

**TOSHIBA X-RAY TUBE
D-054 / D-054S / D-054SB**

Stationary Anode X-ray Tube

- ◆ Especially designed for dental radiography unit.
- ◆ Low target angle adaptive for dental tomography.
- ◆ Provided with an insulation cylinder (D-054S) and lead cylinder. (D-054SB)
- ◆ These tubes have 0.5 focus, and are available for maximum tube voltage 100 kV.
- ◆ Installed in the same enclosure with the high voltage transformer.

General Data

Electrical:

Circuit:

High Voltage Generator	Two-Peak High-Voltage Generator
	Constant Potential High-Voltage Generator
Grounding	Center-Grounded
Nominal X-ray Tube Voltage	100 kV
Nominal Focal Spot Value	0.5
Nominal Anode Input Power (at 1.0s)	(See Rating Chart)
Two-Peak High-Voltage Generator	840 W
Constant Potential High-Voltage Generator	1750 W
Exposure Duty Cycle	1:60 or more
	(Exposure time : interval time)

Mechanical:

Dimensions:

Overall Length	See dimensional outline
Maximum Diameter	See dimensional outline
Target:	
Anode Angle	5 degrees
Material	Tungsten
Inherent Filtration	At least 0.8 mm Al at 50 kV
X-ray Coverage	75 x 380 mm at SID 550 mm

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Weight:

D-054	Approx. 320 g
D-054S	Approx. 460 g
D-054SB	Approx. 780 g

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

Tube Holding:

D-054	Holding the glass envelope of the anode end and cathode end, or the screw of the anode shank.
D-054S	Holding the insulation cylinder.
D-054SB	Holding the lead cylinder.

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

Maximum X-ray Tube Voltage	100 kV
Between Anode (or Cathode) and Ground	50 kV
Minimum X-ray Tube Voltage	50 kV
Maximum X-ray Tube Current:	See rating charts
Two-Peak High-Voltage Generator	24 mA
Constant Potential High-Voltage Generator	22 mA
Maximum Filament Current	3.5 A
Maximum Filament Voltage	4.2 V
Filament Frequency Limits	DC or AC (Sine Wave) 0 ~ 20 kHz
Thermal Characteristics:	
Anode Heat Content	35 kJ
Maximum Anode Heat Dissipation	250 W
Maximum Radiographic Exposure Time	20 s

Environmental Limits

Operating Limits (in dielectric oil):

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

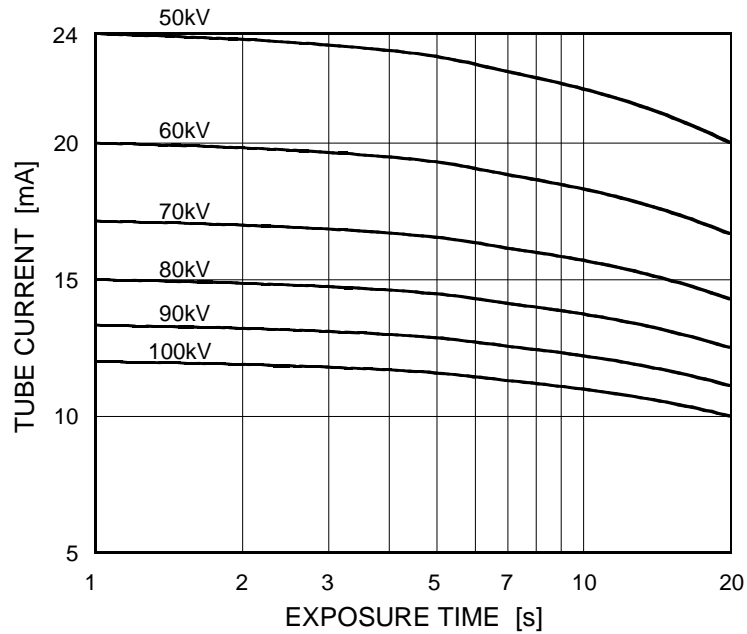
Shipping and Storage Limits:

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

Maximum Rating Charts (Absolute maximum rating charts)

