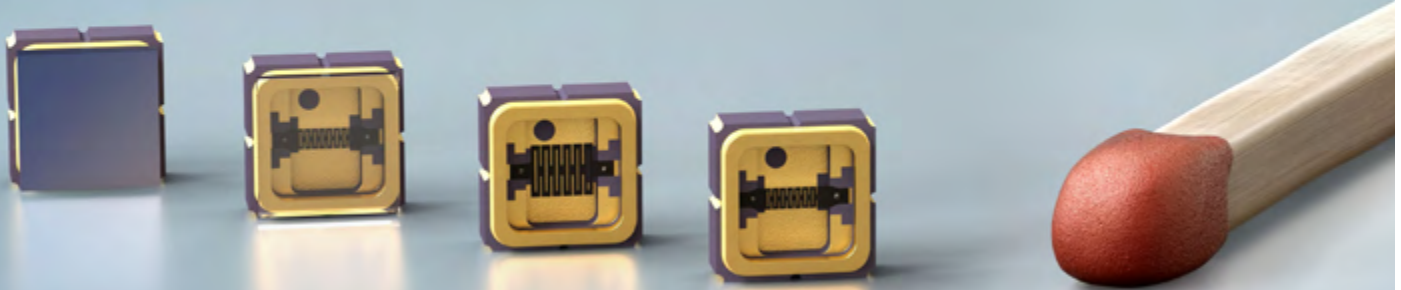




Highest efficiency · Most powerful · Nanostructured NiCr emitters

Thermal Infrared Emitters

for high-performance miniaturized measurement systems



SMD IR emitters

- Wide wavelength range from 2 μm up to 20 μm enables a broad range of applications
- Pulsable thermal black-body infrared source in an industry standard SMD package
- Patented nanostructured radiating element generates black-body spectrum with up to 1000% more detection signal compared to MEMS emitters
- Ideal for portable and battery powered devices
- SMD package enables low-cost mass assembly on PCB with pick-and-place machines

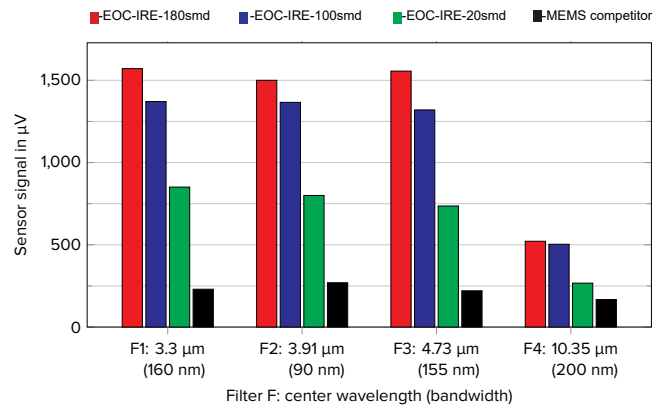


Fig. 1: Performance comparison of SMD IR emitters in a typical NDIR gas sensor set-up (4-channel detector, 100 mm optical path length, 5 Hz modulation frequency)

Wide application range



SAFETY
ENGINEERING



EMISSION
MONITORING



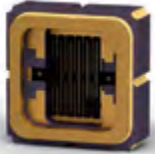





BREATH
ANALYSIS



INTERNET
OF THINGS

Highest performance in small packages

Parameter	EOC-IRE-20smd	EOC-IRE-100smd	EOC-IRE-180smd
			
Package	SMD (3 x 3) mm ²	SMD (3 x 3) mm ²	SMD (3 x 3) mm ²
Radiating element area	0.32 mm ²	1 mm ²	1.8 mm ²
Radiating element emissivity	> 0.9	> 0.9	> 0.9
Radiating element temperature	700 °C at 175 mW	600 °C at 290 mW	500 °C at 330 mW
Optical output power	up to 15 mW	up to 30 mW	up to 40 mW
Max. electrical power (DC)	175 mW	290 mW	330 mW
Modulation frequency*	14 Hz	10 Hz	8 Hz
Wavelength range**	2 μm to 20 μm		
Window options: Si-ARC, Sapphire			

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

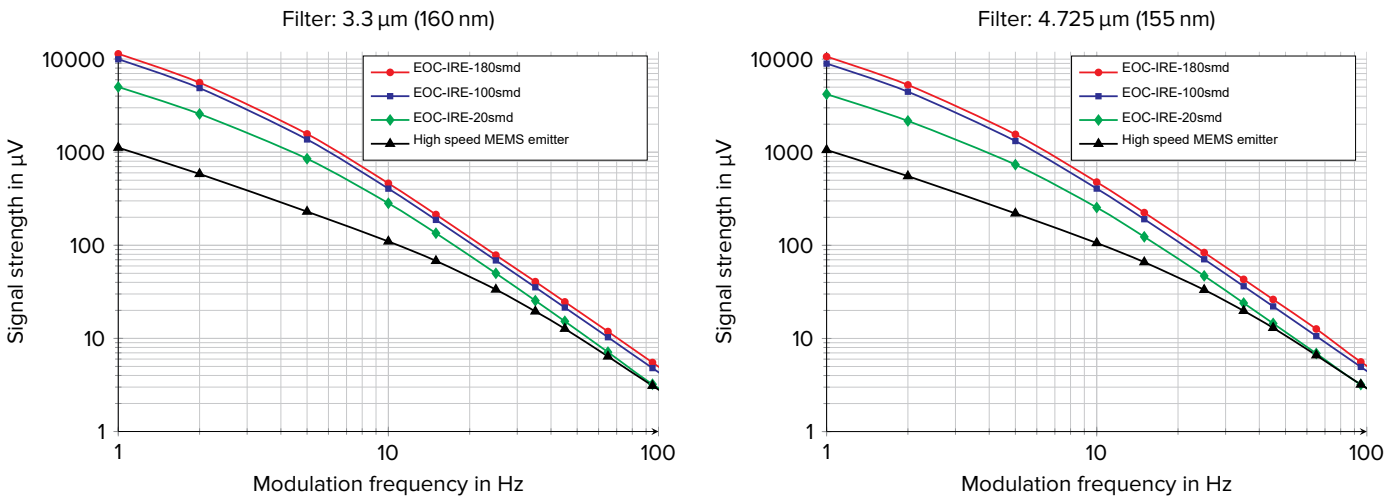


Fig. 2: Sensor signal vs. modulation frequency of SMD IR emitters in a typical NDIR gas sensor set-up (4-channel detector, 100 mm optical path length).
 Left: filter with center wavelength of 3.3 μm and bandwidth of 160 nm; right: filter with center wavelength of 4.725 μm and bandwidth of 155 nm

Are you looking for further emitters, detailed technical specifications or would you like to have an individual development?
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INDUSTRIAL
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RESEARCH



MEDICAL



ENVIRONMENT
CONTROL