JNO. 711915

HAMAMATSU

FINAL TEST SHEET

PAGE 001 OF 001

PHOTOSENSOR MODULE

TYPE : H10770B-40

CUSTOMER: UNIV OF CALIF SAN DIEGO

QUANTITY: 4 pcs.

Serial Number	(1) Cathode Radiant Sens. mA/W	(2) Anode Radiant Sens. A/W x10^3	(3) Anode Dark Current nA				
AA4495	204.0	253	0.14				
AA4803	228.0	258	0.57				
AA4948	233.0	613	0.51				
AA5097	246.0	2130	1.79				

NOTES

(1) (2) The light source is a tungsten lamp and the incident light on the photocathode has a wavelength of 550 nm which is obtained through band pass filter.
(2) (3) Overall control voltage: 0.8 V
(3) Temp setting 25 ℃

Date: MARCH 15, 2012

Approved by :

Jan.15.2009

PRELIMINARY

H10770B-40/-50 Specifications

W/O PROTECTION CIRCUIT

□Maximum Ratings

Parameter	-40/-50	Unit
Main unit input voltage	+18	V dc
Operating temperature	+5 to +35	Cel
Storage temperature	-20 to +50	Cel
Output Current	2	μA
Control Voltage (Vcontrol)	+0.9(Input impedance for Vcont. is 100 kΩ)	V

□Specifications General

(Ta = 25 Cel)

Parameter	-40	-50	Unit
Spectral response	300 to 720	380 to 890	nm
High voltage power supply and Voltage Regulator Supply voltage range	+11.5 to +15.5		V dc
High voltage power supply and Voltage Regulator Supply Current Requirement (Maximum)	62		mA
Supply Adjustable Range (Relative Sensitivity)	1:50		-
Setting Time(Sensitivity Control)*1	0.2		s
Effective Area (dia.)	5		mm
Weight (Approx.)	110		g

*1) Stabilized time in the control voltage adjustment from +1.0 V to +0.5 V.

□Series Characteristics

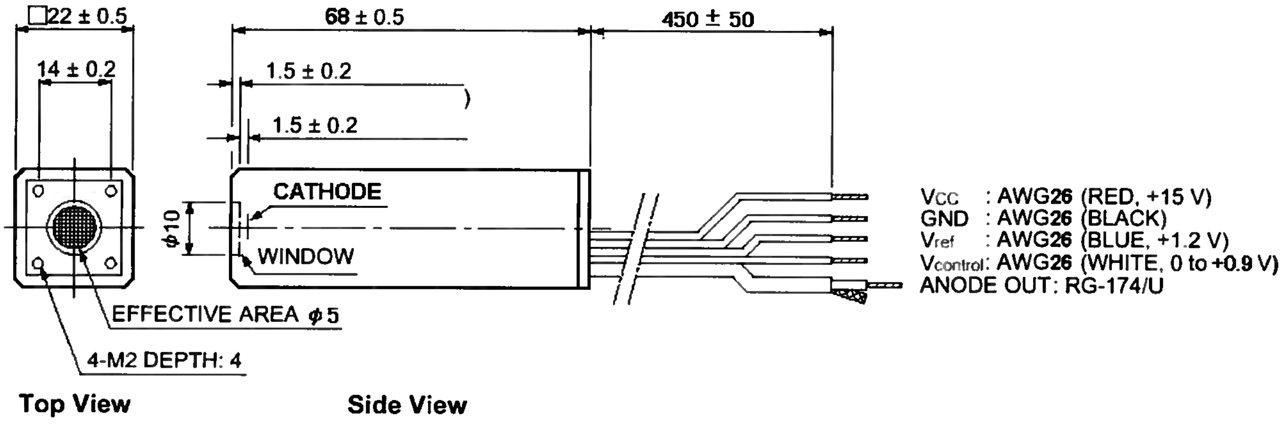
(Ta = 25 Cel)

