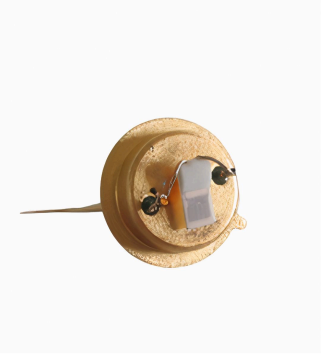
Your Source For InfraRed
HAWKEYE TECHNOLOGIES

IR-41 EMITTER

DATASHEET



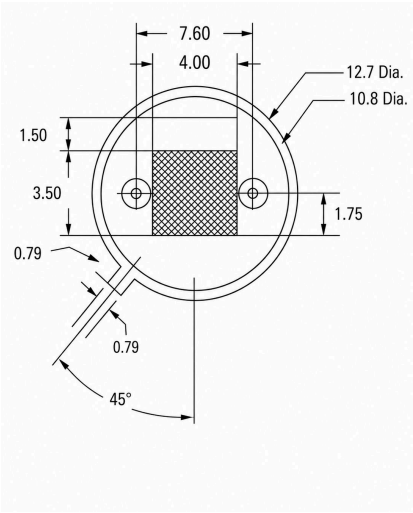
Infrared emitter designed for NDIR gas analysis and optical sensing, offering stable performance and long operational life

General Information

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

Emitter Type	Platinum Film Sealed In Ceramic
Operation Mode	Steady State
ROHS	Conformed
Reflector Option	Parabolic, Elliptical
Active Area	4 × 3 mm
Recommended Voltage	9V
Operation Life At 4 W Power*	≥ 25,000 H
Package Type	TO-5 or TO-39

*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 800 °C. Such high operating temperatures must be carefully considered in system design and thermal management.

The heating element can operate in air. A neutral atmosphere (like nitrogen, argon, or vacuum) is also acceptable. The reducing atmosphere can affect the ceramic package. It is recommended to escape operation in sulfur, halogens, or hydrocarbons containing environment.

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 15 µm, with a peak emission around 5 µm.

The emitter can be used with a parabolic reflector, increasing the radiation flux reaching the detector by approximately 4×. The reflector dimensions are OD = 0.5″ and OL = 0.65″.

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

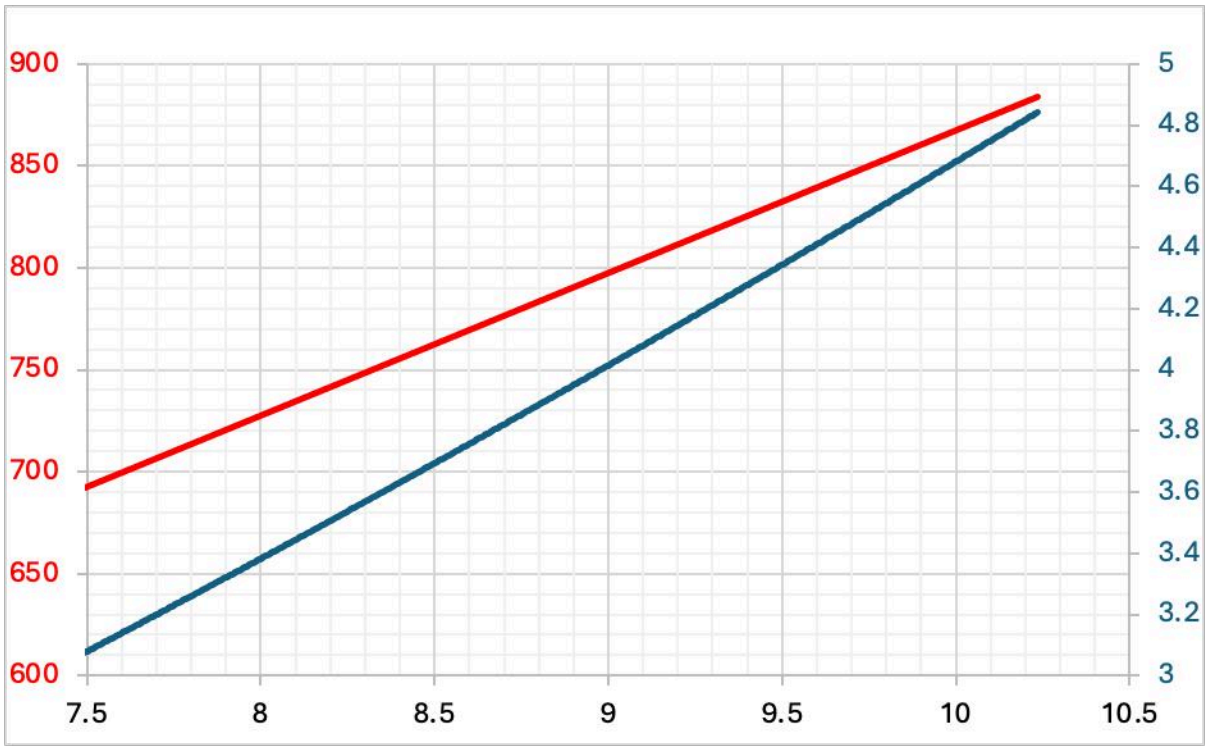
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Specifications subject to change without notice.
Please visit our website for the most up to date information.

