

INFRA·SOLID[®]



HiSpower series

TO-8 Thermal Infrared Emitters

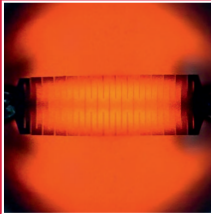
HISpower series

Thermal Infrared Emitters

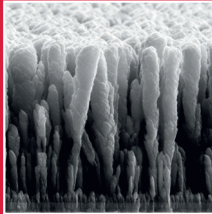
Infrasolid's infrared radiation sources are pulsable thermal emitters with a near black-body emittance. Based on a patented nanotechnology and a patented emitter set-up made of a high-melting metal, the free-standing monolithic radiating element and the nanostructured emitter surface offer numerous advantages in many applications.

HISpower series emitters have an integrated reflector that directs the radiation emitted from the rear to the front through the housing window in order to achieve maximum efficiency. Infrasolid's advanced packaging technology allows soldered sapphire, CaF₂ and BaF₂ windows for use in a wide temperature range of -25 °C up to +85 °C.

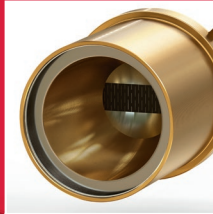
Key features



High radiant power



High efficiency



Hermetic housing

- ✓ 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!
- ✓ Soldered, high-quality filter windows guarantee considerably less drift. Leakage tested!
- ✓ Wide wavelength range enables a broad range of applications.

innovative infrared sources for gas detection & spectroscopy

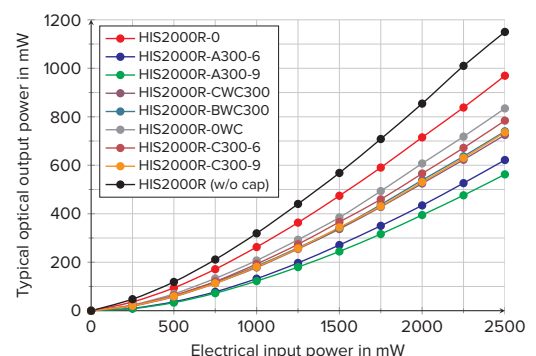
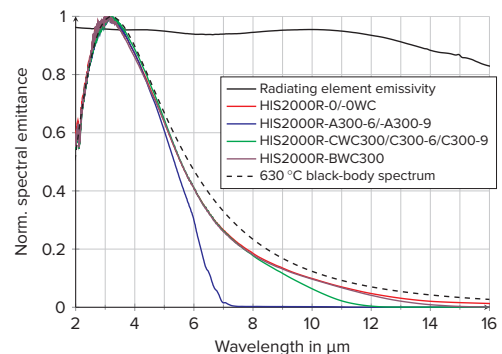
Main specifications

Parameter	HISpower series
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 1 W
Max. electrical power (DC)	2.5 W
Max. electrical voltage	3.8 V
Max. electrical current	660 mA
Electrical resistance	5...6 Ω
Modulation frequency*	4 Hz
Filter/Window	Sapphire, CaF ₂ , BaF ₂
Wavelength range**	2 to 20 μm

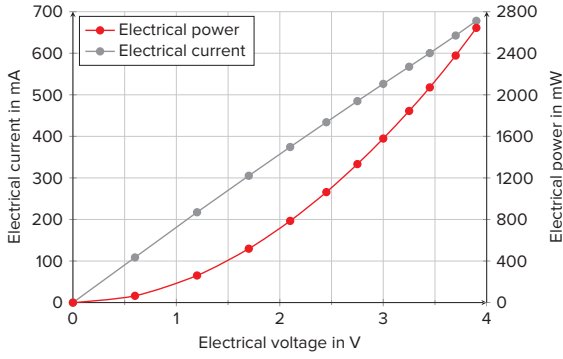
* 50 % modulation depth, square wave signal, 50 % duty cycle
 ** depending on filter transmissivity

For detailed technical specifications refer to the individual datasheet.

