

Pyroelectric Detectors

Ideally suited for human body sensing and simplified analytical instruments

Broad spectral response
Operates at room temperature
Low cost

Thermally-Compensated Types (Single Element)

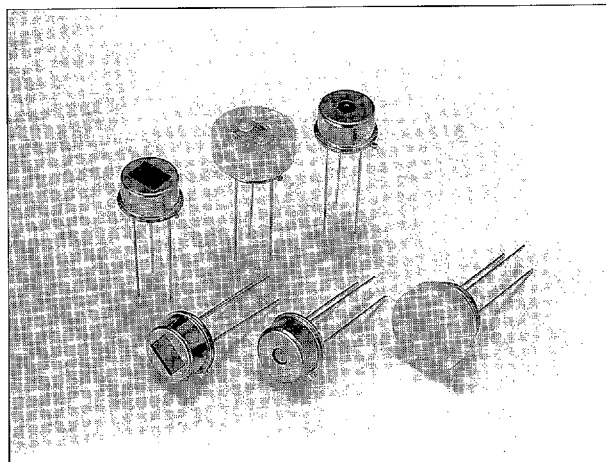
Including a thermal compensation element in the same package, these types can minimize noise fluctuation caused by changes in the ambient temperature. Suited for simplified analytical instruments.

Dual Element Types

Optimized specifically for human body sensing. Two families are available: the P4488 series with wide fields of view and the P3514 series with a lens cap that provides limited fields of view.

Single Element Types

A single pyroelectric element is used, being suitable for general-purpose infrared detection.



(Typical data unless otherwise specified, $T_a = 25^\circ\text{C}$)

Type No.	Window Material	Active Area	Spectral Response Range	Sensitivity (500, 1)	Noise Max.	D* (500, 1, 1)	NEP (500, 1, 1)	Rise Time t_r 0 to 63 %	Temp. Coefficient of Sensitivity Max.	Supply Voltage	Offset Voltage $R_L = 22\text{ k}\Omega$	Operating Temperature T_{opr}	Storage Temperature T_{stg}
		(mm)	(μm)	(V/W)	($\mu\text{V}/\text{Hz}^{1/2}$)	($\text{cm} \cdot \text{Hz}^{1/2}/\text{W}$)	($\text{W}/\text{Hz}^{1/2}$)	(ms)	(%/°C)	(V)	(V)	(°C)	(°C)

Thermally-Compensated xTypes (Single Element)

P3782	Silicon	$\phi 2$	2 to 20	1500	15	1.7×10^8	8.5×10^{-10}	100	0.2	3 to 15	0.2 to 1.0	-20 to +60	-30 to +85
P3782-01	7 μm long-pass filter	$\phi 2$	7 to 20	1300	15	1.5×10^8	1.0×10^{-9}						
P3782-02	4.3 μm band-pass filter	$\phi 2$	4.3 (HW=80 nm)	3900(A)	15	3.0×10^8	5.0×10^{-10}						
P3782-03	8-14 μm band-pass filter	$\phi 2$	8 to 14	900	15	2.0×10^8	1.0×10^{-9}						
P3782-05	5 μm long-pass filter	$\phi 2$	5 to 20	1500	15	1.7×10^8	8.5×10^{-10}						
P3782-12	4.4 μm band-pass filter	$\phi 2$	4.4 (HW=650 nm)	4100(A)	15	3.0×10^8	5.0×10^{-10}						
P4736	Silicon	$\phi 2$	2 to 20	1500	15	1.7×10^8	8.5×10^{-10}						
P4736-01	7 μm long-pass filter	$\phi 2$	7 to 20	1300	15	1.5×10^8	1.0×10^{-9}						
P4736-05	5 μm long-pass filter	$\phi 2$	5 to 20	1500	15	1.7×10^8	8.5×10^{-10}	100	0.2	3 to 15	0.2 to 1.0	-20 to +60	-30 to +85
P4736-12	4.4 μm band-pass filter	$\phi 2$	4.4 (HW=650 nm)	4100(A)	15	3.0×10^8	5.0×10^{-10}						

Dual Element Types

P4488	7 μm long-pass filter	2×1 ($\times 2$)	7 to 20	1300	15	1.5×10^8	1.0×10^{-9}	100	0.2	3 to 15	0.2 to 1.0	-20 to +60	-30 to +85
P4488-02	5 μm long-pass filter		5 to 20	1500	15	1.7×10^8	8.5×10^{-10}						