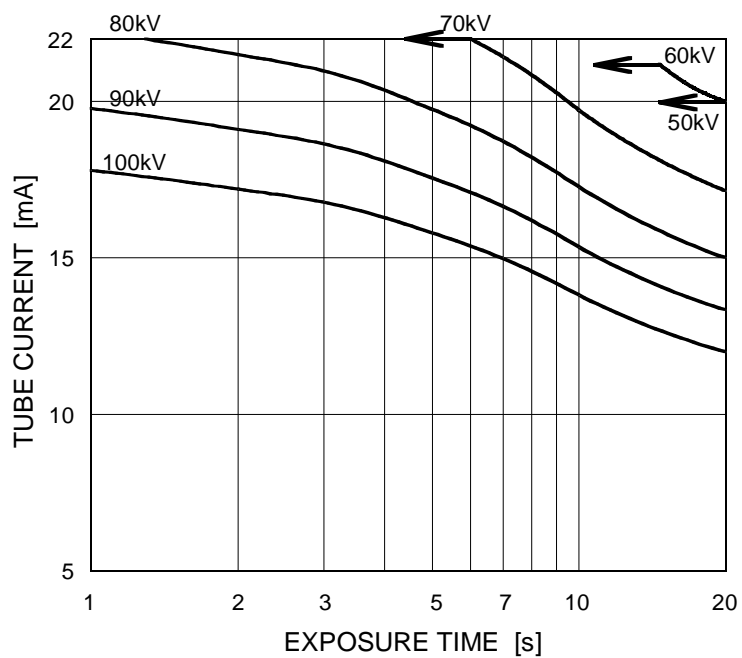
Two-Peak High-Voltage Generator

Nominal Focal Spot Value: 0.5



Constant Potential High-Voltage Generator

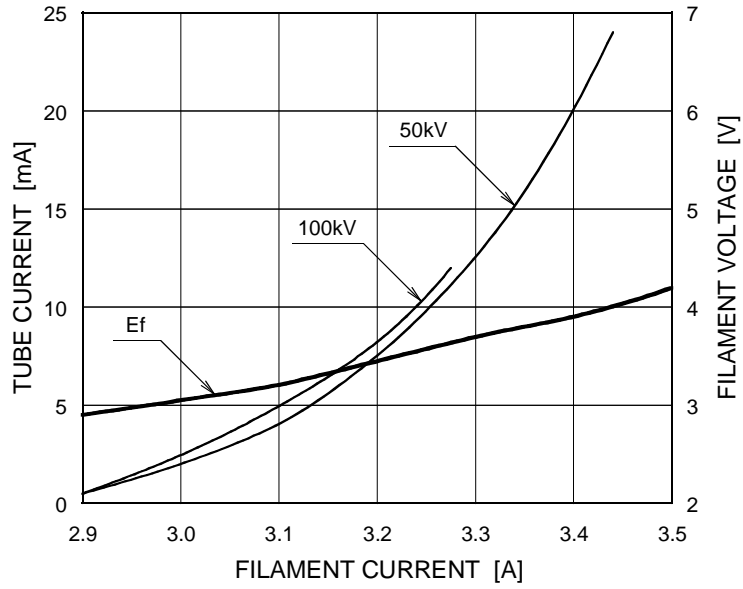
Nominal Focal Spot Value: 0.5



Emission & Filament Characteristics

Two-Peak High-Voltage Generator

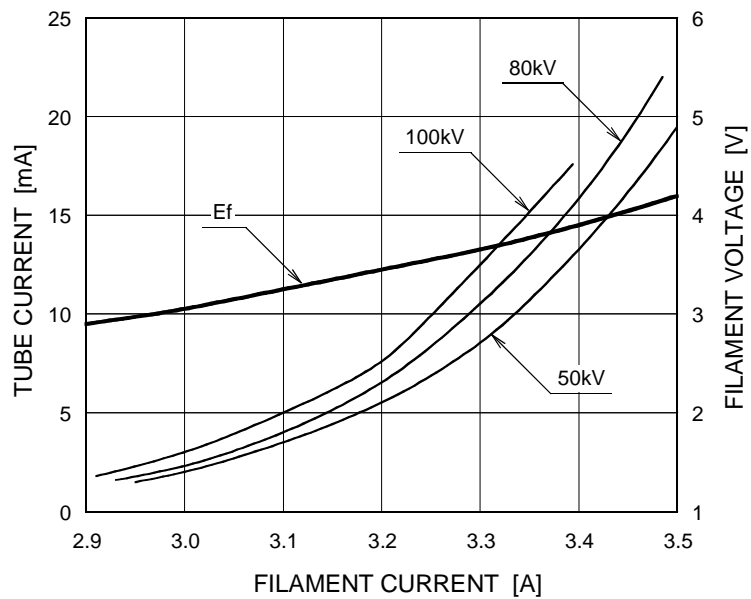
Nominal Focal Spot Value: 0.5



Note: This graph indicates typical characteristics.