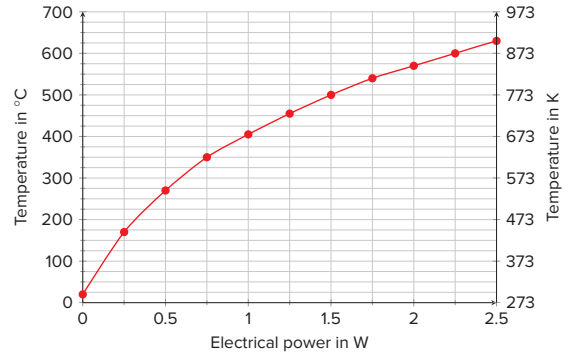
Optical specifications



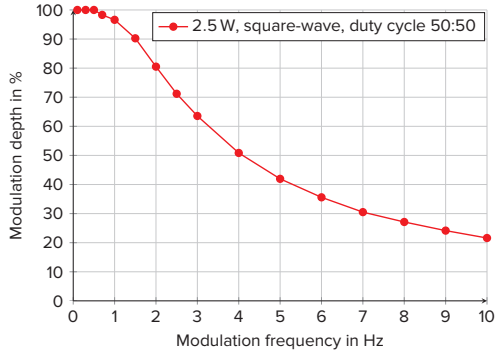
Electrical specifications



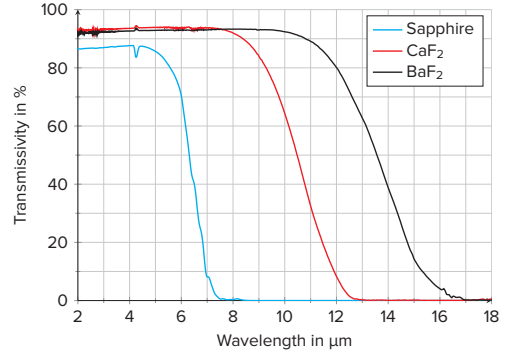
Radiating element temperature



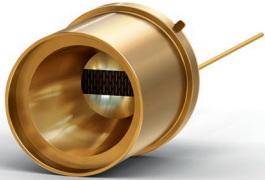


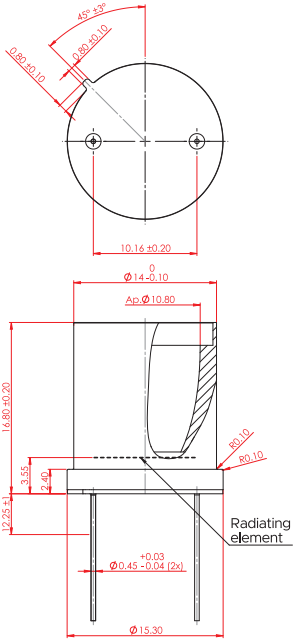
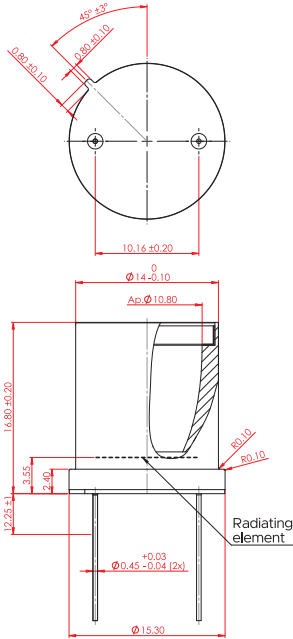
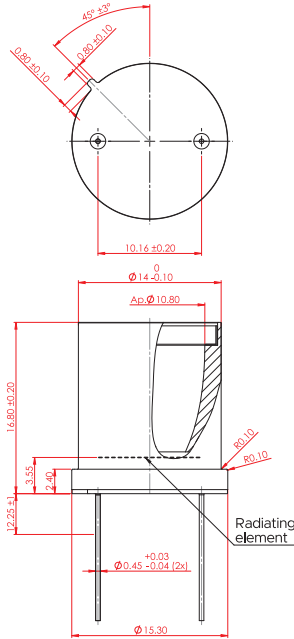
Modulation depth



Window material transmissivity



HIS2000R-0	HIS2000R-A300-6 / -C300-6	HIS2000R-A300-9 / -C300-9
HIS2000R-0 Without window (open version)	HIS2000R-A300-6 Soldered sapphire window HIS2000R-C300-6 Glued CaF ₂ window Other windows on request	HIS2000R-A300-9 Soldered sapphire window HIS2000R-C300-9 Glued CaF ₂ window Other windows on request
With reflector, no collimator	With reflector, no collimator	With reflector, no collimator
No gas filling	N ₂ gas filling (other gases possible)	N ₂ gas filling (other gases possible)

HIS2000R-OWC	HIS2000R-CWC300	HIS2000R-BWC300
		
HIS2000R-OWC Without window (open version)	HIS2000R-CWC300 Soldered CaF ₂ window	HIS2000R-BWC300 Soldered BaF ₂ window
Winston cone collimator	Winston cone collimator	Winston cone collimator
No gas filling	N ₂ gas filling (other gases possible)	N ₂ gas filling (other gases possible)
		

Angular radiation distribution

HIS2000R-A300-6 / -C300-6	HIS2000R-A300-9 / -C300-9	HIS2000R-BWC300 / -CWC300 / -OWC
