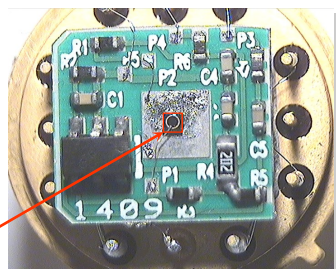




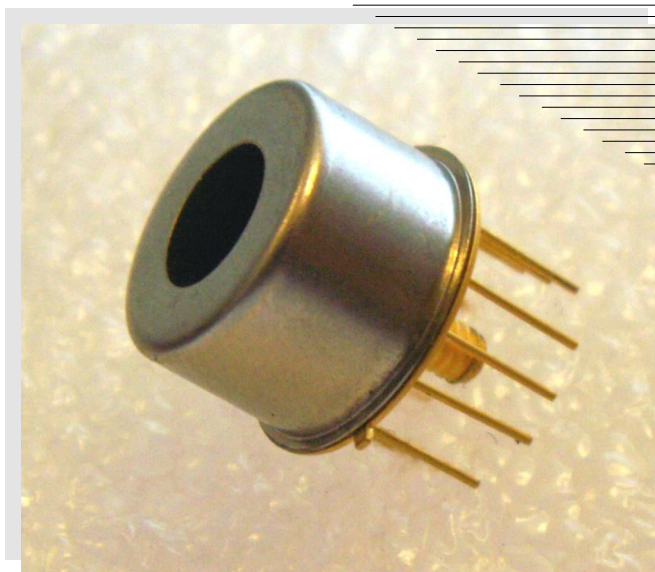
Photodiode amplifier with TEC PD36-05-AMP-TEC

Features

- High sensitivity
- High reliability
- Superior linearity
- Thermo stability



Photodiode CHIP



Applications

- Optical measurement equipment
- Analytical instruments

Description

Photodiode amplifier with TEC **PD36-05-AMP-TEC** is a model of **photodetector**, consist of **photodiode**, pre-amplifier, thermo cooler (TEC) and termistor for a control inside condition. Components integrated inside the standard 15.2 mm TO8 package.

Photodiode amplifier with TEC **PD36-05-AMP-TEC** is designed for detection of radiation in the Middle Infrared (Mid-IR) spectral range from 1500 to 3400 nm. **Heterostructures** with the InAsSbP active layer are grown on InAs substrates.

Diameter of the photosensitive area of **PD36-05-AMP-TEC** is 500 μm . Fast response makes it possible for detection of modulated radiation of laser diodes (LDs) and light-emitting diodes (LEDs).

Related products: **PD36-05-AMP-TEC** can be used in optical pair with our **LED27...LED36** and **LD300...LD360**.

General characteristics

Package	Parameter	Symbol	Value	Unit
TO8 with TEC	Sensitive area diameter	d	0.5	mm
	Weight	m	4	g
	Operating temperature	t _{opr}	0...+ 30	°C
	Soldering temperature	t _s	230	°C
	Storage temperature	t _{stg}	- 20...+ 40	°C
	Size	D	15.2	mm
	H	16		

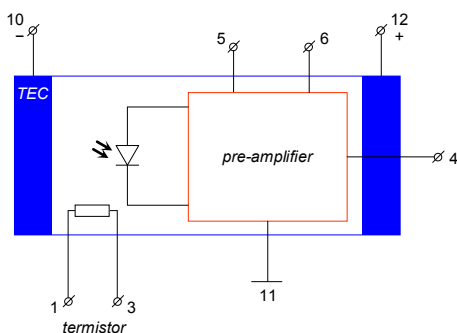


Electrical and optical characteristics (absolute maximum values at 20 °C)

Parameter	Symbol	Value	Unit
Spectral sensitivity range (at level 10%)	λ	1.0 - 3.8	μm
Peak sensitivity wavelength	λ_p	2.5 - 3.5	μm
Volt sensitivity	S_v	$4 \cdot 10^4$	V/A
Detection threshold (at λ_{max})	P	$[2 - 3] \cdot 10^{-7}$	W
Detectivity	D^*	$[3 - 5] \cdot 10^9$	$\text{cm} \cdot \text{Hz}^{1/2} \cdot \text{W}^{-1}$
Frequency range	Δf	0.15 - 30	kHz
Rise time	t_r	12	μs
Fall time	t_f	12	μs
Output impedance	R	20	Ω
Maximal amplitude of output signal	A	< 5	V
External power supply	U	5 - 6 (stabilized)	V
Output noise voltage (peak to peak at $\Delta f \approx 30$ kHz)	U_N	6	mV
Type output signal		Impulse	
Output polarity		Negative	

TEC 1MC06-018-08 parameters (without load)

Parameter	Symbol	Value	Unit
Current power (Δt_{max})	I_{max}	2.20	A
Voltage (Δt_{max})	U_{max}	2.20	V
Cooling energy	Q_{max}	2.65	W
Temperature range (vacuum)	ΔT_{max}	70	K
Termistor resistance ($t = 20$ °C)	R_t	10.00	k Ω



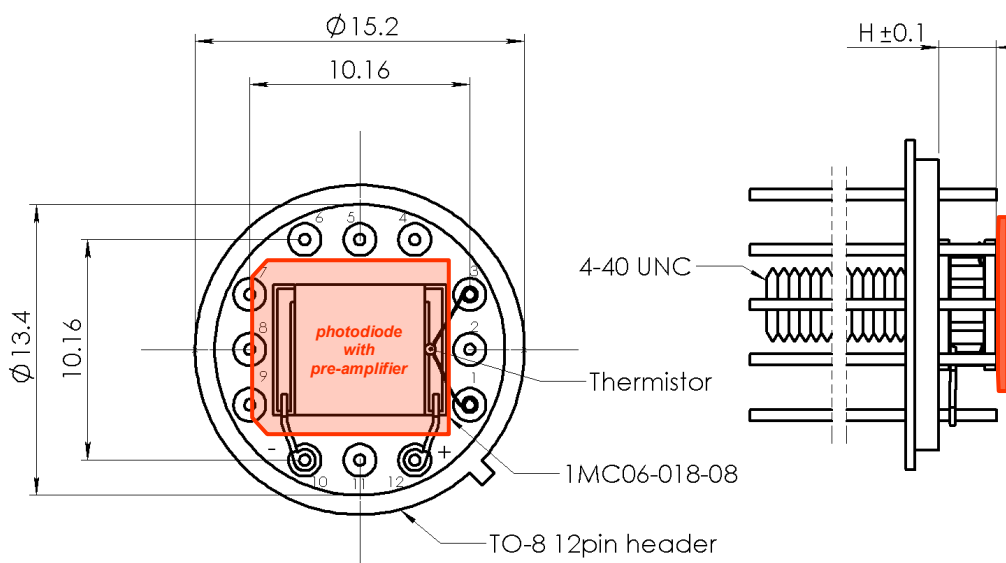
Pin	Description
1	Termistor TC103
3	
4	Signal output
5	+ 5 V
6	0 V
10	TEC 1MC06-018-08
12	
11	GND
2, 7, 8, 9	Not applicable

Package dimensions (unit: mm)

TOP SIDE VIEW

PROFILE SIDE VIEW

(without window)



* Recommend to use all capacitances type of TKE: "X7R"



▼ Spectral response (PD36-05-AMP-TEC)