Dual Element Types with Lens Cap

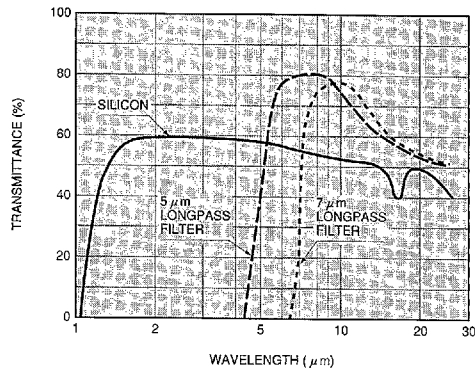
P3514	7 μm long-pass filter	2×1 ($\times 2$)	7 to 20	450	15	1.0×10^8	1.5×10^{-9}	100	0.2	3 to 15	0.2 to 1.0	-20 to +60	-30 to +85
P3514-01													

Single Element Types

P2613	Silicon	$\phi 2$	2 to 20	1800	15	2.0×10^8	1.0×10^{-9}	100	0.2	3 to 15	0.2 to 1.0	-20 to +60	-30 to +85
P2613-01	7 μm long-pass filter	$\phi 2$	7 to 20	1500	15	2.0×10^8	1.0×10^{-9}						
P2613-02	4.3 μm band-pass filter	$\phi 2$	4.3 (HW=80 nm)	3900(A)	15	3.0×10^8	5.0×10^{-10}						
P2613-03	8-14 μm band-pass filter	$\phi 2$	8 to 14	900	15	2.0×10^8	1.0×10^{-9}						
P2613-12	4.4 μm band-pass filter	$\phi 2$	4.4 (HW=650 nm)	4100(A)	15	3.0×10^8	5.0×10^{-10}						

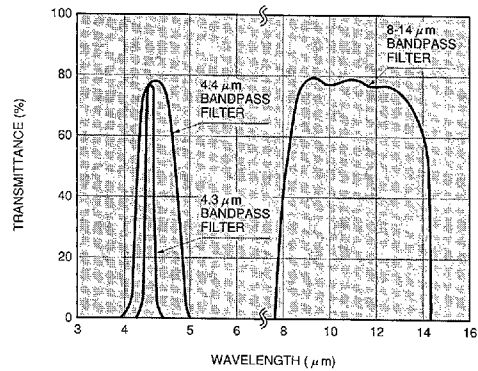
(A) Measured at 4.3 μm or 4.4 μm .

● Transmittance of Window Materials (1)



KIRDB0077EA

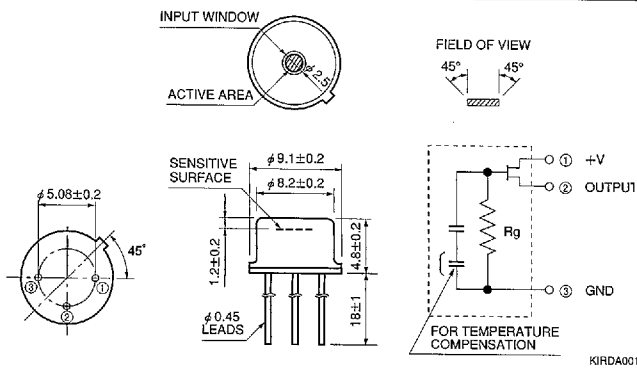
● Transmittance of Window Materials (2)



KIRDB0078EA

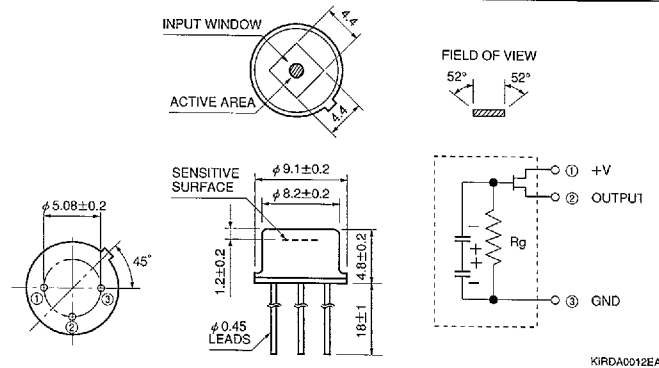
● Dimensional Outlines (Unit: mm)