Emitter Ratings

Parameter	Symbol	Value, Typical	Unit	Notes
Cold Resistance	Rc	6.2	Ohm	At room temp
Input Power	P	4	W	-
Input Voltage	V	9	V	-
Input Current	I	0.45	A	-
Operating Resistance	Rop	20	Ohm	-
Active Area Temp	T	800	°C	Environment at 25°C

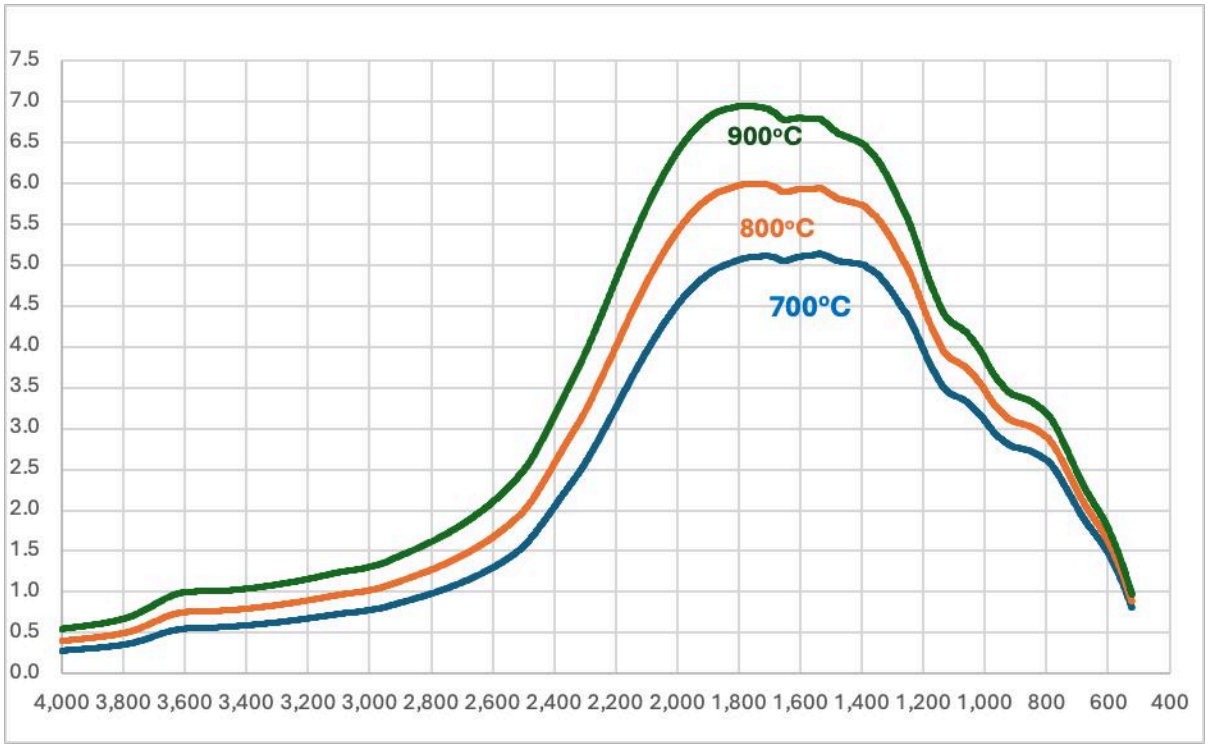
IR-41. Power (W) and Temperature (°C) vs Voltage (V)