Parameter			-40	-50	Unit
H10770	Radiant Sensitivity	at 420 nm	54	7.5	Typical × 10^{-6} A/nW
		at 550 nm	88	25	
		at 800 nm	-	45	
	Dark Current(A) (B)	Typical	3.3	4.1	nA
		Maximum	9.3	11.6	
H10770P	Radiant Sensitivity	at 420 nm	108	15	Typical × 10^{-6} A/nW
		at 550 nm	176	50	
		at 800 nm	-	90	
	Dark Count(B) (C)	Typical	6000	7500	1/s
		Maximum	18000	22500	
Induced Ripple in Signal(D)			0.6		Maximum mV p-p
Anode Pulse Rise Time(A)			1.00		ns
Recommended Control Voltage Range Vcontrol			+0.50 to +0.80		V

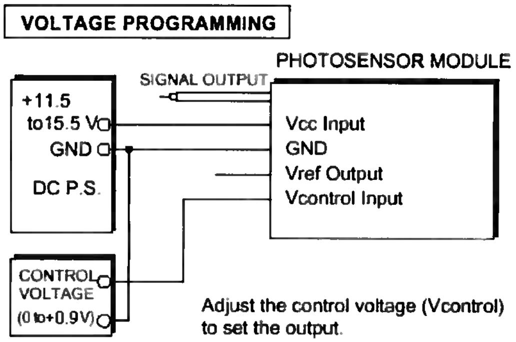
(A) Control Voltage : +0.8 V ; Temperature control at 25 Cel.
(B) After 30 min storage in darkness.
(C) Control Voltage : Plateau ; Temperature control at 25 Cel.
(D) Measured across 1 MOhm / 22 pF load

□Dimensions

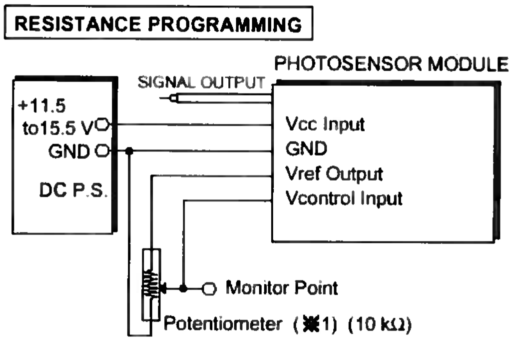
Unit : mm



□Wiring Examples For Sensitivity Adjustment



Adjust the control voltage (Vcontrol) to set the output.
Insulate and float Vref output.

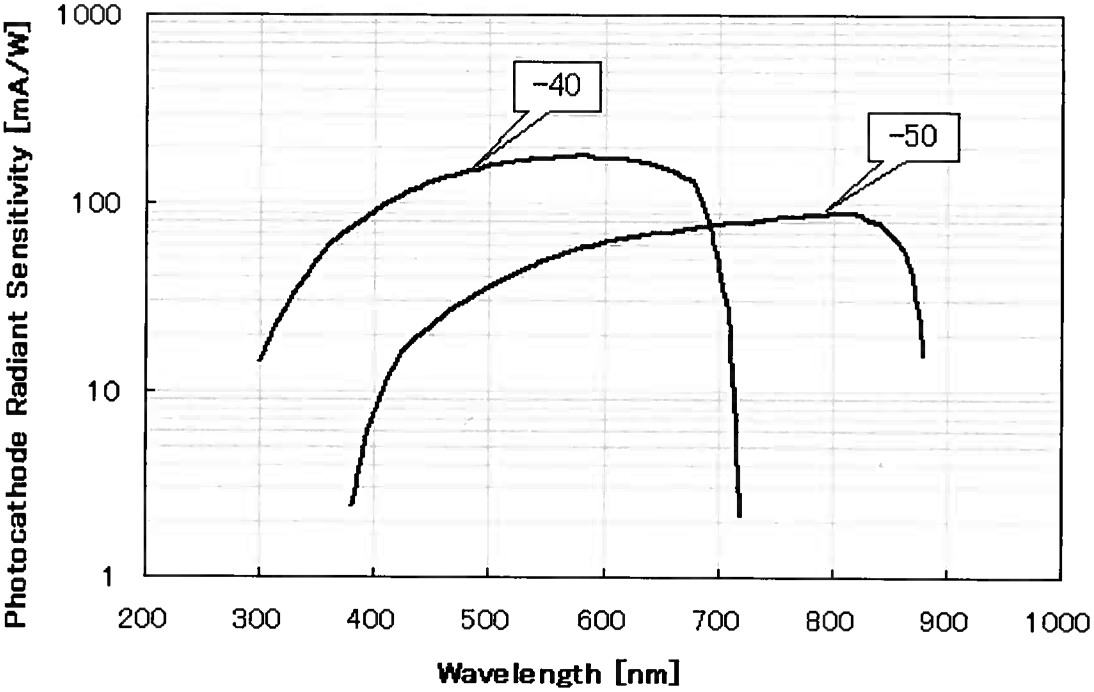


Adjust the potentiometer to set the output.

