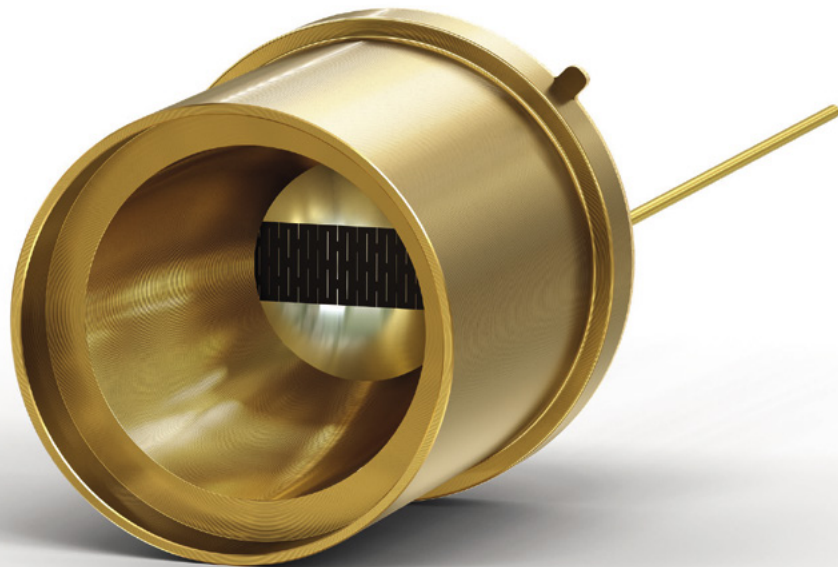


INFRASOLID®



Data Sheet *HiSpower*
HIS2000R-OWC
TO-8 Thermal Infrared Emitter

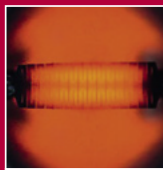
HIS2000R-OWC

Thermal infrared emitter with gold plated reflector and Winston cone collimator

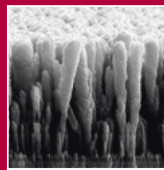
Our HIS2000R-OWC is a NiCr filament based thermal emitter in an optimized TO-8 package without a filter window. It offers a significantly higher beam density and a narrow beam angle due to the integrated Winston Cone Collimator. The open and cost-effective emitter offers high performance for a wide spectral measuring range and is characterized by a very low temperature coefficient of electrical resistance.

HISpower series emitters have an integrated gold plated reflector that directs the radiation emitted from the filament back-side to the front. This almost doubles the optical output power and achieves maximum efficiency. INFRASOLID's advanced packaging technology SOLIDSEAL® allows emitters with soldered Sapphire, CaF₂ and BaF₂ windows for use in harsh environments and a wide temperature range of -25 °C up to +85 °C.

Key features



**High radiant
power**



**High
efficiency**



**Low
Cost**

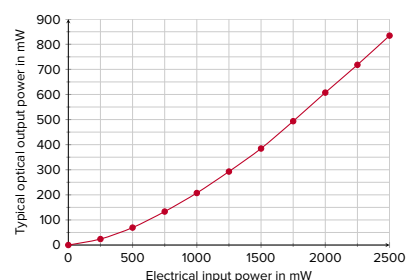
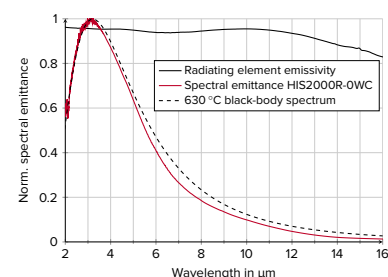
- ✓ Pulsable thermal black-body infrared source mounted in an industry standard TO-8 package.
- ✓ Patented nanostructured radiating element achieves up to 500% more detection signal!
- ✓ Lower radiating element temperature of 630 °C increases lifetime!
- ✓ Wide wavelength range enables a broad range of applications.