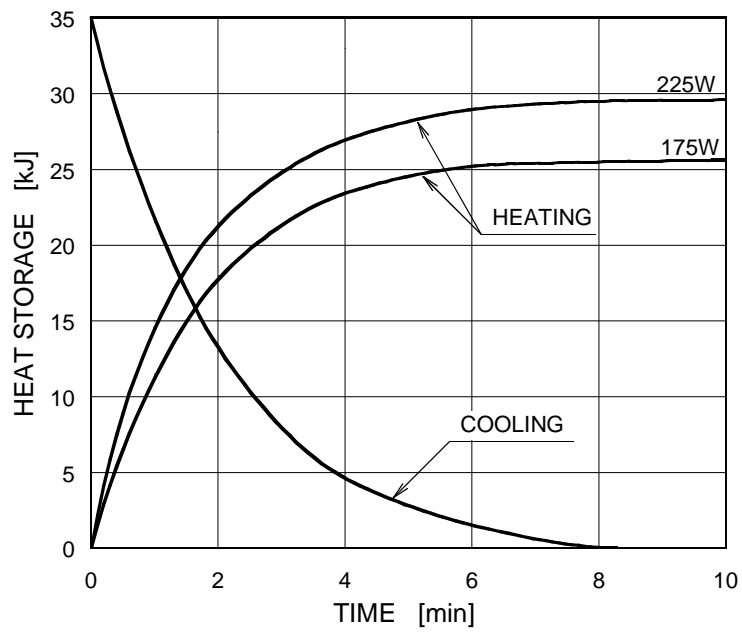
Constant Potential High-Voltage Generator

Nominal Focal Spot Value: 0.5



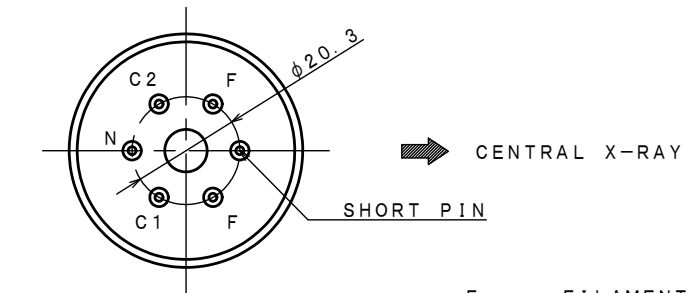
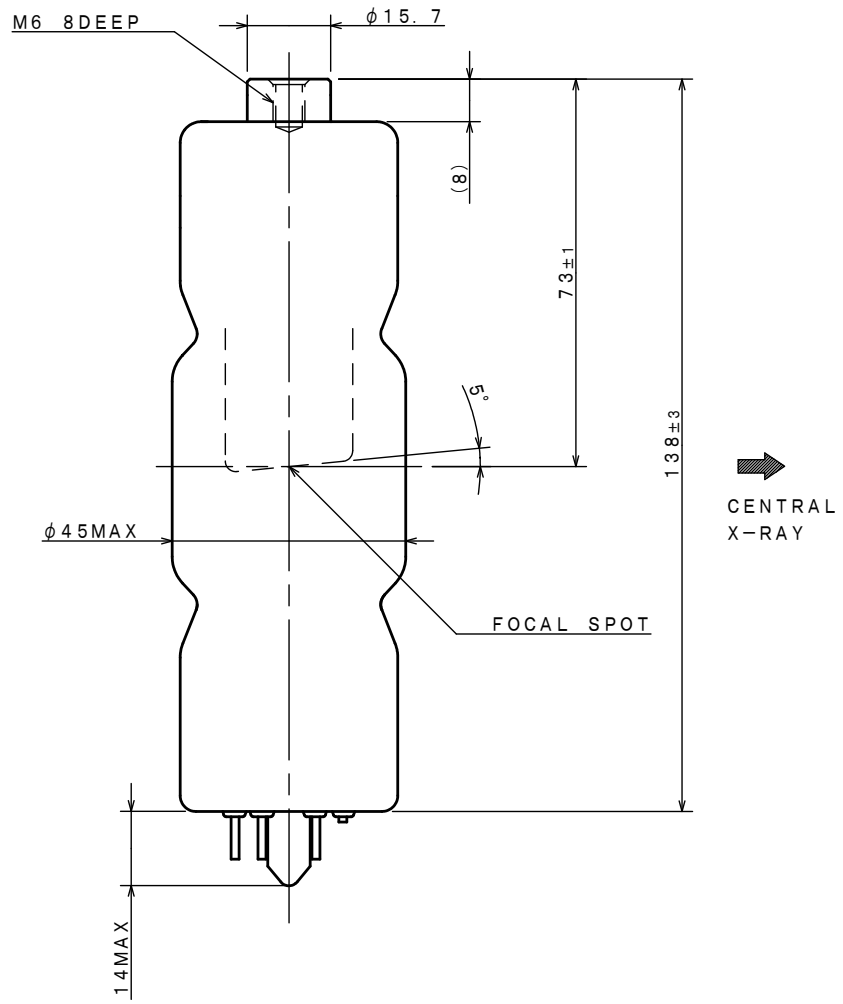
Note: This graph indicates typical characteristics.