P3782 Series



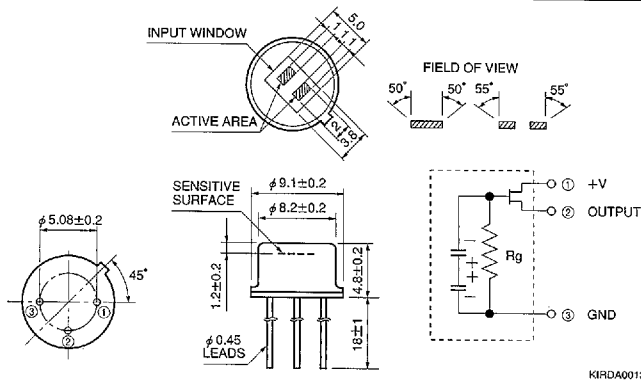
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P4736 Series



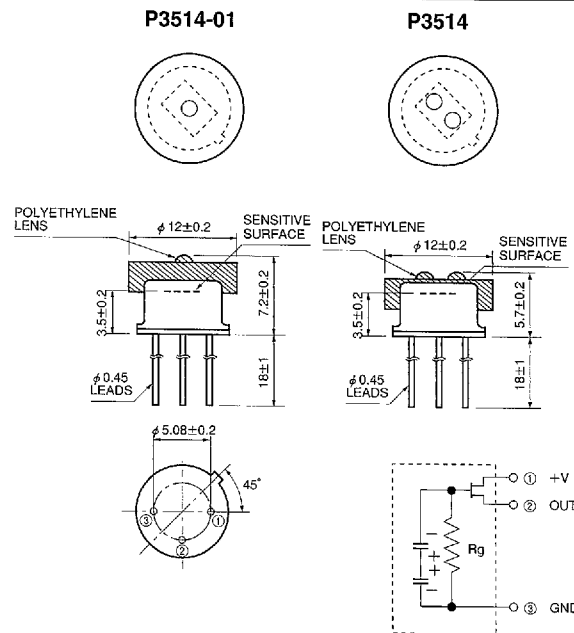
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P4488 Series



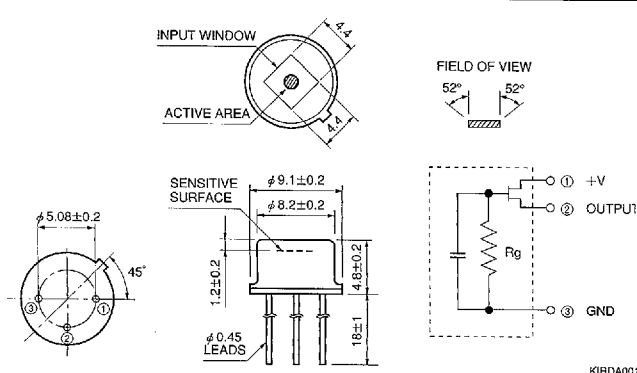
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P3514 Series



KIRDA0014EA

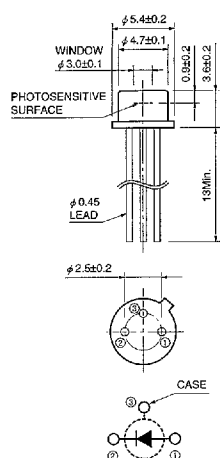
P2613 Series



KIRDA0015EA

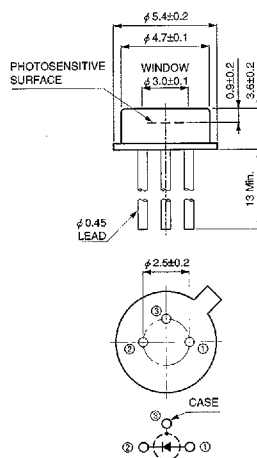
Dimensional Outlines (Unit: mm)

① G3476-01, etc.



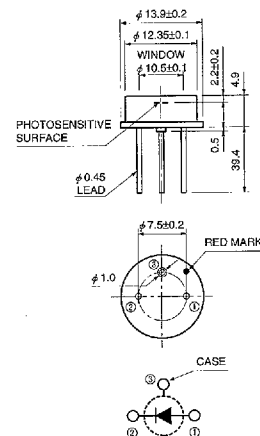
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② G5832-02, -03



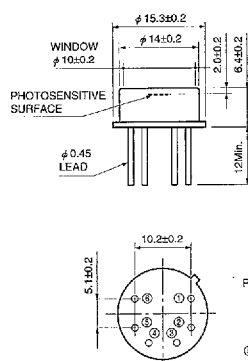
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③ G5832-05, etc.