※1 It is recommended to monitor the control voltage with a multimeter and adjust the voltage within maximum +0.9 V.

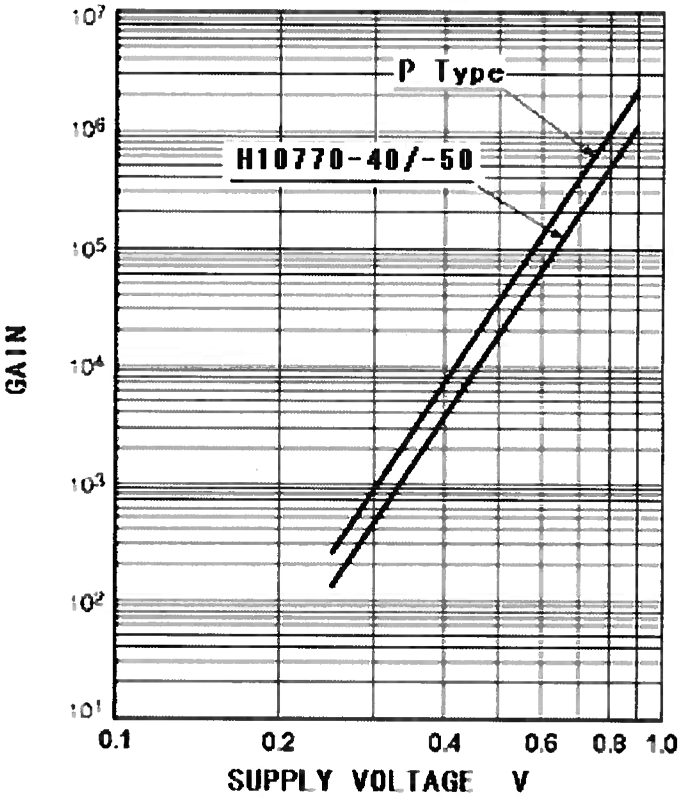
□Typical Spectral Photocatode Radiant Sensitivity

(H10770(P)-40/-50)



□Typical Gain Characteristics

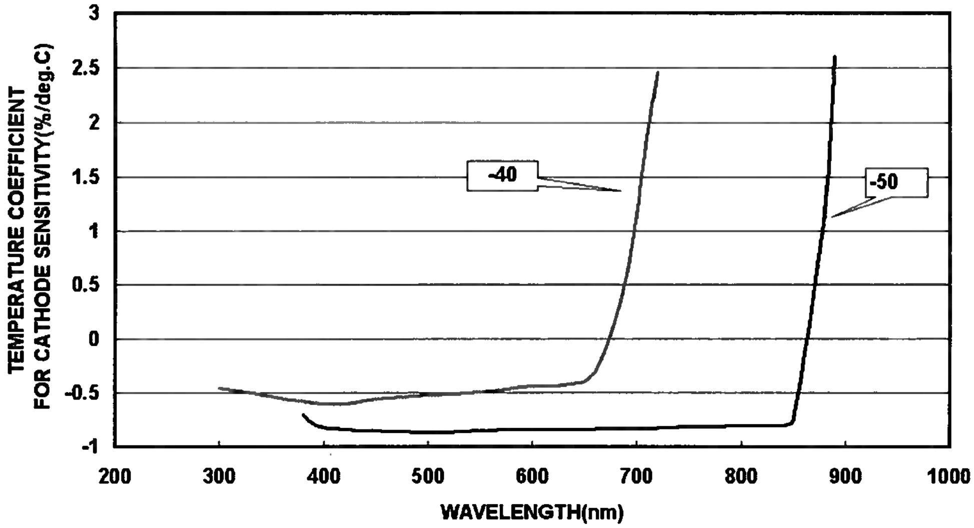
(H10770(P)-40/-50)



Vcont 0.9V Maximum

Temperature control at 10 Cel

□Temperature Coefficient



For further information, contact our sales office in your country.

