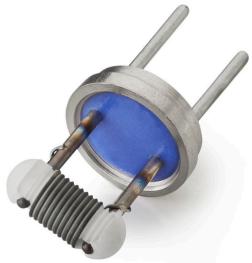
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HAWKEYE TECHNOLOGIES

# IR-14 EMITTER

## DATASHEET

Infrared emitter designed for NDIR gas analysis and optical sensing, offering stable performance and long operational life

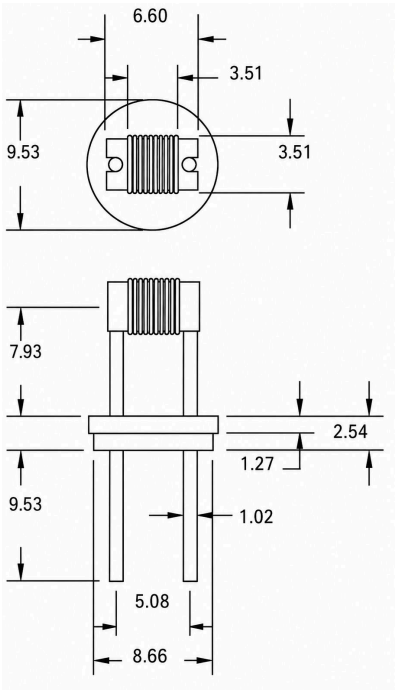


## General Information

**Key Features:** Stable characteristics (bare minimum resistance drift over life)

| | |
|---|---|
| **Emitter Type** | Coil Type, Supported |
| **Operation Mode** | Steady |
| **ROHS** | Conformed |
| **Reflector Type** | Parabolic, Elliptical |
| **Recommended Voltage** | 4.7V |
| **Operation Life At 12.5 W Power*** | ≥ 50,000 H |
| **Package Type** | Customized, No Cap Available |

*Max/Recommended. Higher input will impact emitter's life.




*All dimensions in mm

## Application Notes

This emitter is designed to operate at elevated temperatures, with the radiating element reaching up to approximately 1100 °C. Such high operating temperatures must be carefully considered in system design and thermal management.

During operation, the package temperature may rise to approximately 100 °C or higher, depending on operating conditions.

The emitter produces infrared radiation primarily within the wavelength range of 2 to 10 µm, with a peak emission near 3 µm.

A parabolic reflector is recommended to increase the radiation flux reaching the detector. At a 6.75″ emitter–detector distance, the reflector increases the radiation intensity by approximately 14×. A refocusing elliptical reflector is also available. The reflector dimensions are OD = 1″ and OL = 1″.

This device is suitable for use in a wide range of infrared spectroscopic applications, including as a radiation source in IR spectrometers.

