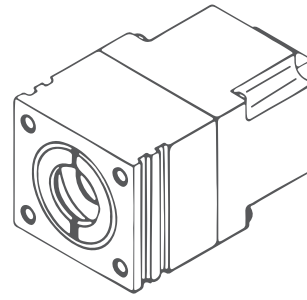


# SIP-TO8 SERIES

## Small-size transimpedance amplifiers



### FEATURES

- Compatible with VIGO TE-cooled IR detectors in the TO8 package
- Frequency bandwidth: up to 250 MHz
- Adjustable gain (optional, for modules with a frequency bandwidth of up to 100MHz)
- AC or DC coupled
- Small size
- Compatible with optical accessories
- External heatsink required
- External TEC controller required

### INCLUDED ACCESSORIES

- 1 pc of MMCX-BNC cable
- 1 pc of AMP2x4-DB9 cable

### DEDICATED ACCESSORIES

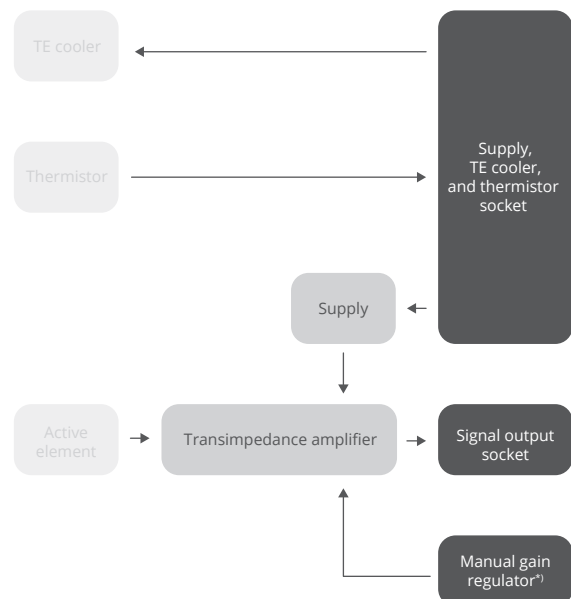
- PTCC-01 series TEC controller (p. 145)
- Smart Manager software: freeware
- MHS-2 heatsink (p. 153)

### CODE DESCRIPTION

Type	$f_{lo}$ , Hz	$f_{hi}$ , Hz	Detector package	Gain adjustment
SIP	DC	100k	TO8	G <sup>1)</sup> (with gain adjustment) NG (without gain adjustment)
	10	1M		
	100	10M		
	1k	100M		
	10k	250M		