HAMAMATSU PHOTONICS K.K., HOMEPAGE URL http://www.hamamatsu.com
Electron Tube Center
314-5, Shimokanzo, Iwata-city, Shizuoka-ken, 438-0193, Japan
Telephone: (81)539-62-5248, Fax: (81)539-62-2205

HAMAMATSU

FINAL TEST SHEET

PAGE 1 OF 1

PHOTOSENSOR MODULE

TYPE : H10770A-40

CUSTOMER: UNIV OF CALIF SAN DIEGO

QUANTITY: 2 pcs.

Serial Number	(1) Cathode Radiant Sens. mA/W	(2) Anode Radiant Sens. A/W	(3) Anode Dark Current nA	Serial Number	(1) Cathode Radiant Sens. mA/W	(2) Anode Radiant Sens. A/W	(3) Anode Dark Current nA
AA1749	187.7	321000	0.7				
AA1885	198.4	260000	0.7				

NOTES

(1) (2) The light source is a tungsten lamp and the incident light on the photocathode has a wavelength of 550 nm which is obtained through band pass filter.
(2) (3) Overall control voltage: 0.8 V
(3) Temp setting 25 ℃

Date: April 16, 2009

Approved by:

HAMAMATSU
HAMAMATSU PHOTONICS K.K., Electron Tube Division
314-5, Shimokanzo, Iwata City, Shizuoka Pref., 438-0193, Japan, Telephone : (81)0539/62-5248, Fax : (81)0539/62-2205

Jan.15.2009

PRELIMINARY

H10770(P)A-40/-50 Specifications

PROTECTION CIRCUIT 50uA

Maximum Ratings

Parameter	-40/-50[*1]	Unit
Main unit input voltage	+18	V dc
Operating temperature	+5 to +25	Cel
Storage temperature	-20 to +50	Cel
Output Current	2	μA
Control Voltage (Vcontrol)	+0.9(Input impedance for Vcont. is 100 kΩ)	V

[*1] with protection circuit / limit 50 uA

Specifications General

(Ta = 25 Cel)

Parameter	-40	-50	Unit
Spectral response	300 to 720	380 to 890	nm
High voltage power supply and Voltage Regulator Supply voltage range	+11.5 to +15.5		V dc
High voltage power supply and Voltage Regulator Supply Current Requirement (Maximum)	62		mA
Supply Adjustable Range (Relative Sensitivity)	1:50		-
Setting Time(Sensitivity Control)[*1]	0.2		s
Effective Area (dia.)	5		mm
Weight (Approx.)	110		g

*1) Stabilized time in the control voltage adjustment from +1.0 V to +0.5 V.

Series Characteristics

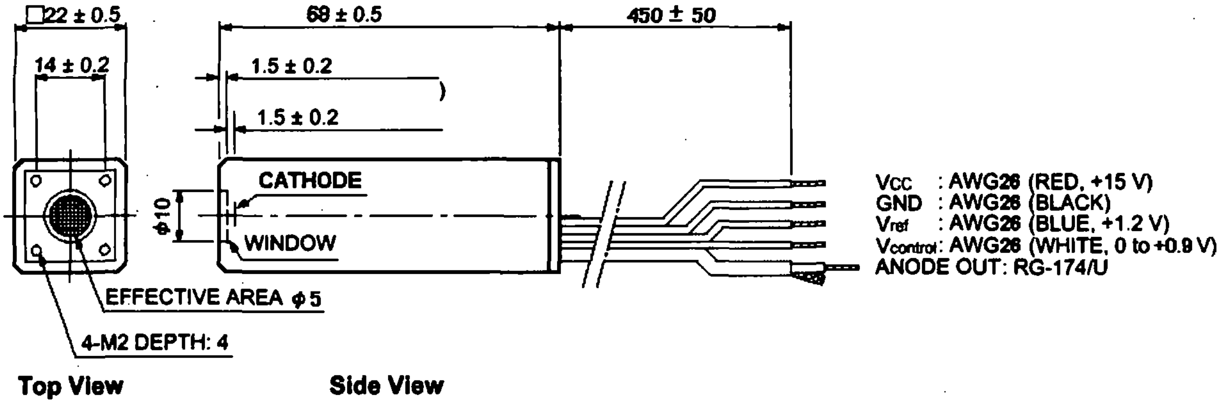
(Ta = 25 Cel)