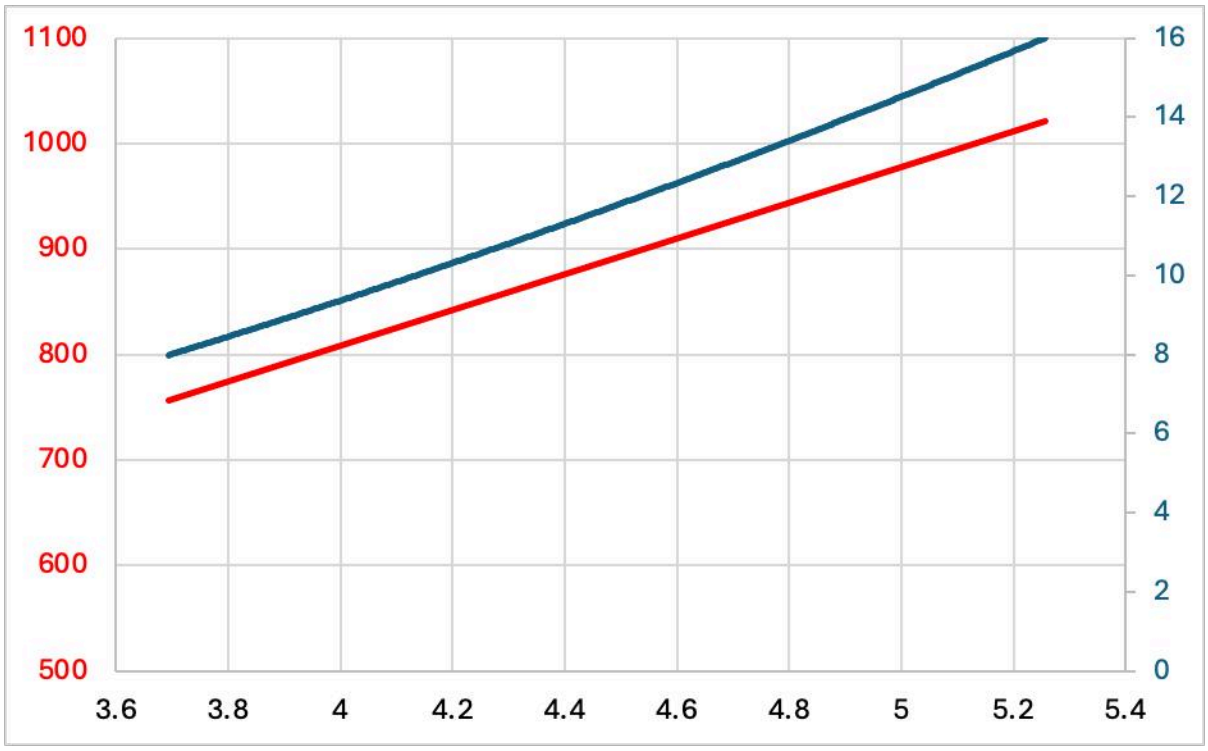
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## Emitter Ratings

| Parameter | Symbol | Value, Typical | Unit | Notes |
|---|---|---|---|---|
| Cold Resistance | Rc | 3.2 | Ohm | At room temp |
| Input Power | P | 12.5 | W | - |
