

**INDUSTRIAL X-RAY TUBE
 I-2113A-Mo**

Toshiba X-ray Tube for Industrial Use

- ◆ The Toshiba X-ray tube I-2113A-Mo, which has mini-focus 0.15, is designed for fluorescence analysis.
- ◆ This tube can be used with maximum 50 kV constant potential circuit of cathode grounded.

General Data

Electrical:

Circuit:

High Voltage Generator	Constant Potential High-Voltage Generator
Grounding	Cathode Grounded
Nominal X-ray Tube Voltage	50 kV
Nominal Focal Spot Value	0.15

Mechanical:

Dimensions:

Overall Length	See dimensional Outline
Maximum Diameter	See dimensional Outline

Target:

Angle	10 degrees
Material	Molybdenum
Inherent Filtration	Be 0.05 mm
X-ray Coverage (Angle)	Minimum 10 degrees conical field
Weight (Approx.)	220 g
Insulating Medium	Insulation Oil
Cooling Method	Oil immersed (60°C Max.) and convection oil cooling.
Tube Holding	Holding the mounting flange with 4-M3 screws

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Absolute Maximum and Minimum Ratings
(At any time, these values must not be exceeded.)

Maximum X-ray Tube Voltage	50 kV
Minimum X-ray Tube Voltage	10 kV
Maximum X-ray Tube Current	1.5 mA
Maximum Filament Current	2.1 A
Filament Frequency Limit	DC or AC (Sine wave) 0 ~ 20 kHz
Maximum Input Energy (Continuously)	75 W

Environmental Limits

Operating Limits (in dielectric oil):

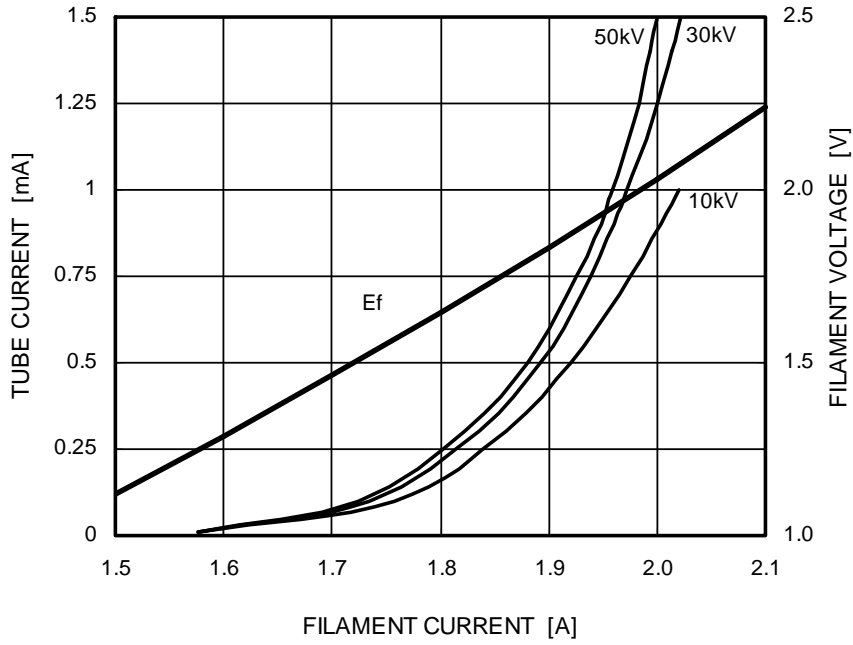
Oil Temperature	10 ~ 60 °C
Oil Pressure	70 ~ 140 kPa

Shipping and Storage Limits:

Temperature	-40 ~ 70°C
Humidity	10 ~ 90 % (No condensation)
Atmospheric Pressure	50 ~ 106 kPa