Parameter			-40	-50	Unit
H10770A	Radiant Sensitivity	at 420 nm	54	7.5	Typical × 10^{-6} A/nW
		at 550 nm	88	25	
		at 800 nm	-	45	
	Dark Current(A) (B)	Typical	3.3	4.1	nA
		Maximum	9.3	11.6	
H10770PA	Radiant Sensitivity	at 420 nm	108	15	Typical × 10^{-6} A/nW
		at 550 nm	176	50	
		at 800 nm	-	90	
	Dark Count(B) (C)	Typical	6000	7500	1/s
		Maximum	18000	22500	
Induced Ripple in Signal(D)			0.6		Maximum mV p-p
Anode Pulse Rise Time(A)			1.00		ns
Recommended Control Voltage Range Vcontrol			+0.50 to +0.80		V

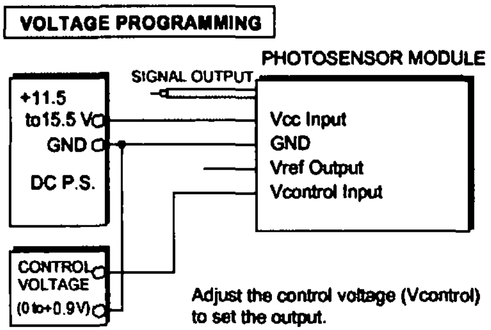
(A) Control Voltage : +0.8 V ; Temperature control at 25 Cel.
(B) After 30 min storage in darkness.
(C) Control Voltage : Plateau ; Temperature control at 25 Cel.
(D) Measured across 1 MOhm / 22 pF load

Dimensions

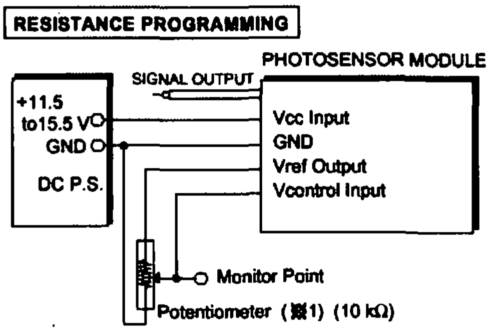
Unit : mm



Wiring Examples For Sensitivity Adjustment



Adjust the control voltage (Vcontrol) to set the output.
Insulate and float Vref output.

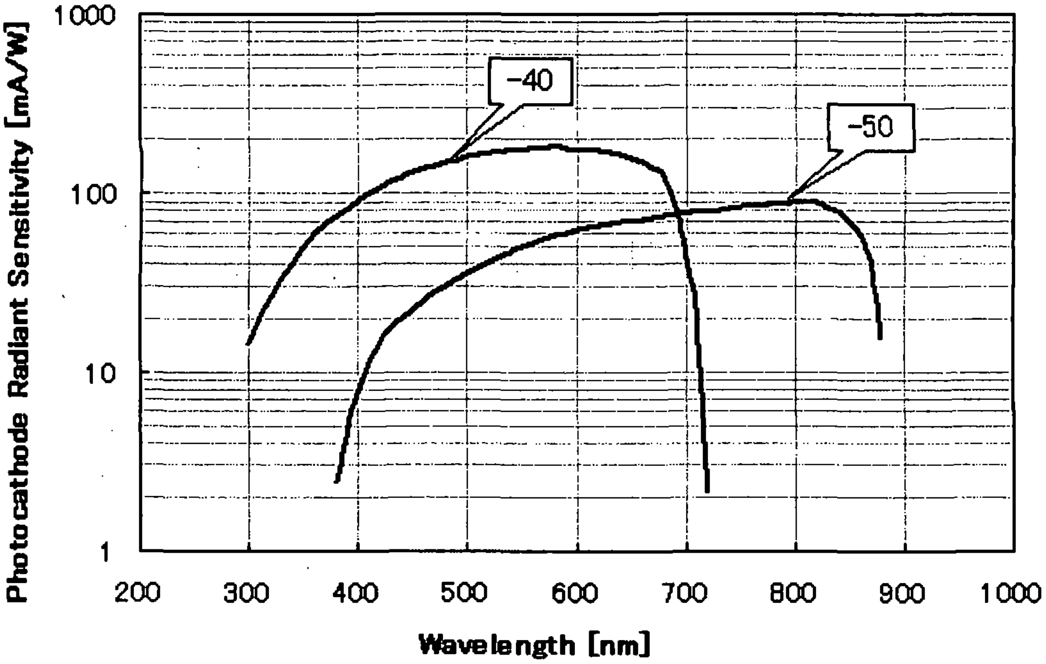


Adjust the potentiometer to set the output.