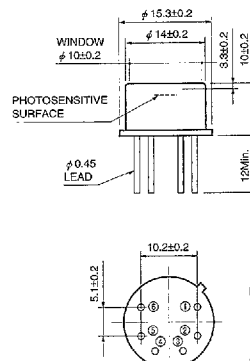
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④ G5832-11, etc.



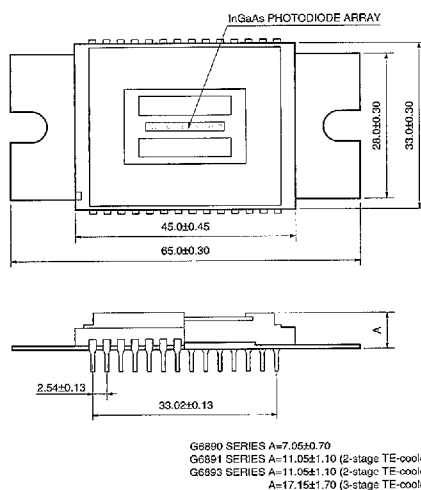
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⑤ G5832-21, etc.



KIRDA0031EB

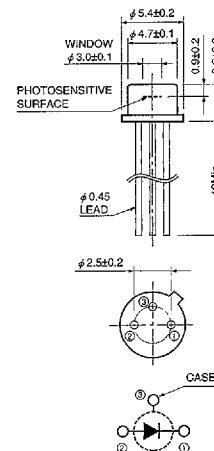
⑥ G6890-128, etc.



G6890 SERIES A=7.06±0.70
G6891 SERIES A=11.05±1.10 (2-stage TE-cooled)
G6893 SERIES A=11.05±1.10 (2-stage TE-cooled)
A=17.15±1.70 (3-stage TE-cooled)

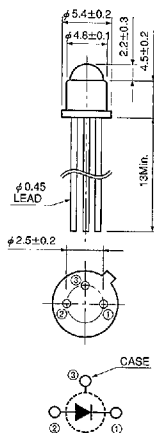
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⑦ B1720-02, etc.



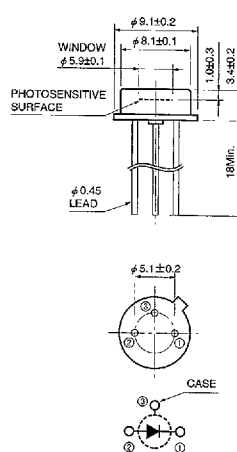
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8 B1720-05



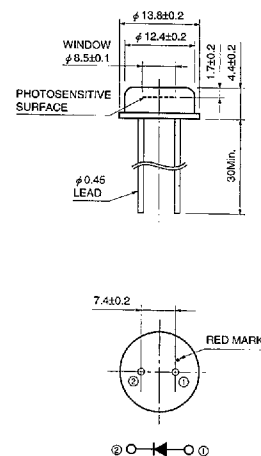
KIRDA0024EA

9 B2144-01, etc.



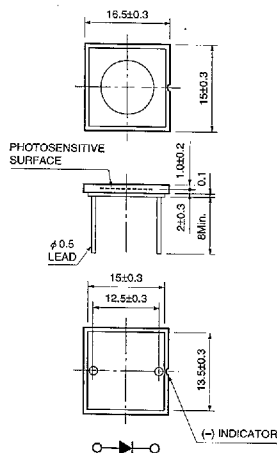
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10 B1919-01



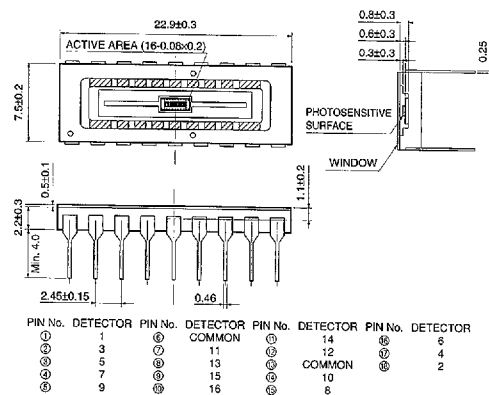
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11 B1920-01