| Input Voltage | V | 4.7 | V | - |
| Input Current | I | 2.7 | A | - |
| Operating Resistance | Rop | 1.7 | Ohm | - |
| Active Area Temp | T | 950 | °C | Environment at 25°C |

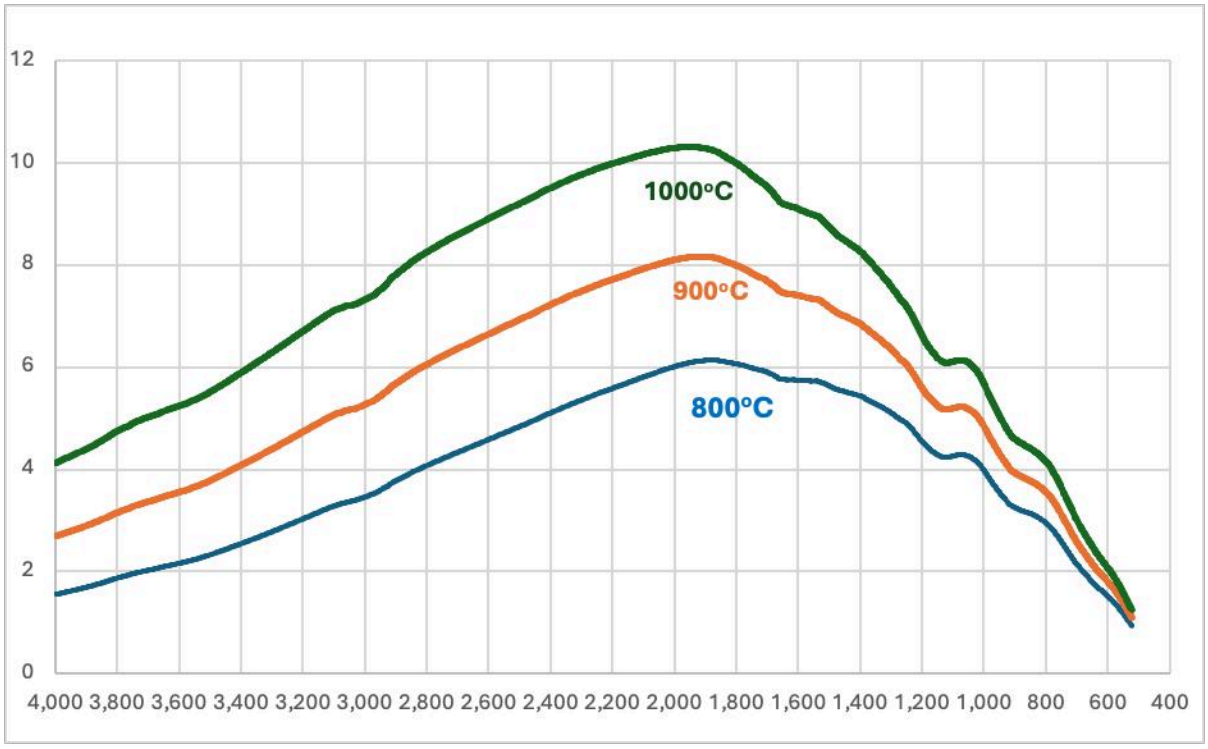
## IR-14. Power (W) and Temperature (°C) vs Voltage (V)