※1 It is recommended to monitor the control voltage with a multimeter and adjust the voltage within maximum +0.9 V.

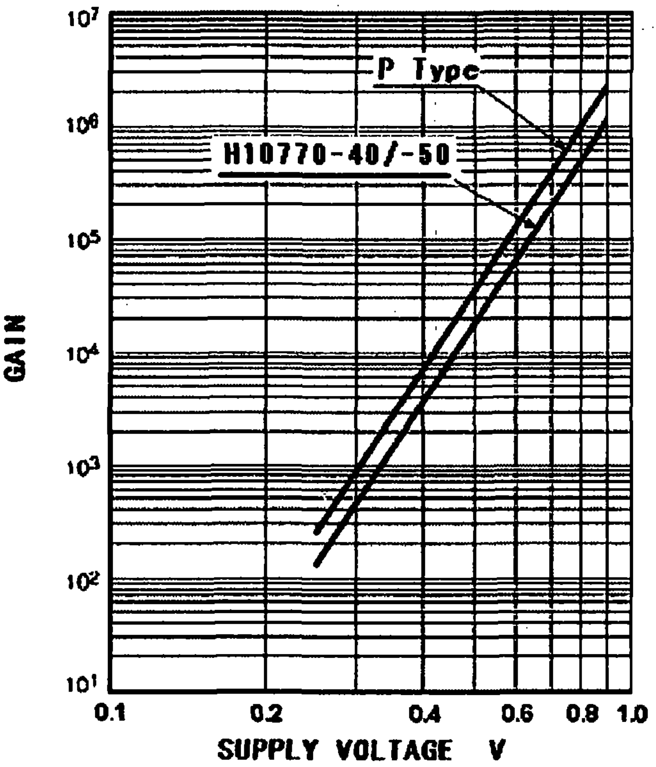
Typical Spectral Photocatode Radiant Sensitivity

(H10770(P)A-40/-50)



Typical Gain Characteristics

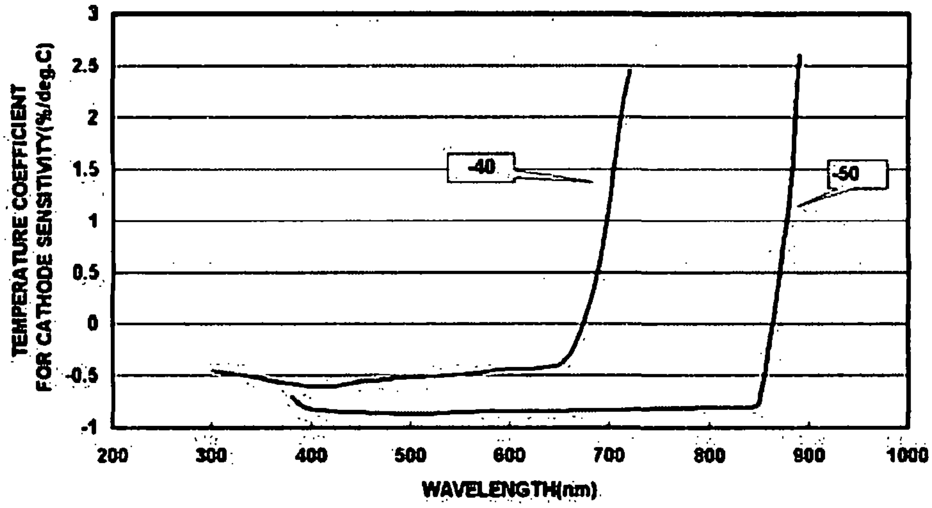
(H10770(P)A-40/-50)



Vcont 0.9V Maximum

Temperature control at 10 Cel

Temperature Coefficient



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Characteristics and specifications are subject to change without prior notice.