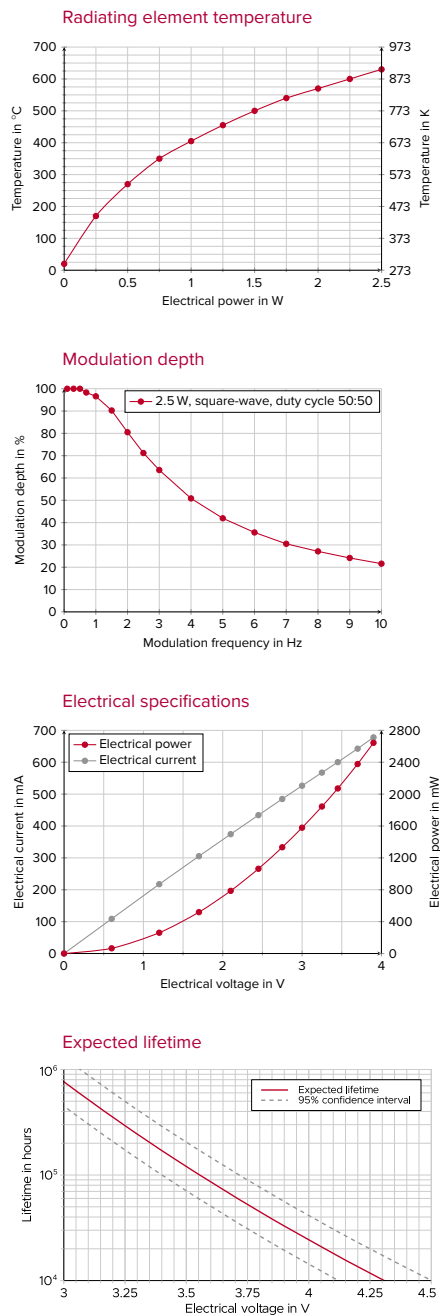
*innovative infrared sources for
gas detection & spectroscopy*

Main specifications

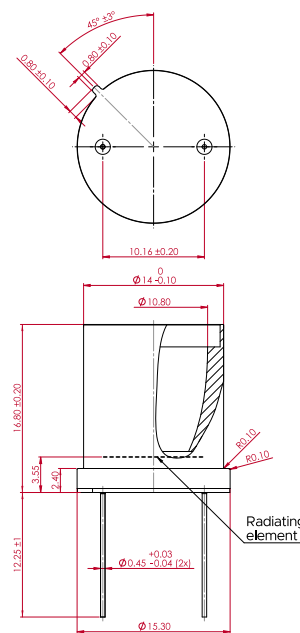
Parameter	HIS2000R-OWC
Package	TO-8
Radiating element area	40 mm ²
Radiating element emissivity	> 0.9
Radiating element temperature	630 °C at 2.5 W
Optical output power	up to 830 mW
Max. electrical power (DC)	2.5 W
Max. electrical voltage	3.8 V
Max. electrical current	660 mA
Electrical cold resistance	5.5 +/- 1 Ω
Electrical hot resistance	5.5 +/- 1 Ω
Filter/Window	None
Wavelength range	2 to 20 μm
Filling gas	None

