



Metal dewar type

High sensitivity modules of easy-to-use

These devices combine a dewar type detector with a compatible preamplifier, and easily operate to detect infrared radiation just by connecting to a DC power supply. InGaAs and InSb detectors are provided as standard devices (liquid nitrogen cooling). Custom-designed devices with different active areas, FOV or amplifier gain, etc. are also available to meet your specific needs.

Features

- Compact integral detector unit
- Optimum connections between the detector element and preamplifier allow amplified signals to be easily obtained.

Required power supply specifications

- \cdot G7754 series, P7751 series: ±15 V (±12.0 to ±17.5 V can also be used)
- $\cdot\,$ Current capacity: 1.5 times or more of each module's maximum current consumption
- · Ripple noise: 5 mVp-p or less
- · Analog power supply only
- Recommended DC power supplies: E3620A, E3630A (Agilent Technologies)

Applications

- Infrared detection
- Accessories
- Cable (for DC power supply):
 2 m (connector installed at one end)
- BNC-BNC coaxial cable (for signal output): 2 m

A4372-02

Instruction manual

Specifications / Absolute maximum ratings

Detector element		External power supply ^{*1}				Absolute maximum ratings			
	Active area	Supply voltage (V)			1		Operating temperature Topr	Storage temperature Tstg	
	(mm)	Min.	Тур.	Max.	(mA)	(V)	(°C)	(°C)	
InCoAc	φ1				172	±18	0 to +40	-20 to +50	
IIIGdAS	φ3	L120	±1E 0	17F	123				
InSb (P5968-060)	φ0.6	±12.0	±15.0	±17.5	±30				
InSb (P5968-200)	φ2								
	InGaAs InSb (P5968-060)	Detector element (mm) InGaAs φ1 δφ3 InSb (P5968-060) φ0.6	Detector element Active area Su (mm) Min. InGaAs φ1 φ3 12.0 InSb (P5968-060) φ0.6	$\begin{array}{c c} \mbox{Detector element} \\ \mbox{Detector element} \\ \mbox{Active area} \\ $	$\begin{array}{c c} \mbox{Detector element} \\ \mbox{Detector element} \\ \mbox{InGaAs} \\ \hline \mbox{InSb (P5968-060)} \\ \hline \mbox{InSb (P5968-060)} \\ \hline \end{array} \begin{array}{c} \mbox{Active area} \\ \mbox{Active area} \\ \mbox{Min.} \\ \hline \mbox{Min.} \\ \mbox{Typ.} \\ \mbox{Hax.} $	Detector element Active area $Min.$ Typ. Max. (mA) InGaAs ϕ_3 InSb (P5968-060) $\phi_0.6$ ± 12.0 ± 15.0 ± 17.5 ± 23	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c} \mbox{Detector element} \\ \mbox{Detector element} \\ \mbox{Min.} \\ \mbox{InGaAs} \\ \hline \mbox{InSb} (P5968-060) \\ \hline \mbox{InSb} (P5968-060) \\ \hline \mbox{detector} \\ \mbox{Active area} \\ \mbox{Min.} \\ \hline \mbox{Typ.} \\ \mbox{Max.} \\ \mbox{Hax.} \\ Ha$	

*1: Use only an analog power supply.

Note: Nitrogen hold time: 12 hours or more (at the time of shipment)

Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

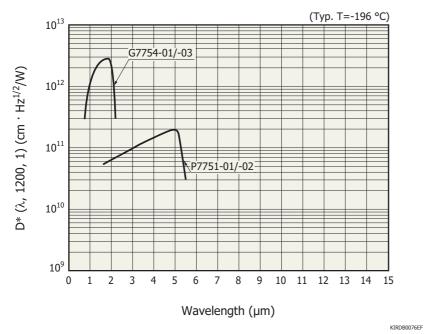
Electrical and optical characteristics (Typ.)

Type No.	Measurement condition Element temperature T	Peak sensitivity wavelength	Cut-off wavelength λc	Photo sensitivity S $\lambda = \lambda p_{\star 2}$	Noise equivalent power NEP $\lambda = \lambda p$	Cutoff frequency fc	Output impedance	Maximum output voltage R∟=1 kΩ	Maximum current consumption* ³
	(°C)	(µm)	(µm)	(V/W)	(W/Hz ^{1/2})	(Hz)	(Ω)	(V)	(mA)
G7754-01		2.0	2,4	2×10^{9}	3×10^{-14}	2 to 500		±10	±15
G7754-03	-196	2.0	2.4	5×10^{8}	1.5×10^{-13}	2 to 500	50	±10	±15
P7751-01*4	-196	5.3	5.5	3×10^{8}	3 × 10 ⁻¹³	5 to 10000	50	±10	±20
P7751-02*4				1.5×10^{8}	1×10^{-12}	5 to 12000		±10	±20

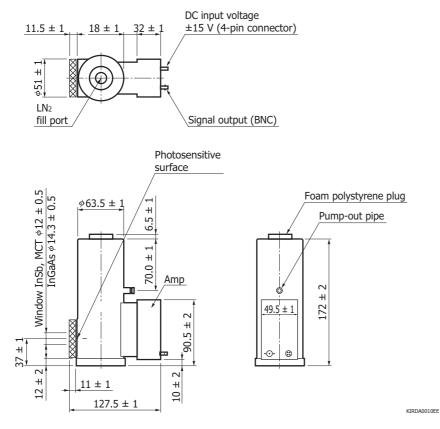
*2: f=100 Hz (G7754-01, G7754-03), f=1.2 kHz (P7751-01, P7751-02)

^{*3:} Vs=±15 V

Spectral response

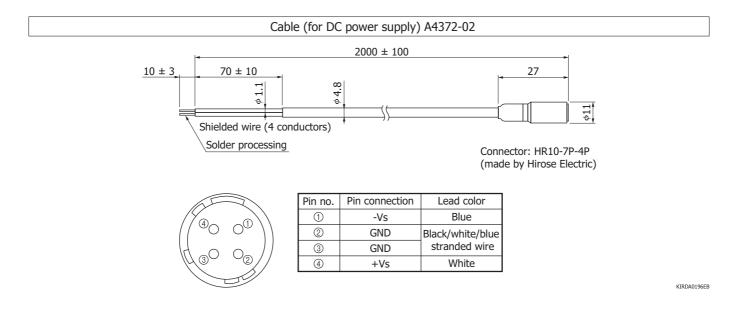


Dimensional outline (unit: mm)





Infrared detector modules with preamps



Precaution for use

- The detector should not be placed horizontally during use.
- · Using these detectors in an environment subjected to vibration may cause microphonic noise. Take measures to prevent vibration as needed.

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Information described in this material is current as of November, 2012.

Product specifications are subject to change without prior notice due to improvements or other reasons. Before assembly into final products, please contact us for the delivery specification sheet to check the latest information.

The product warranty is valid for one year after delivery and is limited to product repair or replacement for defects discovered and reported to us within that one year period. However, even if within the warranty period we accept absolutely no liability for any loss caused by natural disasters or improper product use.

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Type numbers of products listed in the delivery specification sheets or supplied as samples may have a suffix "(X)" which means preliminary specifications or a suffix "(Z)" which means developmental specifications.