

X-RAY TUBE

DF-061

DF-061SB

Stationary Anode X-ray Tube

- ◆ Especially designed for dental radiography unit.
- ◆ Provided with an insulation cylinder and lead cylinder.
- ◆ These tubes have focus 0.6 and 0.3 foci and are available for maximum tube voltage 110 kV.
- ◆ Installed in the same enclosure with the high voltage transformer.

General Data

Electrical:

Circuit:

High Voltage Generator	Constant Potential High-Voltage Generator
Grounding	Center-Grounded

Nominal X-ray Tube Voltage 110 kV

Nominal Focal Spot Value:

Large Focus	0.6
Small Focus	0.3

Nominal Anode Input Power (at 1.0s):

Large Focus	1200 W
Small Focus	600 W

Nominal Radiographic Anode Input Power:

Large Focus.....	1200 W
Small Focus.....	600 W

Exposure Duty Cycle 1:60

(Exposure Time : Interval time)

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Mechanical:

Dimensions:

Overall Length See dimensional outline
Maximum Diameter See dimensional outline

Target:

Anode Angle 12 degrees
Material Tungsten

Inherent Filtration At least 0.8 mm Al at 75 kV

X-ray Coverage 170 × 170 mm at SID 680 mm

Weight:

DF-061 Approx. 430 g
DF-061SB Approx. 1100 g

Cooling Method Oil immersed (60°C Max.) and convection oil cooling.

Tube Holding:

DF-061 Holding the glass envelope of the anode end and cathode end,
or the screw of the anode shank.
DF-061SB Holding the insulation cylinder or the lead cylinder.

Absolute Maximum and Minimum Ratings

(At any time, these values must not be exceeded.)

Maximum X-ray Tube Voltage	110 kV
Between Anode (or Cathode) and Ground	55 kV
Minimum X-ray Tube Voltage	50 kV
Maximum X-ray Tube Current:	
Large Focus	20 mA
Small Focus	10 mA
Maximum Filament Current:	
Large Focus	3.5 A
Small Focus	3.1 A
Filament Voltage:	
Large Focus (At Maximum Filament Current 3.5A)	3.3 ~ 4.6 V
Small Focus (At Maximum Filament Current 3.1A).....	3.3 ~ 4.6 V
Filament Frequency Limits	DC or AC (Sine Wave) 0 ~ 20 kHz
Thermal Characteristics:	
Anode Heat Content	28 kJ
Maximum Anode Heat Dissipation Rate	265 W
Maximum Radiographic Exposure Time	30 s