<sup>1)</sup> Only for SIP amplifiers with  $f_{hi} \leq 100$  MHz

### SCHEMATIC DIAGRAM

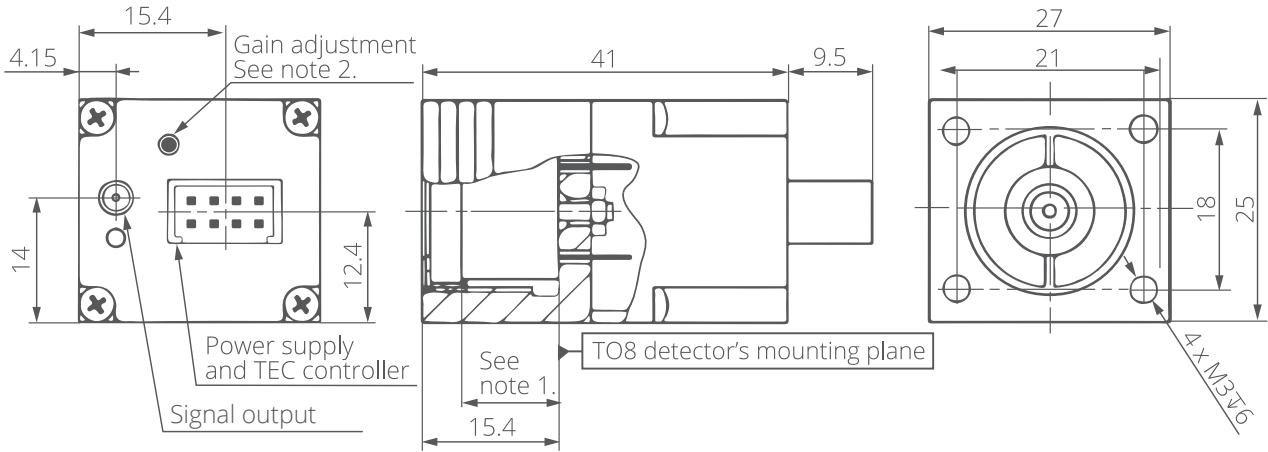


<sup>1)</sup> Only for SIP amplifiers with  $f_{hi} \leq 100$  MHz

## SPECIFICATION ( $T_{amb} = 293\text{ K}$ )

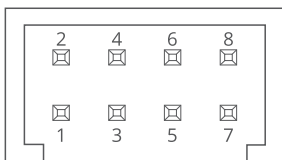
Parameter	Conditions/remarks	Value	Unit
Low cut-off frequency, $f_{lo}$		DC, 10, 100, 1k, 10k	Hz
High cut-off frequency, $f_{hi}$		100k, 1M, 10M, 100M, 250M	Hz
Transimpedance, $K_i$	Tunable, only the SIP-xx-xx-TO8-G version	up to 100	kV/A
Transimpedance range, $K_{i,max}/K_{i,min}$	Depending on the $f_{hi}$ , only the SIP-xx-xx-TO8-G version	up to 5	-
Output impedance, $R_{out}$		50	$\Omega$
Output voltage swing, $V_{out}$	$f_{hi} \leq 1\text{ MHz}$ , $R_{load} = 1\text{ M}\Omega$	$\pm 10$	V
	$f_{hi} > 1\text{ MHz}$ , $R_{load} = 50\ \Omega$	$\pm 1$	
Output voltage offset, $V_{off}$		max. $\pm 20$	mV
Power supply voltage, $V_{sup}$	$f_{hi} \leq 1\text{ MHz}$ , $R_{load} = 1\text{ M}\Omega$	$\pm 15$	V
	$f_{hi} > 1\text{ MHz}$ , $R_{load} = 50\ \Omega$	$\pm 9$	
Power supply current, $I_{sup}$		max. $\pm 50$	mA
TEC voltage, $V_{TEC}$	2TE	max. 1.3	V
	3TE	max. 3.6	
	4TE	max. 8.3	
TEC current, $I_{TEC}$	2TE	max. 1.2	A
	3TE	max. 0.45	
	4TE	max. 0.4	
Weight		52	g

## MECHANICAL LAYOUT (Unit: mm)



- Notes:  
 1. TO8 detector dimensions in the TO8 package technical drawings (p. 203, 204, 207, 209, 210)  
 2. Only for the SIP-xx-xx-TO8-G version.

## POWER SUPPLY, TE COOLER, THERMISTOR AND FAN SOCKET PINOUT



AMP2x4 (PART NO. 280389-2)

Pin No.	Symbol	Function
1	-Vsup	Power supply input (-)
2	TH2	Thermistor output (2)
3	DATA	Data
4	TEC-	TEC supply input (-)
5	GND	Ground
6	TH1	Thermistor output (1)
7	+Vsup	Power supply input (+)
8	TEC+	TEC supply input (+)

## ABSOLUTE MAXIMUM RATINGS

Parameter	Test conditions/remarks	Value	Unit
Ambient operating temperature, $T_{amb}$		10 to 30	°C
Storage temperature, $T_{stg}$		-20 to 50	°C
Humidity	No dew condensation	10 to 90	%

Stresses beyond those listed under Absolute maximum ratings may cause permanent damage to the device. Constant or repeated exposure to absolute maximum rating conditions may affect the quality and reliability of the device.