

**For electron beam detection,  
High speed and long life phosphor**

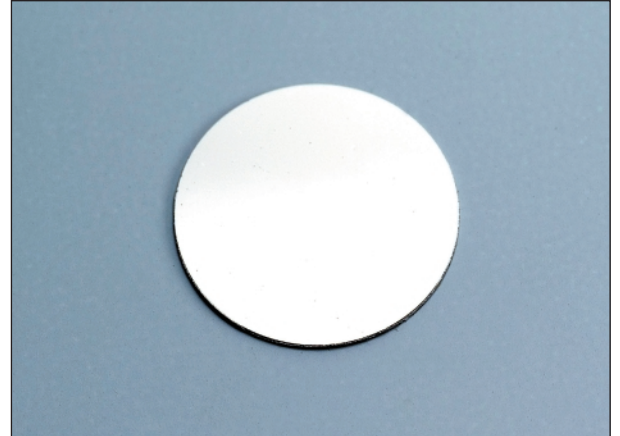
## FEATURES

- High speed decay time  
(J13550-09D: 3.5 ns / J12782-09D: 12 ns)
- Long life
- High brightness efficiency

## APPLICATIONS

- Semiconductor inspection instruments
- SEM (Scanning electron microscopy)
- Mass spectrometry \*
- General electron detection

\*This is used in combination with a conversion dynode or MCP when detecting ions.



## SPECIFICATIONS

### GENERAL

Parameter	J13550-09D	J12782-09D	Unit
Effective diameter	8.6		mm
Detection energy range (Electron beam) <sup>①</sup>	6 to 15		keV
Decay time (90 % to 10 %) Typ.	3.5	12	ns
Peak emission wavelength range	390 to 440		nm
Operating ambient temperature	+5 to +45		°C
Storage temperature	-10 to +50		°C
Storage humidity <sup>②</sup>	Below 70		%

① Lower detection energy range is available upon request.

② No condensation

Figure 1: Decay time characteristics

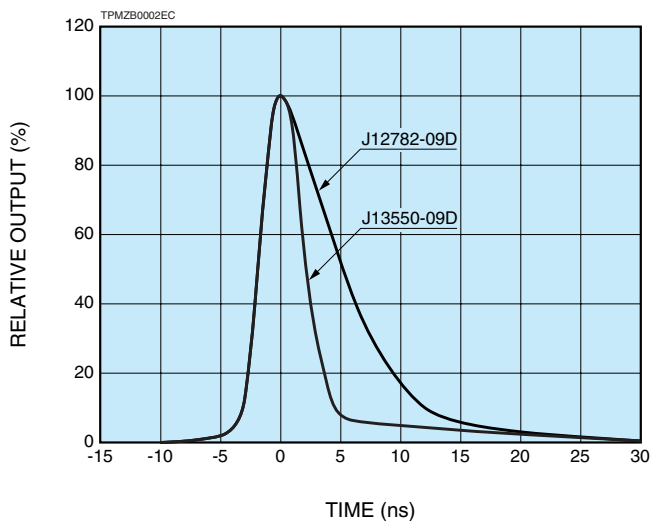
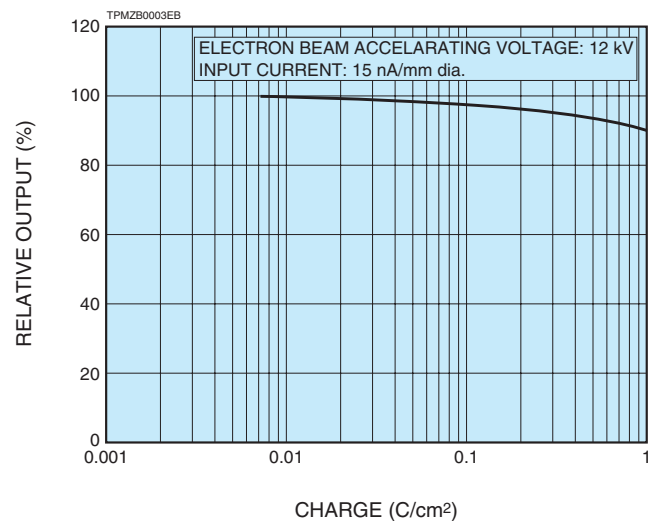


Figure 2: Phosphor life characteristics



# FAST DECAY PHOSPHOR J13550-09D / J12782-09D

Figure 3: Spectral emission characteristics

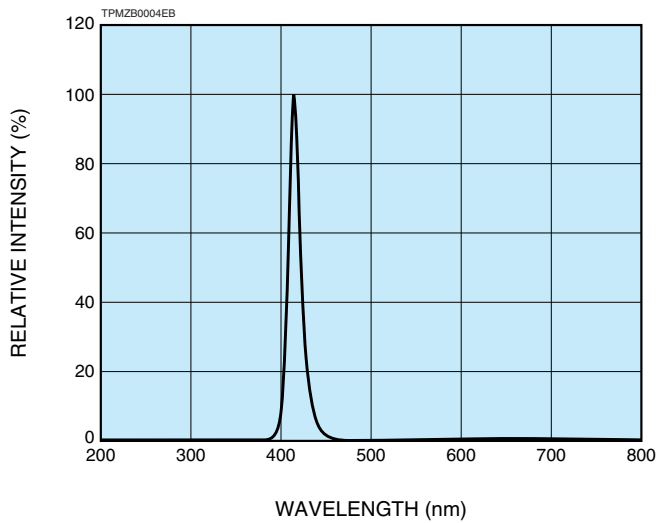


Figure 4: Relative fluorescence intensity (measurement data example)