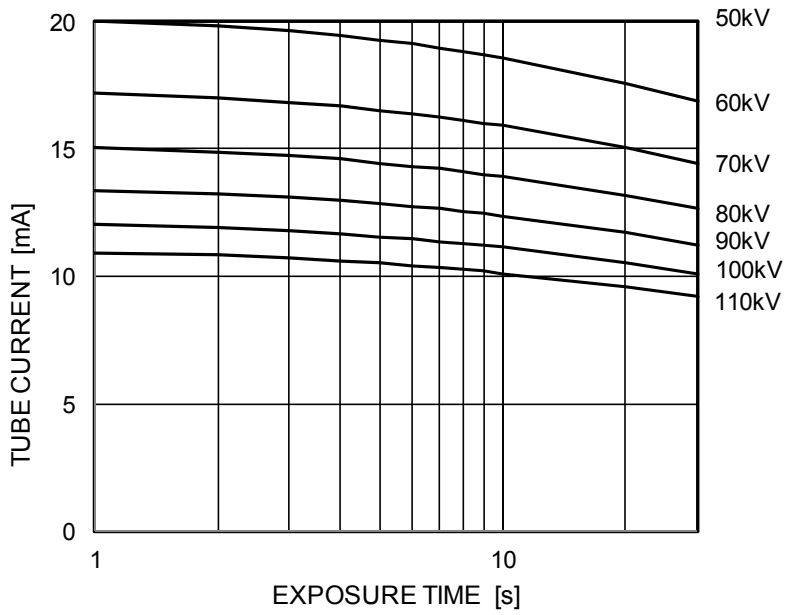
Environmental Limits

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

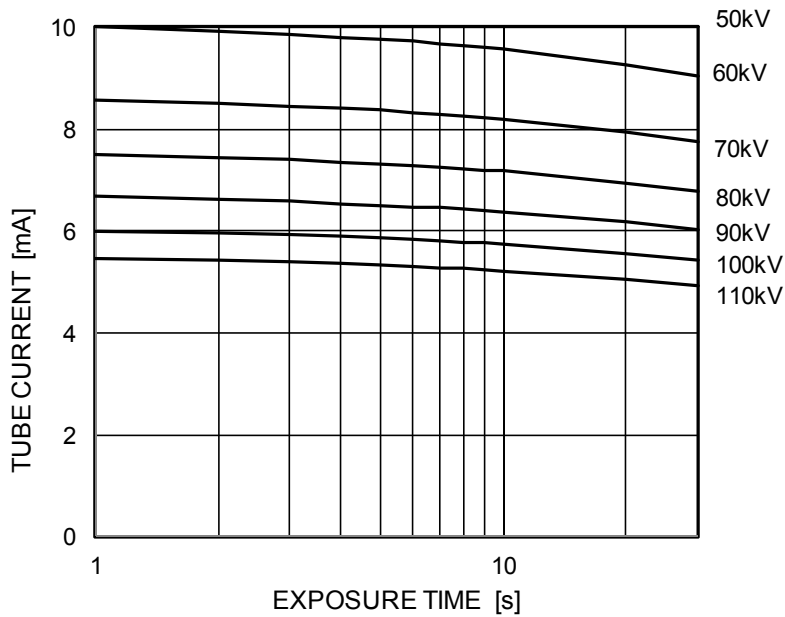
Maximum Rating Charts (Absolute maximum rating charts)

Constant Potential High-Voltage Generator

Nominal Focal Spot Value: 0.6 ■



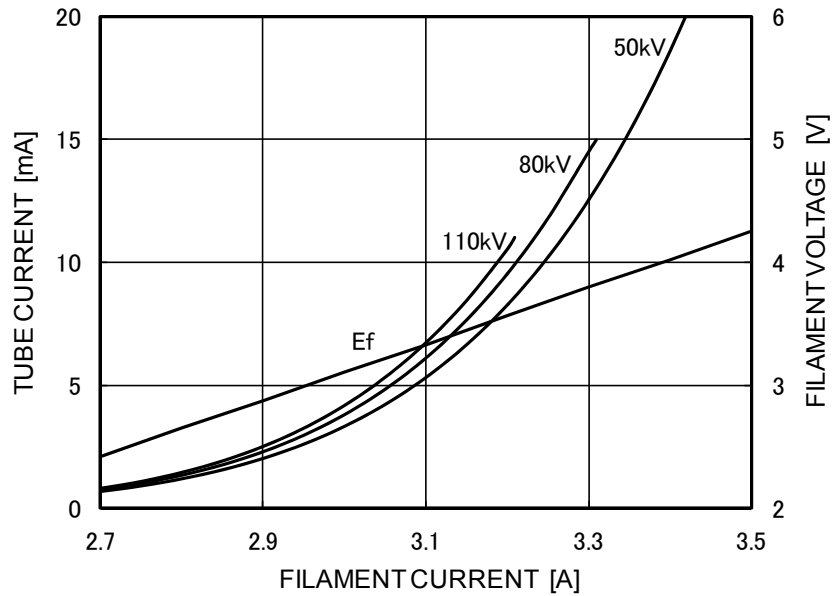
Nominal Focal Spot Value: 0.3 □



Emission & Filament Characteristics

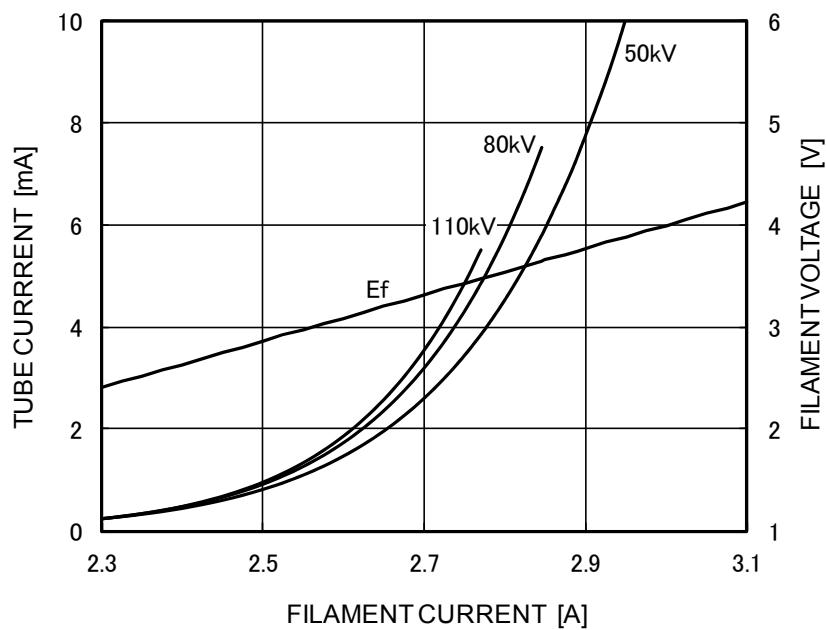
Constant Potential High-Voltage Generator