Optical specifications





HIS2000R-OWC



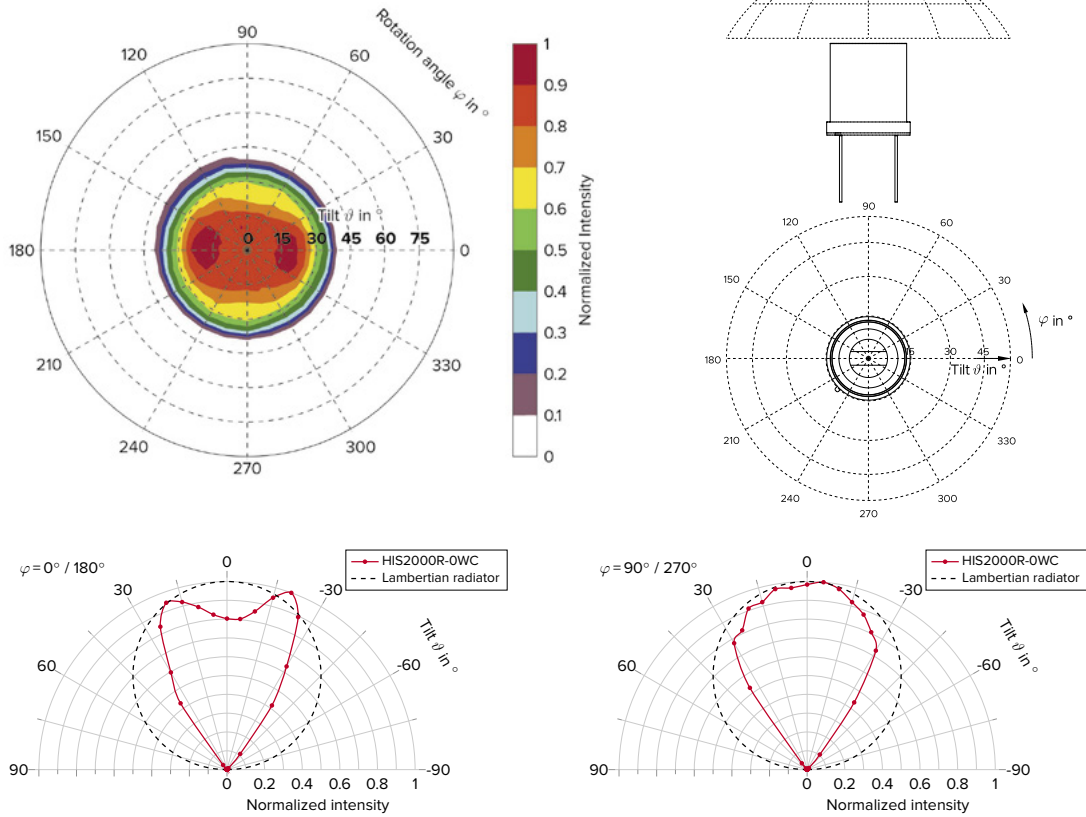
Maximum housing temperatures
without heat sink (at $T_{amb} = 20\text{ °C}$):

HIS2000R-OWC @2500 mW	Operation mode	
	DC	Pulsed (1 Hz square wave)
T_{max}	115 °C	75 °C

All our emitters comply with the following
JEDEC-standards:

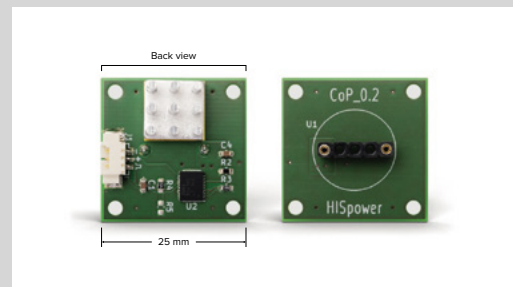
- ⌀ JESD22-A104
(temperature cycling and shock test: -45 °C / + 90 °C, 100 cycles)
- ⌀ JESD22-B103
(vibration test: log. sweep 20 Hz...2000 Hz, peak 20 g, X/Y/Z direction)
- ⌀ JESD22-B110
(drop test: 5000 m/s², 6 directions)

Angular radiation distribution



Driver Circuit Board (DCB):

We provide several Driver Circuit Boards (DCBs) for our HIS sm d, HIS $basic$ and HIS $power$ series emitters to support a quick evaluation in your applications. All DCBs are small and use a low-cost driving circuit with a maximum stability close to a power regulated mode. Only a supply voltage and a pulse signal have to be applied. For more information about its function, see our technical notes.



INFRASOLID®

HIS2000R-OWC EN
250602