

pulsIR Pulsed Infrared Radiator

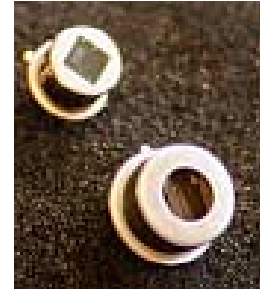
DESCRIPTION

Ion Optics offers a new class of electrically-modulated, high intensity infrared radiators for gas analysis, spectroscopy and calibration. These radiators feature a low thermal-mass filament tailored for high emissivity in either the MWIR (2-5 μm) or the LWIR (8-12 μm). Efficient in-band emission permits operation at temperatures several times cooler than tungsten bulbs and gives a radiator life exceeding 3 years. This patent-pending, high-efficiency device minimizes drive power, greatly reducing parasitic heating of detectors and optics; it also eliminates mechanical choppers, permitting a sealed optical path.

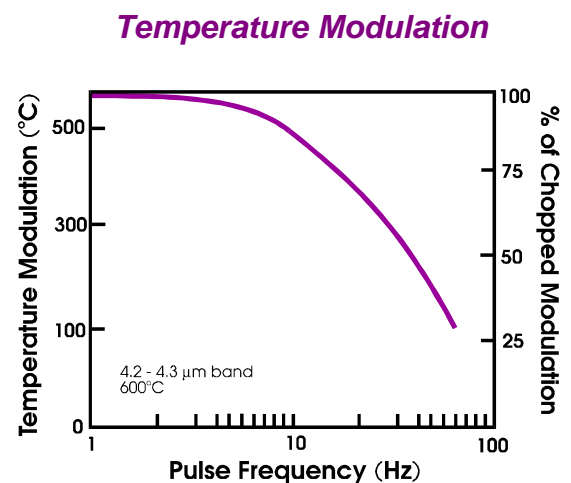
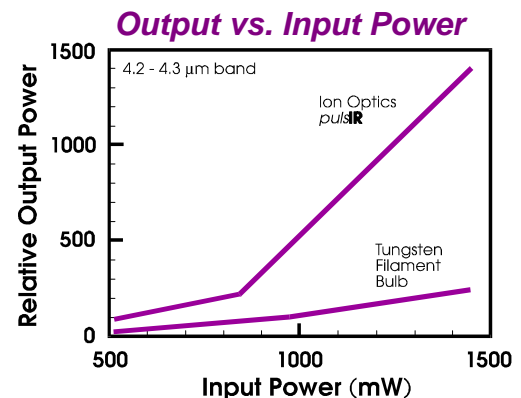
For demonstration and system design, Ion Optics provides a Developer's Package, enabling users to explore radiator characteristics over a wide range of operating pulse parameters and filament temperatures. This package consists of a *pulsIR*TM Radiator (LWIR or MWIR); *pulsIR*TM Driver, a microprocessor-controlled drive card; and WindowsTM compatible software designed for maximum performance and user friendliness. This system minimizes input power and provides stable operation at user-selected temperatures, frequencies, and duty cycles.

UNIQUE FEATURES

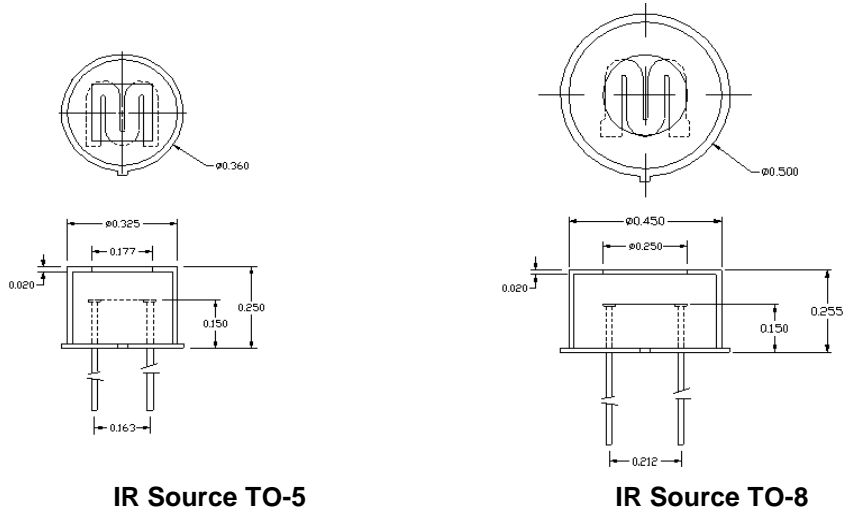
- Electrically pulsed, *no chopper needed*
- High intensity, *6x tungsten filament bulbs*
- Large temp. modulation, *>500°K below 10Hz*
- Spectrally tailored, *efficient in-band radiation*
- Digital drive, *feedback temperature stabilization*
- Adaptable to DC operation



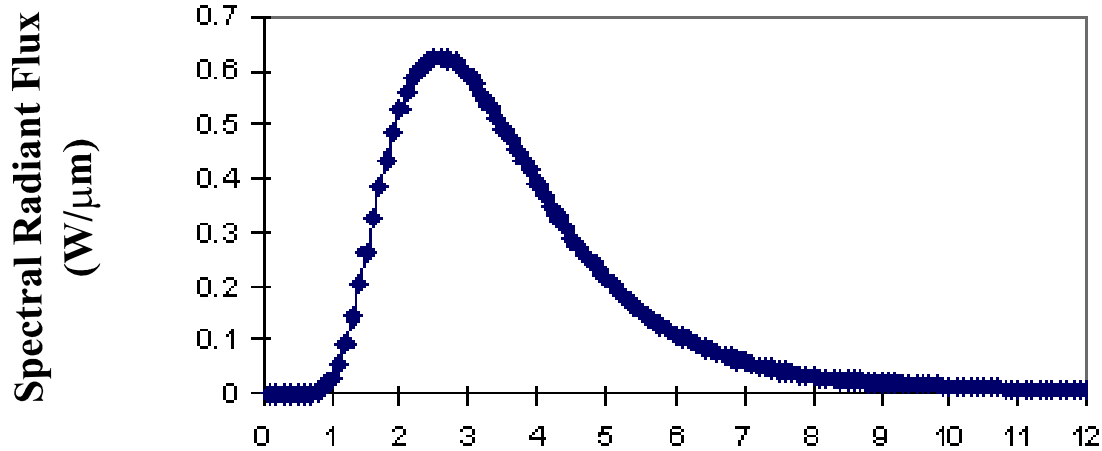
*pulsIR*TM Radiator



MECHANICAL SPECIFICATIONS



pulsIR Emission at 850⁰ C.



pulsIR Emitter Specifications

	<u>LWIR</u>	<u>MWIR</u>
Cold Resistance	3.2 (±.5) Ω	3.5 (±.5) Ω
Max Operating Temperature	850°C	850°C
Drive Power		
Peak	1.75 Watts	1.75 Watts
Average (@30% Duty cycle)	.52 Watts	.52 Watts
Emissivity		
In Band	>.95	>.95
Out of Band	<.5	<.5
Field Distribution	Lambertian	Lambertian
Surface Area	.21 cm ²	.28 cm ²
Life (@ 500°C, 1Hz, 10% Duty Cycle)	>3 years	>3 years
Part Number	NL5NGC	NM8ASC
Window	ARGermanium	Sapphire