Nominal Focal Spot Value: 0.6 ■



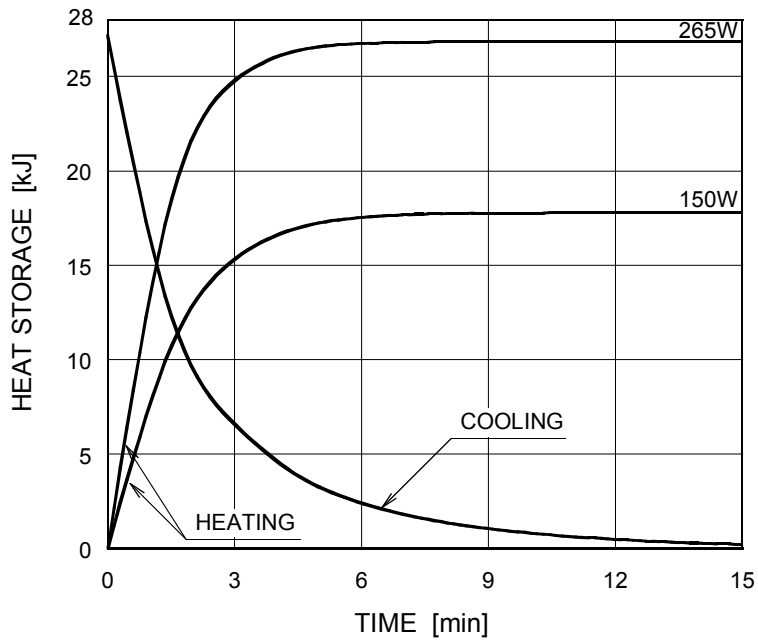
This graph indicates typical characteristics.

Nominal Focal Spot Value: 0.3 □



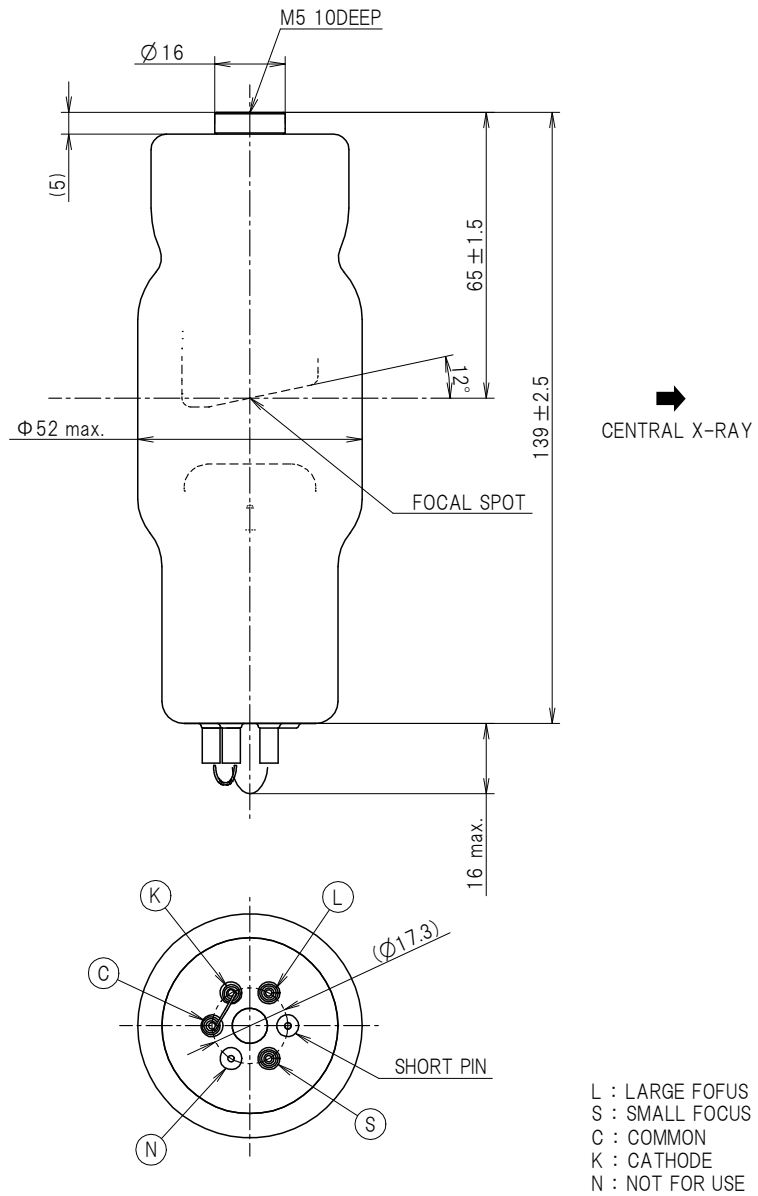
This graph indicates typical characteristics.

