OIL6

TO-18 metal-glass packaged IR LED

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 ±18°.

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

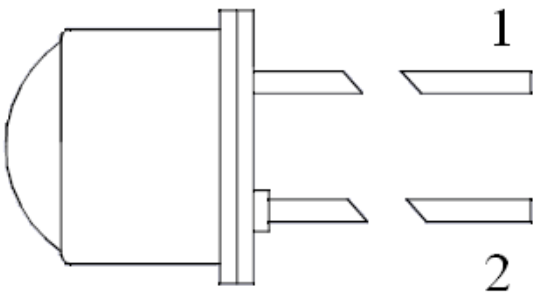
The high optical output power allows the use of this LED to get high photocurrent output from the photo sensors.

Applications

IR Emitter for Encoder

General Purpose

Optical switches



SIDE VIEW

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

OIL6	IR Led in TO-18 Metal-Glass Case Emitting at 870 nm with a Medium Divergence of ±20°

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Min	Max	Unit
Topr	Operating Temperature Range	-30	85	°C
Tstg	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