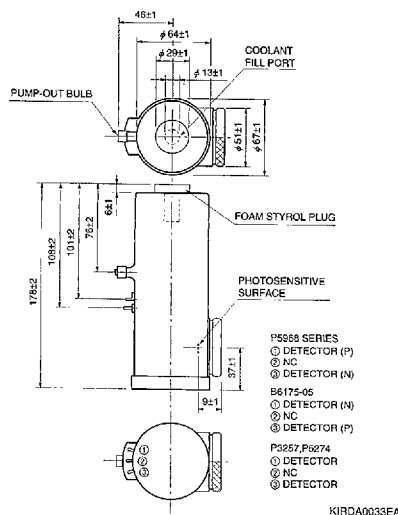
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12 G7151-16



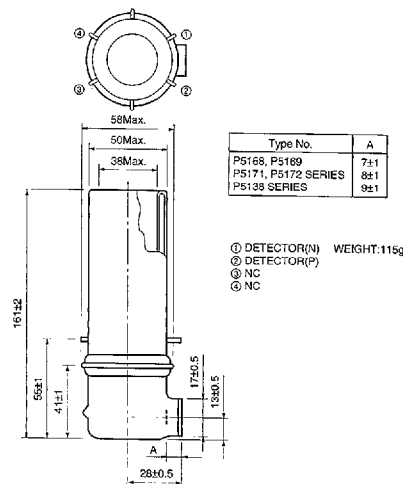
KIRDA0030EB

13 P5968 series, P7163, B6175-05, etc.



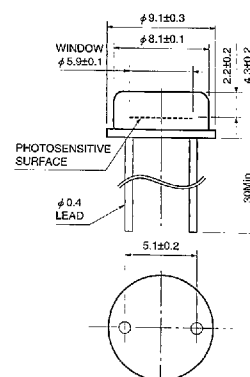
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14 P5138, etc.



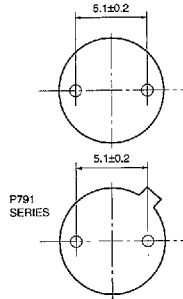
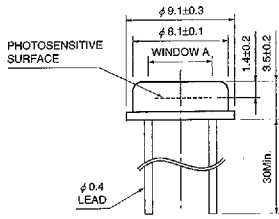
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15 P394



KIRDA0055EA

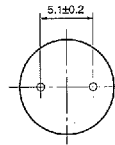
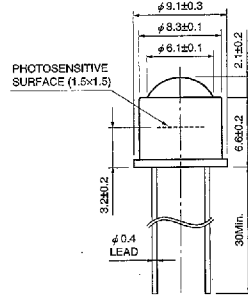
16 P394A, etc.



	P791 SERIES	OTHERS
A	5.5±0.1	5.9±0.1

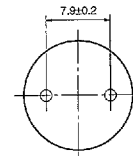
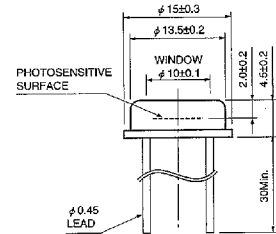
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17 P3226-02



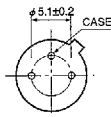
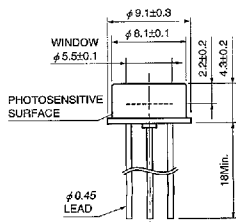
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18 P397



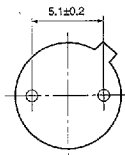
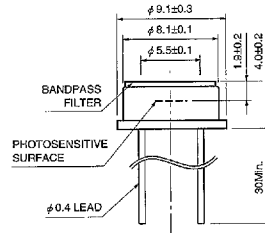
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19 P791-11



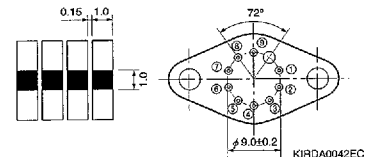
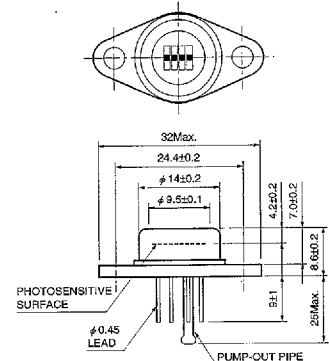
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20 P3207-04