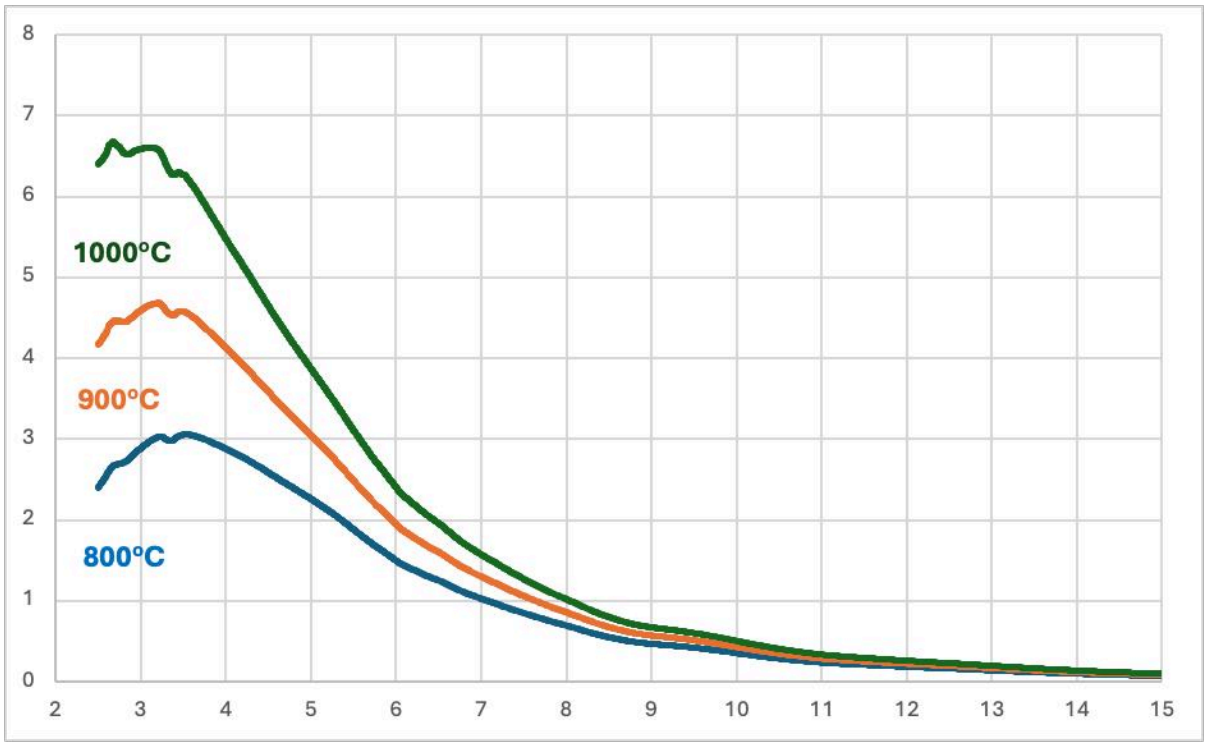

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## IR-14. Emission (a.u.) vs Wavenumber (cm^-1)



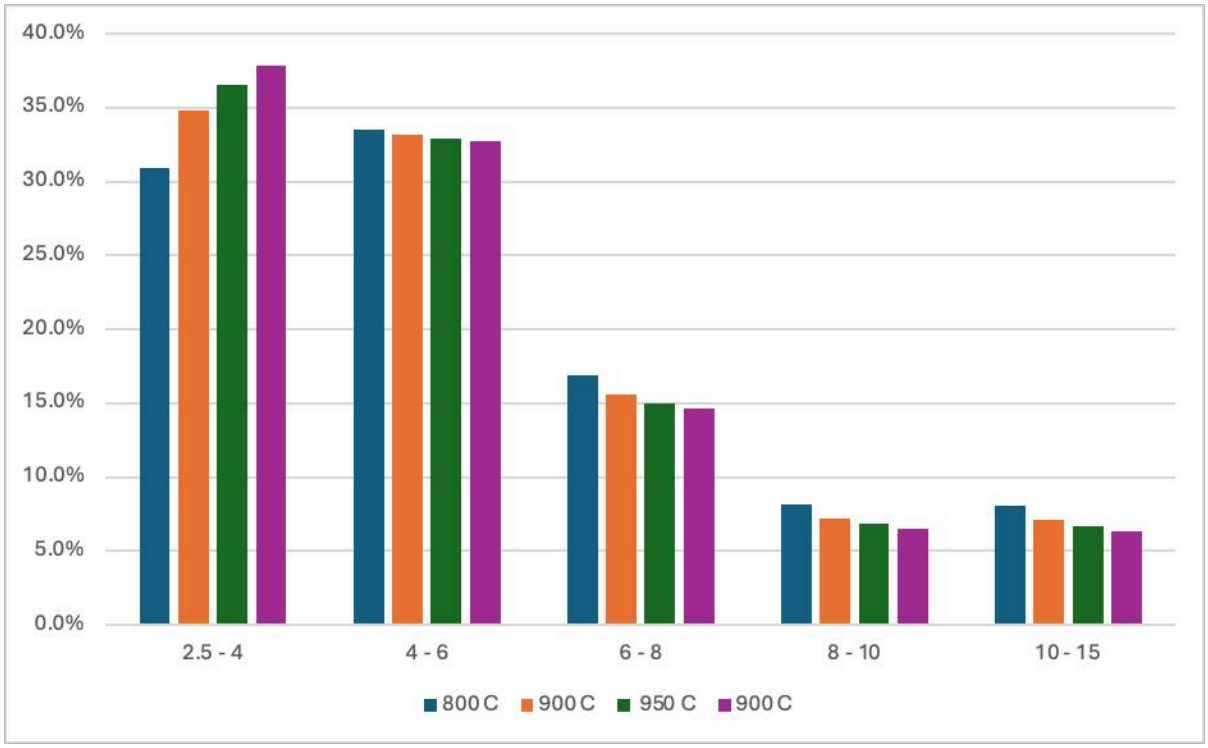

## IR-14. Emission (a.u.) vs Wavelength (um).




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## IR-14. Radiance Distribution over Wavelengths.




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