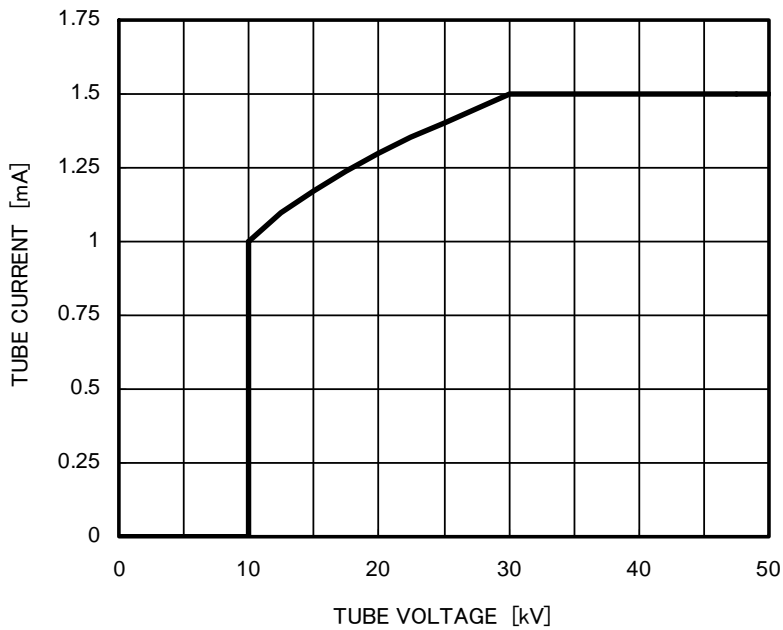
Emission & Filament Characteristics

Constant Potential High-Voltage Generator



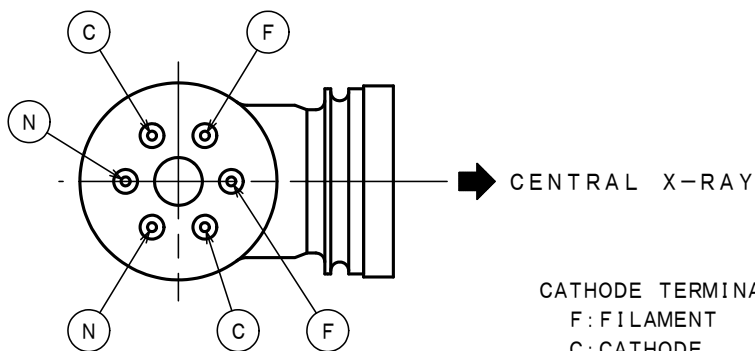
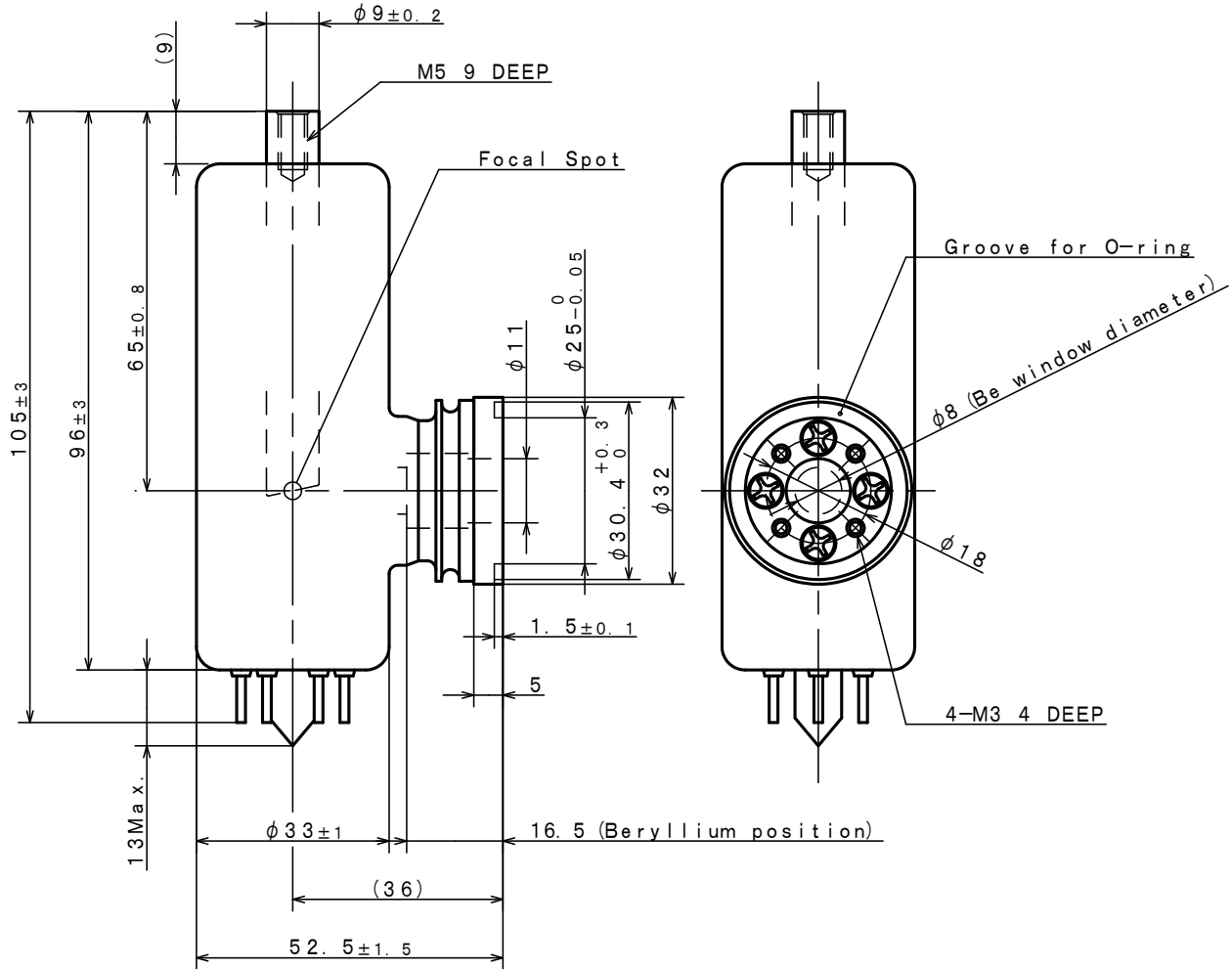
Note: This graph indicate typical characteristics.

Maximum Input (continuous)



Dimensional Outline

Unit: mm



CATHODE TERMINALS

F: FILAMENT

C: CATHODE

Terminal "C" are connected mutually inside the tube.

N: DO NOT USE

OVERSEAS SUBSIDIARIES AND AFFILIATES

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·Toshiba Electron Tubes & Devices Co., Ltd. meets the Environmental Management System Standard, ISO14001.

·Toshiba Electron Tubes & Devices Co., Ltd. meets internationally recognized Standards for Quality Management System ISO9001, ISO13485.