

Infrared Sources

Launch EMIRS50

2014-05-30

a:etris
Company of the Leister Group



MEMS Infrared Sources

Key features for all Axetris infrared sources

- True black body radiation (2 to 14 μm)
- High emissivity
- Fast electrical modulation (no chopper wheel required)
- High modulation depth
- Energy efficient (excellent optical output)
- Superior lifetime

Special EMIRS50 Features (compared to EMIRS200)

- 3x smaller
- 2x more efficient
- 3x faster
- Excellent signal-to-noise ratio (due to higher frequency)

EMIRS200 & 50



Electrical/Optical characteristics (T_c=25 °C)

Electrical / optical characteristics (T_c = 25 °C)

Parameter	Unit	Value ¹⁾	Conditions / remarks
Cold resistance	Ω	29	Typical cold resistance at 25°C Range of cold resistance 22 – 36 Ω
Hot resistance	Ω	42	Typical hot resistance at 175 mW Typical range of hot resistance 34 – 56 Ω
Electrical input power for working temperature	mW	175	For 450°C
Operating voltage	V	2.7	For IRS with R _{cold} = 29 Ω / to achieve 175 mW
Operating current	mA	64	For IRS with R _{cold} = 29 Ω / to achieve 175 mW
Heating time constant	ms	11	Emission rise time to 63%
Cooling time constant	ms	6	Emission fall time to 37%
Emissivity		0.95	Emissivity of black platinum heater from 2 μm to 14 μm
Case temperature ²⁾	°C	70 60	DC, 175 mW, cap version 603.429 DC, 175 mW, reflector version 603.431

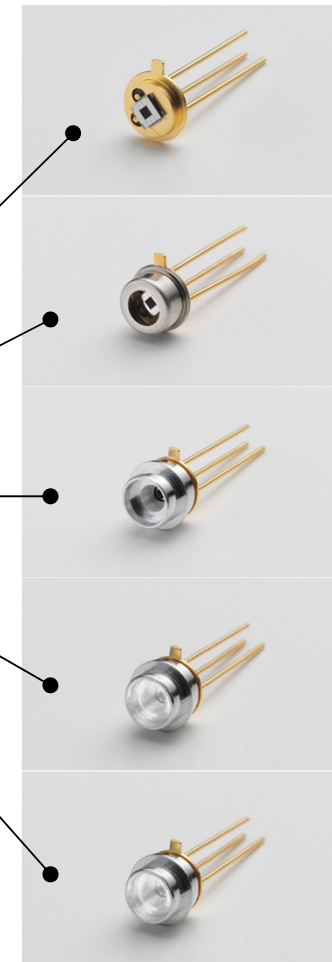
¹⁾ Values are considered as typical.

²⁾ Case temperature of a free standing T046 source (approx. 12 mm distance to PCB).

EMIRS50 – 5Types

- EMIRS50 5 Types
 - ▶ TO46-Header
 - ▶ Back vented
 - ▶ 2 windows: Sapphire & BaF2

EMIRS50 versions	Article numbers
EMIR50 / TO46 basic version (chip on header only)	603.410
EMIR50 / TO46 with cap	603.429
EMIR50 / TO46 with reflector	603.431
EMIR50 / TO46 with reflector and sapphire window	603.381
EMIR50 / TO46 with reflector and BaF2 window	603.377



EMIRS50 – 5Types

■ EMIRS50 5 Types

- ▶ TO46-Header
- ▶ Back vented
- ▶ 2 windows: Sapphire & BaF2

■ Availability

- ▶ Orders from now on
- ▶ Delivery: 2 weeks
- ▶ 5pcs of 1 Type in Plastic Box (ES-Delivery)
- ▶ Production 12/2014: 100pcs/Box

Show boxes / ES-boxes

■ Show-Box:

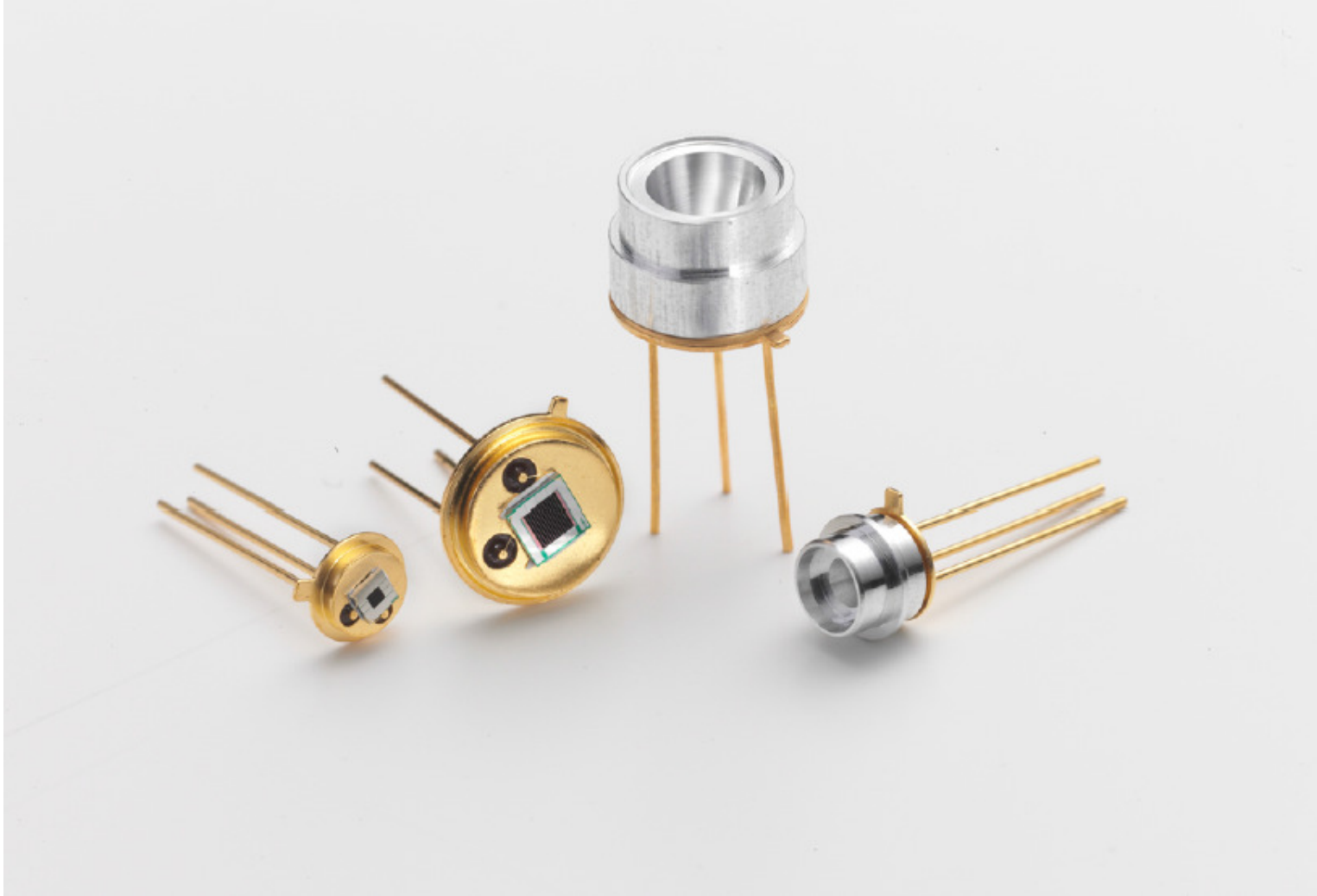
- ▶ 1pcs of 5 different types

Axetris			
EMIR50			
TO46-Header; back vented			
Basic Version (Chip on Header only)	603.41	●	
Cap	603.429		●
Reflector	603.431	●	
Reflector and Sapphire Window	603.381		●
Reflector BaF2 Window	603.377	●	

■ ES-Box

- ▶ 5pcs of 1 type

Axetris			
EMIR50 (on TO46-Header; back vented)			
		●	●
Reflector BaF2 Window	603.377	●	
		●	●



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