Anode Heating / Cooling Curve



Dimensional Outline of D-054

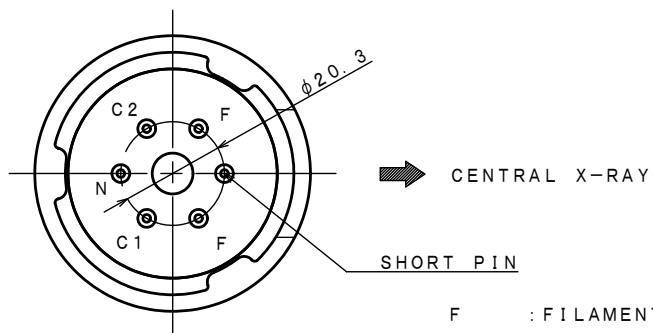
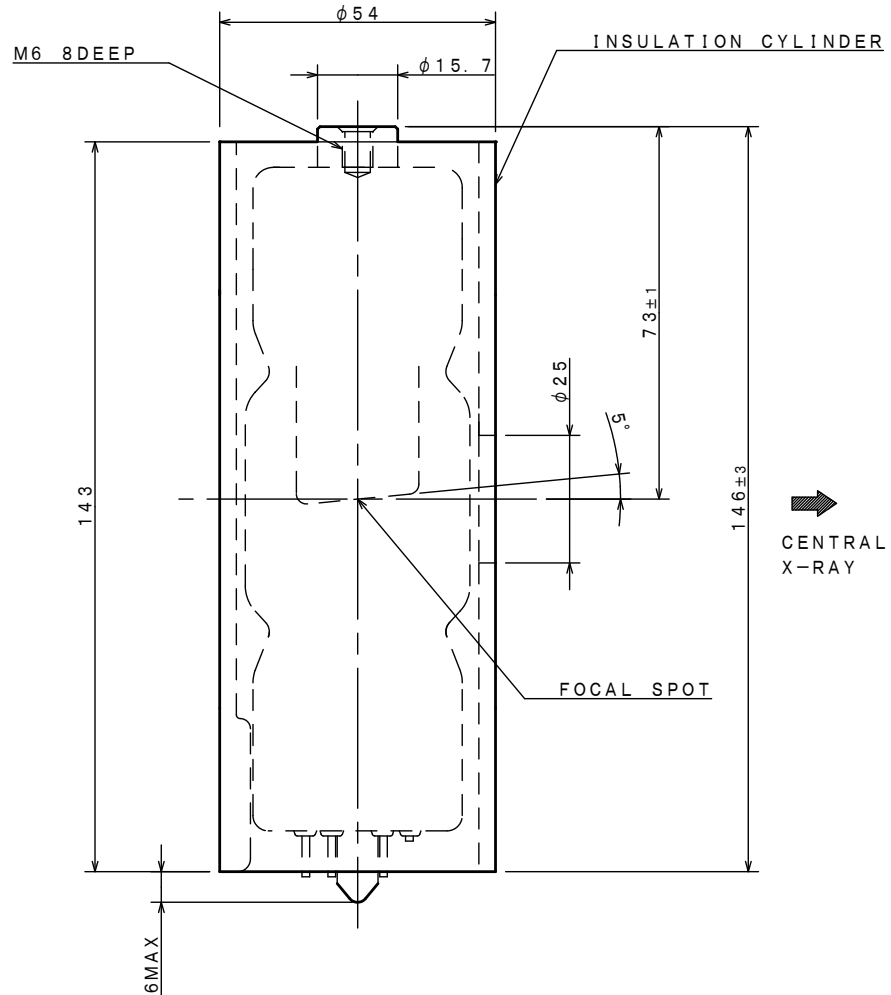
Unit: mm



