

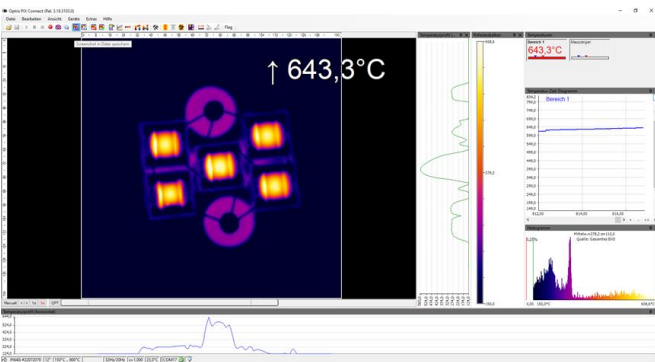
Infrared emitters with dynamics > 100 Hz (FIRE)

APPLICATION

Infrared-MEMS-emitters are high performance alternatives to classical heat bulbs. These thermal emitters can cover the spectral range from 2 to 15 μm and achieve dynamic modulations of up to 30 Hz. Within a recent development, we even shifted the dynamics beyond the 100 Hz level.

Possible applications are driven by the non dispersive infrared (NDIR) sensing technology, that is applied for:

- Gas sensors / concentration for medical and industrial application
- Oil status / concentration



SPECIALITIES

- Customized Wiring
- Monolithic arrays under development
- LTCC-based SMD-package under development

PARAMETERS OF FIRST DEVICES

With an in-house silicon wafer manufacturing, the CiS institute offers full freedom in design of customized infrared emitters and arrays. Our devices cover the following range of features:

PARAMETER	VALUE / RANGE
Chip size	1 x 1 ... 3.5 x 3.5 mm ²
Active area temperatures	Typical 600 to 700 °C Peak: 850 °C
resistance (single chip)	15 ... 25 Ω
Spectral emission	2 ... 15 μm
Radiant Power (single chip)	5 ... 100 mW
Power Consumption	~ radiant power x10
Arrays	Up to 20 chips on one TO39



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