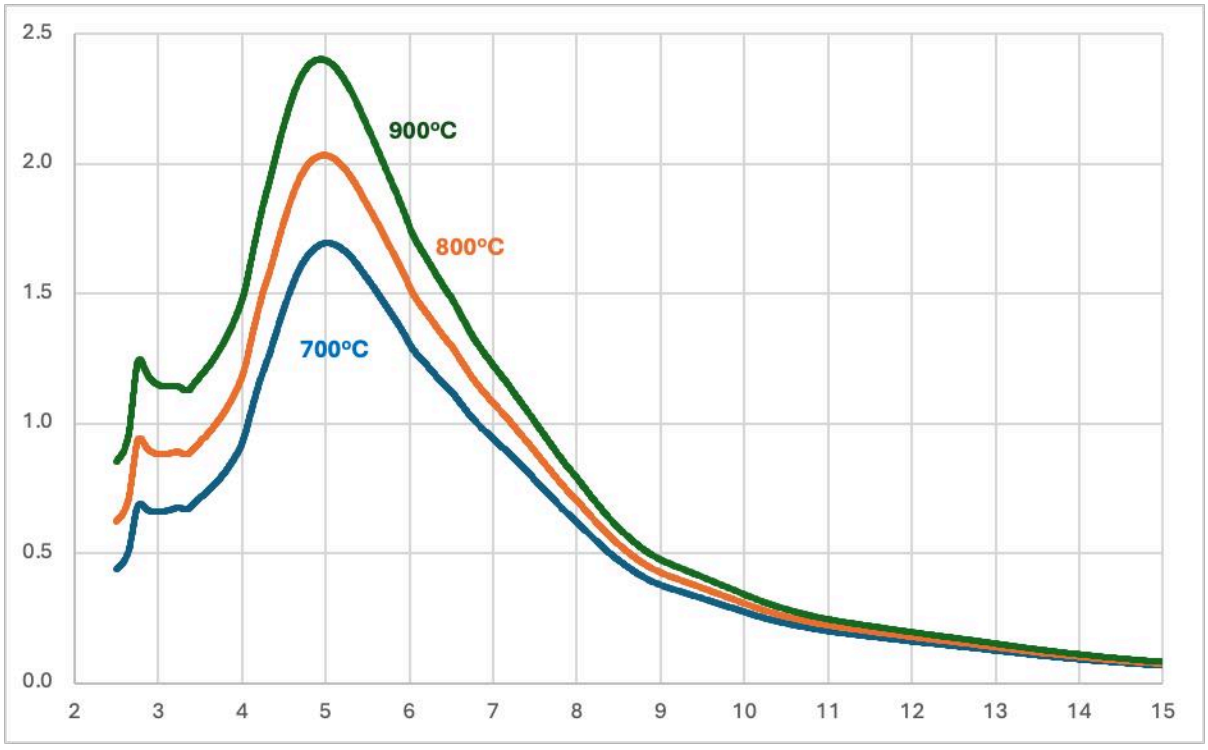
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IR-41. Emission (a.u.) vs Wavenumber (cm^-1)



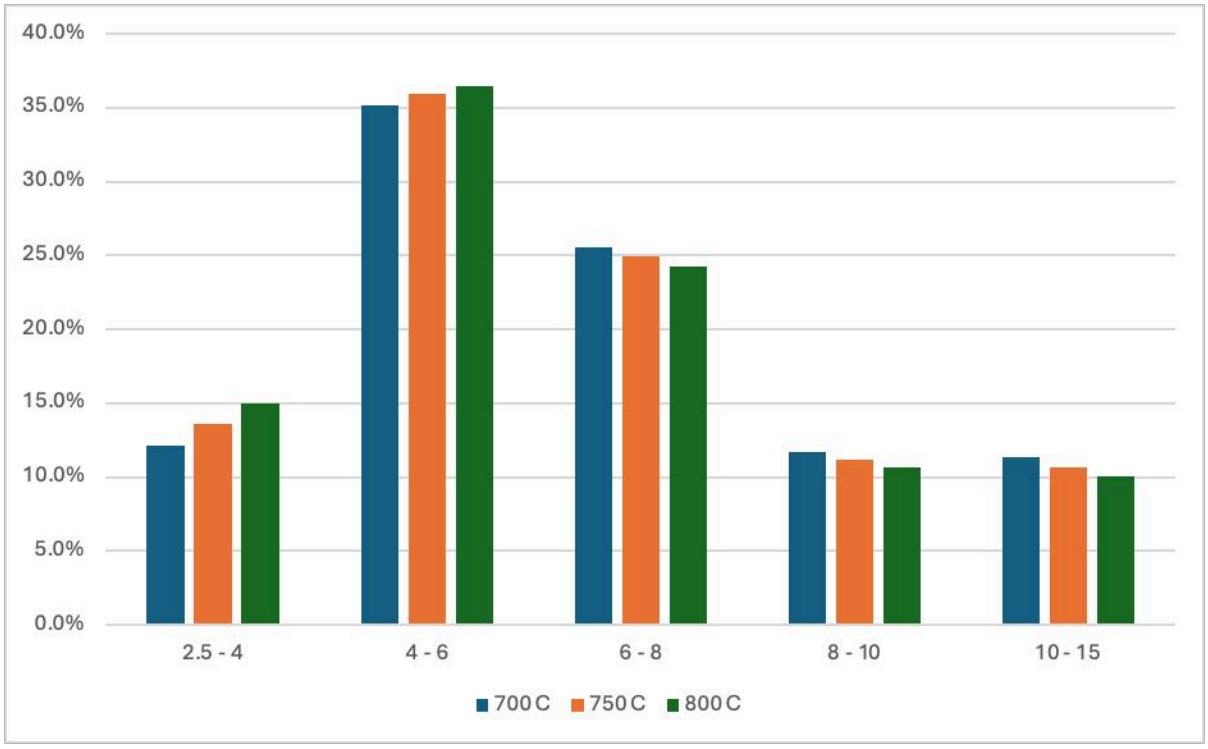
IR-41. Emission (a.u.) vs Wavelength (um).



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IR-41. Radiance Distribution over Wavelengths.



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