KIRDA0054EA

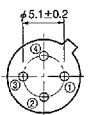
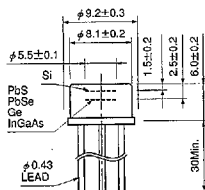
21 P4115



PIN No.
① THERMISTOR
② 1
③ 2
④ 3
⑤ 4
⑥ COMMON
⑦ COOLER (-)
⑧ COOLER (+)

KIRDA0042EC

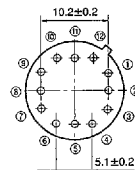
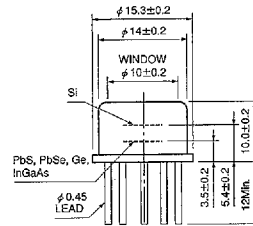
22 K1713-01, etc.



PIN No.
① Si (N)
② Si (P)
③ PbS, PbSe, Ge, InGaAs (N)
④ PbS, PbSe, Ge, InGaAs (P)

KIRDA0041EA

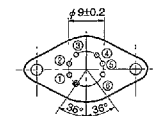
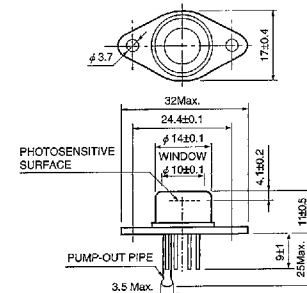
23 K3413-01, etc.



PIN No.
① PbS, PbSe, Ge, InGaAs (P)
② PbS, PbSe, Ge, InGaAs (N)
③ COOLER (-)
④ COOLER (+)
⑤ THERMISTOR
⑥ Si (N)
⑦ Si (P)

KIRDA0043EA

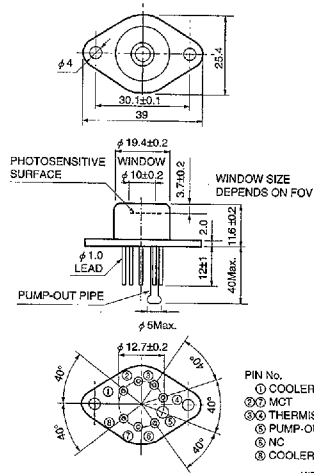
24 P3981-01, etc.



PIN No.
① THERMISTOR
② THERMISTOR
③ DETECTOR
④ DETECTOR
⑤ COOLER (-)
⑥ COOLER (+)

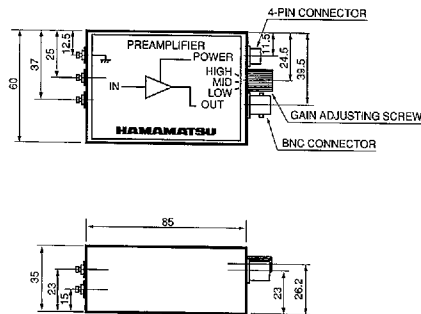
KIRDA0044EB

25 P2750, etc.



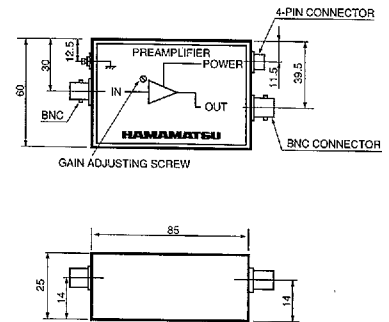
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26 C4159, -01, -03



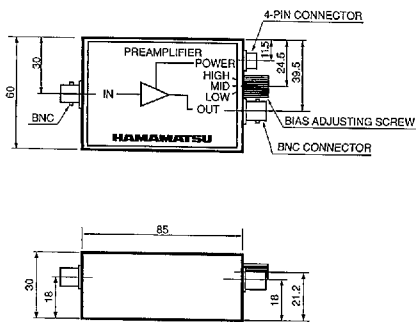
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27 C4159-02



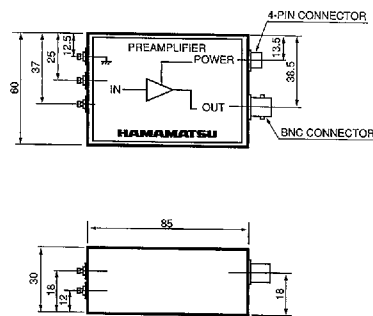
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28 C5185, -01



KIRDA0048EB

29 C3757-02



KIRDA0049EA