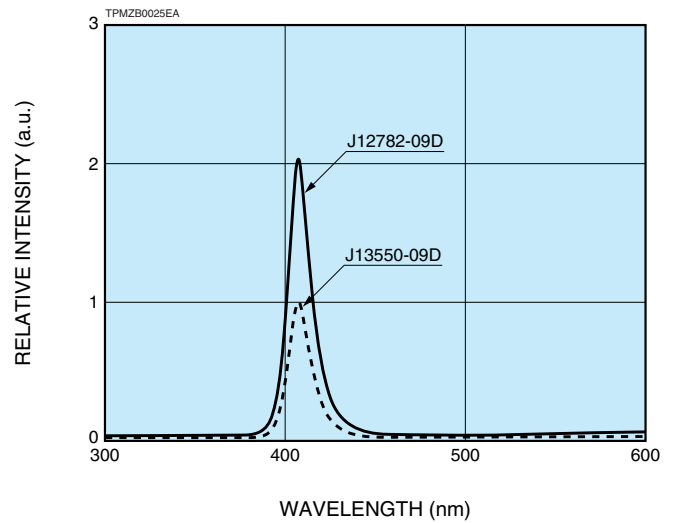
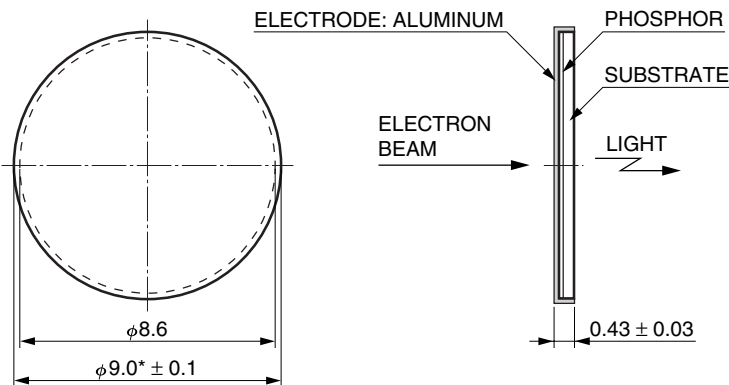


Figure 5: Dimensional outline (Unit: mm)



\* Custom assembly of light guide or vacuum flange is available upon request.

TPMZA0002EC

**HAMAMATSU PHOTONICS K.K.** [www.hamamatsu.com](http://www.hamamatsu.com)

**HAMAMATSU PHOTONICS K.K., Electron Tube Division**

**314-5, Shimokanzo, Iwata City, Shizuoka Pref., 438-0193, Japan, Telephone: (81)539/62-5248, Fax: (81)539/62-2205**

**U.S.A.:** Hamamatsu Corporation: 360 Foothill Road, Bridgewater, N.J. 08807-0910, U.S.A., Telephone: (1)908-231-0960, Fax: (1)908-231-1218 E-mail: [usa@hamamatsu.com](mailto:usa@hamamatsu.com)

**Germany:** Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49)8152-375-0, Fax: (49)8152-2658 E-mail: [info@hamamatsu.de](mailto:info@hamamatsu.de)

**France:** Hamamatsu Photonics France S.A.R.L.: 19, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: (33)1 69 53 71 00, Fax: (33)1 69 53 71 10 E-mail: [infos@hamamatsu.fr](mailto:infos@hamamatsu.fr)

**United Kingdom:** Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire AL7 1BW, United Kingdom, Telephone: (44)1707-294888, Fax: (44)1707-325777 E-mail: [info@hamamatsu.co.uk](mailto:info@hamamatsu.co.uk)

**North Europe:** Hamamatsu Photonics Norden AB: Torshamnsgatan 35 SE-164 40 Kista, Sweden, Telephone: (46)8-509-031-00, Fax: (46)8-509-031-01 E-mail: [info@hamamatsu.se](mailto:info@hamamatsu.se)

**Italy:** Hamamatsu Photonics Italia S.r.l.: Strada della Moia, 1 int. 6, 20020 Arese (Milano), Italy, Telephone: (39)02-93581733, Fax: (39)02-93581741 E-mail: [info@hamamatsu.it](mailto:info@hamamatsu.it)

**China:** Hamamatsu Photonics (China) Co., Ltd.: B1201 Jiaming Center, No.27 Dongsanhuan Beilu, Chaoyang District, Beijing 100020, China, Telephone: (86)10-6586-6006, Fax: (86)10-6586-2866 E-mail: [hpc@hamamatsu.com.cn](mailto:hpc@hamamatsu.com.cn)

**Taiwan:** Hamamatsu Photonics Taiwan Co., Ltd.: 8F-3, No.158, Section2, Gongdao 5th Road, East District, Hsinchu, 300, Taiwan R.O.C. Telephone: (886)03-659-0080, Fax: (886)07-811-7238 E-mail: [info@tw.hpk.co.jp](mailto:info@tw.hpk.co.jp)

TPMZ1021E02  
MAY 2016 IP