F : FILAMENT
 C1, C2 : CATHODE
 N : NOT FOR USE

Dimensional Outline of D-054S

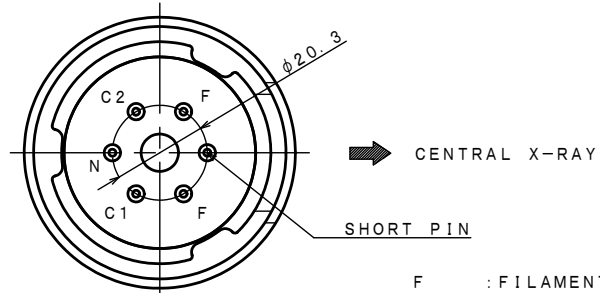
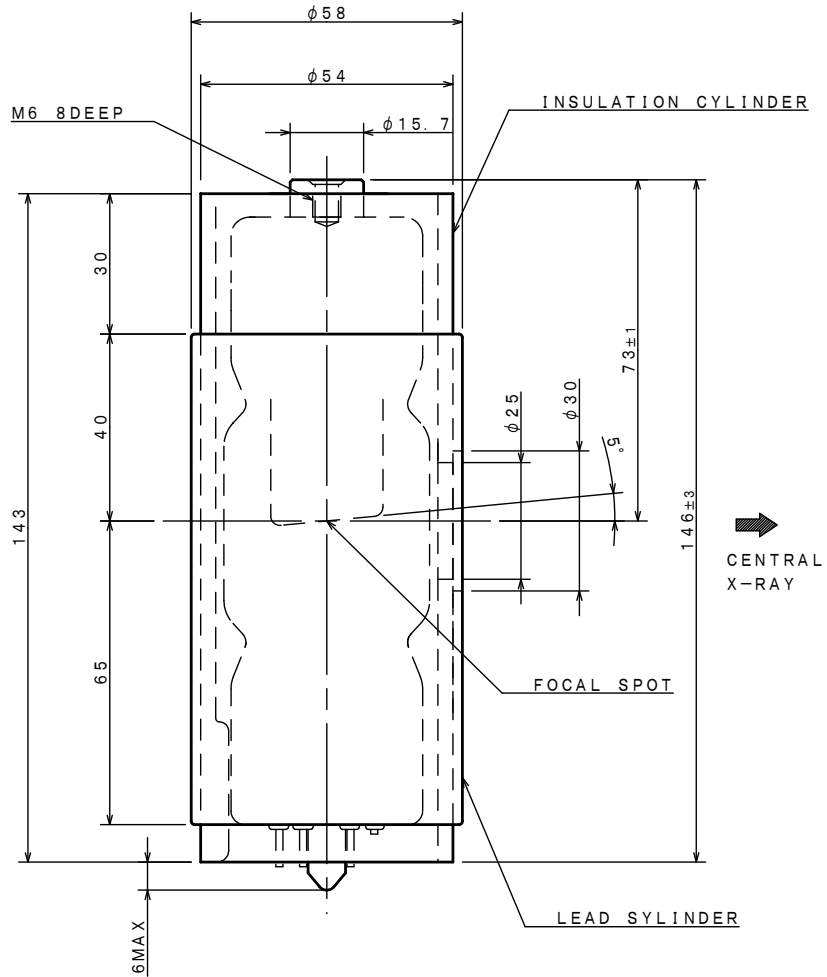
Unit: mm



F : FILAMENT
 C1, C2 : CATHODE
 N : NOT FOR USE

Dimensional Outline of D-054SB

Unit: mm



F : FILAMENT
C1, C2 : CATHODE
N : NOT FOR USE

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