Anode Heating / Cooling Curve



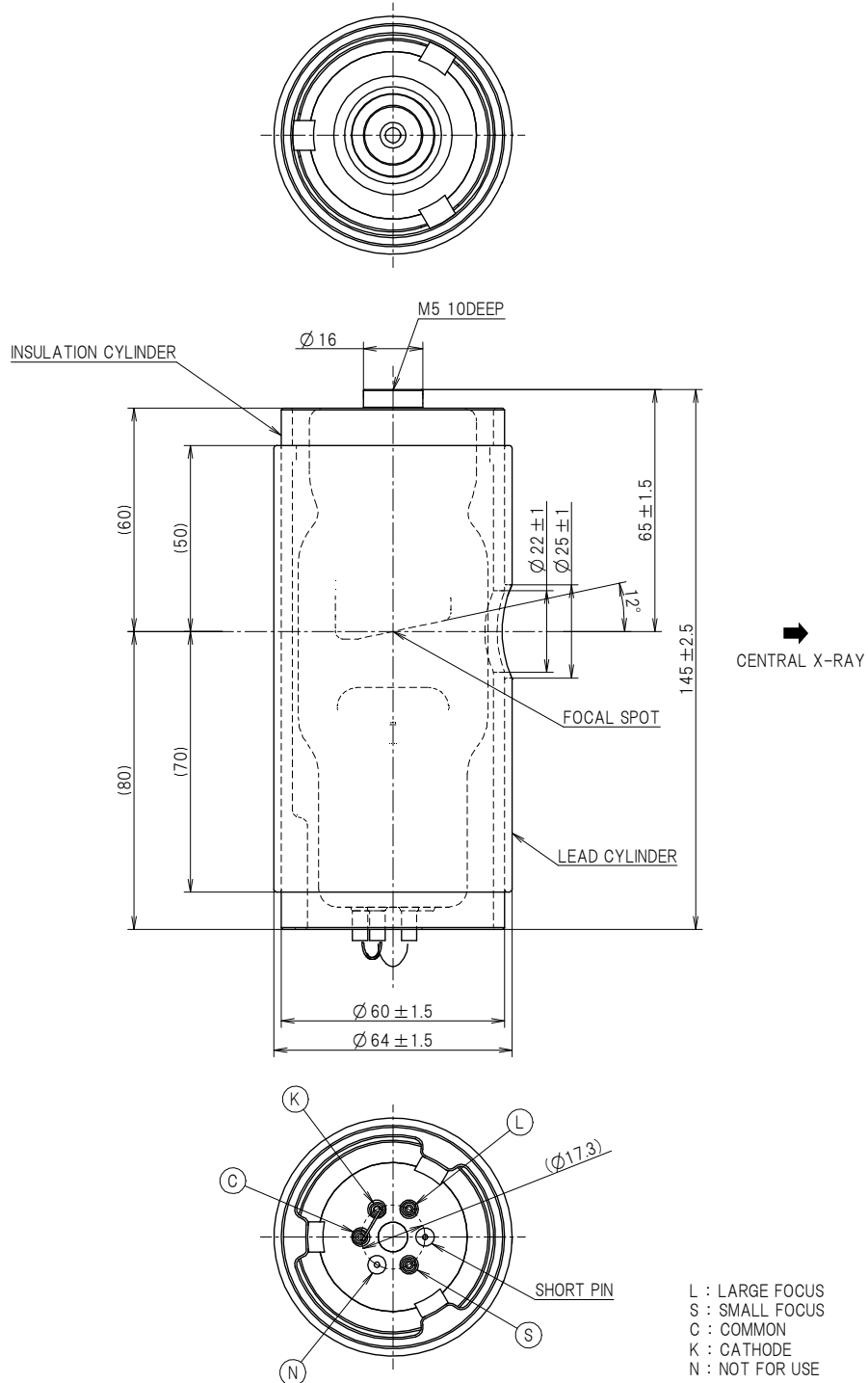
Dimensional Outline of DF-061

Unit: mm



Dimensional Outline of DF-061SB

Unit: mm



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 ·Canon Electron Tubes & Devices Co., Ltd. has been certified to meet all the requirements of Quality Management Systems ISO9001 and ISO13485.
 Product scope is referred to the following URL. <https://etd.canon/eng/company/quality.htm>.