



## FEATURES

- Compact size
- Easy to use
- High Signal/Noise ratio
- Bandwidth up to 250 MHz
- 2, 3 and 4 stage TE cooled detectors
- Additional accessories available
- Custom design upon request

## APPLICATIONS

- Contactless temperature measurement
- Free space optical communication
- Laser radiation detection
- Gas analysis
- Fourier spectroscopy
- Fire, flame and human body detection
- Pyrometers, scanners
- Nondestructive material testing
- OEM Applications

## SPECIFICATION

Parameter	Unit	Typical Value	Conditions, Remarks
Input noise current density $i_n$	pA/ $\sqrt{\text{Hz}}$	0.02 – 3.5 <sup>1)</sup>	MIPAC, MIPDC, $f_0=10\text{kHz}$ <sup>3)</sup>
Input noise voltage density $e_n$	nV/ $\sqrt{\text{Hz}}$	0.97 – 8.0 <sup>1)</sup>	MIPAC, MIPDC, $f_0=10\text{kHz}$ <sup>3)</sup>
Detector capacitance $C_i$	pF	$\leq 100$ <sup>2)</sup>	
Cut-on frequency $f_o$	Hz	DC 10 to $10^4$	MIPDC MIPAC
Cut-off frequency $f_{hi}$	MHz	0.1 to 250	MIPAC, MIPDC
Transimpedance $K_i$	V/A	up to $10^5$	MIPAC, MIPDC
Output impedance $R_{out}$	$\Omega$	50	
Output voltage swing $V_{out}$	V V V	$\pm 10$ $\pm 2$ $\pm 1$	$f_{hi} \leq 1 \text{ MHz}$ , $R_L=1\text{M}\Omega$ <sup>4)</sup> $1 \text{ MHz} < f_{hi} \leq 20 \text{ MHz}$ , $R_L=1\text{M}\Omega$ <sup>4)</sup> $20 \text{ MHz} < f_{hi} \leq 250 \text{ MHz}$ , $R_L=50 \Omega$ <sup>4)</sup>
Output voltage offset $V_{off}$	mV	max. $\pm 20$	MIPAC, MIPDC
Power supply voltage $V_{sup}$	V V	$\pm 15$ $\pm 9$	$f_{hi} \leq 1 \text{ MHz}$ $f_{hi} > 1 \text{ MHz}$
Power supply current $I_{sup}$	mA	max. $\pm 50$	without detector biasing
Dimensions	mm	45 x 80.5 x 25	width x depth x height

Electrical characteristics @  $T_a=20^\circ\text{C}$

<sup>1)</sup> The preamplifier noise may significantly reduce the system performance in some situations, however. This happens for large capacitance detectors operating at high frequencies.

<sup>2)</sup> For 100pF detector capacitance available bandwidth is  $\sim 10\text{MHz}$

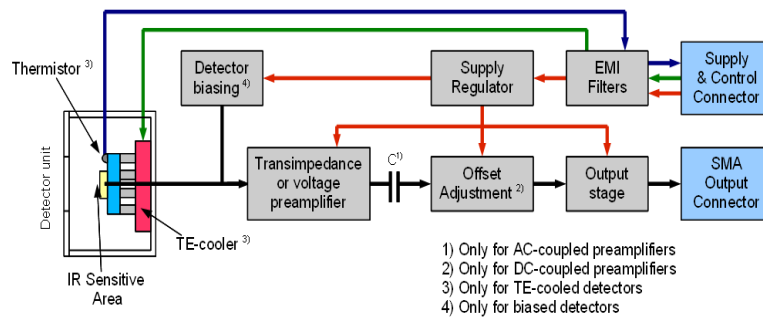
<sup>3)</sup>  $f_0$  – Noise measurement frequency

<sup>4)</sup>  $R_L$  – Load resistance

## DESCRIPTIONS

**MIPXC-xx** is the IR detection module. It includes infrared detector integrated with transimpedance AC or DC coupled preamplifier. It is dedicated for OEM applications and requires external heat sink (see recommended accessories). Bandwidth up to 250MHz are available.

## SCHEMATIC DIAGRAM



## PREAMPLIFIER/MODULE CODE DESCRIPTION

### MIPXC-xx

↑ ↑  
 XX - Coupling type – AC or DC  
 xx - High cut-off frequency: 0.1, 0.3, 1, 5, 10, 20, 50, 100, 250 MHz

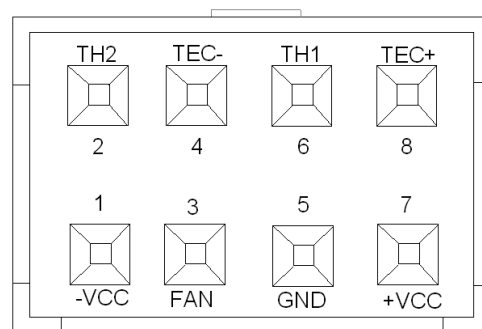
The preamplifier can be integrated with following types of TE cooled IR detectors:

Detector Type <sup>2)</sup>	Description
PC-2TE, PC-3TE, PC-4TE	Photoconductive
PCI-2TE, PCI-3TE, PCI-4TE	Photoconductive, optically immersed
PV-2TE, PV-3TE, PV-4TE	Photovoltaic
PVI-2TE, PVI-3TE, PVI-4TE	Photovoltaic, optically immersed
PVM-2TE, PVM-3TE, PVM-4TE	Multiple heterojunction photovoltaic
PVMI-2TE, PVMI-3TE, PVMI-4TE	Multiple heterojunction photovoltaic, optically immersed

Symbol -2TE, -3TE, -4TE means 2, 3, 4 stage TE cooler respectively

## POWER SUPPLY CONNECTOR

Pin Number	Symbol	Function
1	-V <sub>sup</sub>	Power supply input (-)
2	TH2	Thermistor input
3	GND/FAN+	Power ground or FAN (+)
4	TEC-	TEC supply input (-)
5	GND	GND
6	TH1	Thermistor input
7	+V <sub>sup</sub>	Power supply input (+)
8	TEC+	TEC supply input (+)



Power Supply Connector model AMP 2x4

