ | Spectral Half Width | I _F =30mA | | 45 | | nm |
| Bw | Spot Light Size ² | I _F =30mA | 4.8 ³ | 40 | | mm |
| fc | Cut-off Frequency ⁴ | I _F =30mA ± 4 mAp-p | 25 | 40 | | MHz |

¹ Measured with a photodiode (active area Φ8mm) Installed 10mm away from the LED stem undersurface.

² Full width at half maximum of beam spot measured with an image sensor installed 13mm away from LED stem undersurface.

³ Reference value

⁴ Frequency at which the optical output drops by -3dB from that at 100 kHz

MECHANICAL DIMENSIONS

Units=mm Mechanical tolerance=+/-0.2mm

