

DESCRIPTION AND RATING



PLATE DISSIPATION—800 WATTS **THORIATED-TUNGSTEN FILAMENT** **RECTIFIER AND LIMITER DIODE**

KENOTRON

LOW VOLTAGE DROP **20 AMPERES AT 75 KILOVOLTS** **1.25 AMPERES DC AT 40 KILOVOLTS**

The GL-5973 is a two-electrode high-vacuum tube for use as a rectifier or surge-limiting diode. Design features include a thoriated-tungsten filament and a low voltage drop which enable the tube to carry high average currents.

In rectifier service the tube will operate at average currents as high as 1.25 amperes at 40,000 volts and one ampere at higher voltages. In limiter

service ratings as high as 20 amperes at 75,000 volts apply. These ratings make the tube particularly suitable for use in radar as a charging diode to supply d-c power to magnetrons or as a limiter to restrict fault currents. Other applications include high-voltage power supplies in cable-testing service and smoke precipitators.

GENERAL

TECHNICAL INFORMATION

Electrical

Filament Voltage.....	Minimum
Filament Current at 16 Volts.....	15.2
Filament Starting Current.....	18.0
Filament Cold Resistance.....	—
Filament Heating Time, before applying plate voltage.....	—
Tube Voltage Drop, $I_b = 5$ amperes.....	30
Interelectrode Capacitance.....	850

Bogey

16
19.1
0.1
—
950
14

Maximum

16.8 Volts
20.2 Amperes
30 Amperes
— Ohms
— Seconds
1050 Volts
— μf

GENERAL ELECTRIC



Supersedes ET-T1038 dated 2-53

TECHNICAL INFORMATION (Cont'd)

Mechanical

Maximum Glass Temperature*	300 C
Maximum Base Temperature	150 C
Mounting Position—Vertical, Base Down	
Net Weight, approximate	3 Pounds

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

Rectifier Service

Maximum Ratings, Absolute Values

Peak Inverse Voltage	75 Kilovolts
Plate Current	
Peak	5 Amperes
Average	
Peak Inverse Voltage = 40 Kilovolts or Less	1.25 Amperes
Peak Inverse Voltage = more than 40 Kilovolts	1.00 Amperes
Average Plate Dissipation	
Peak Inverse Voltage = 40 Kilovolts or Less†	850 Watts
Peak Inverse Voltage = more than 40 Kilovolts‡	800 Watts

Limiter Service

Maximum Ratings, Absolute Values

Peak Inverse Voltage	75 Kilovolts
Peak Plate Current	20 Amperes
Average Plate Dissipation‡	800 Watts

*Where tubes are enclosed or operated in close proximity to each other, forced-air cooling may be required to limit bulb and base temperatures to the allowable maximum.

†Maximum observed temperature of 1010 C at any point on the anode.

‡Maximum observed temperature of 985 C at any point on the anode.

□ Denotes an addition.

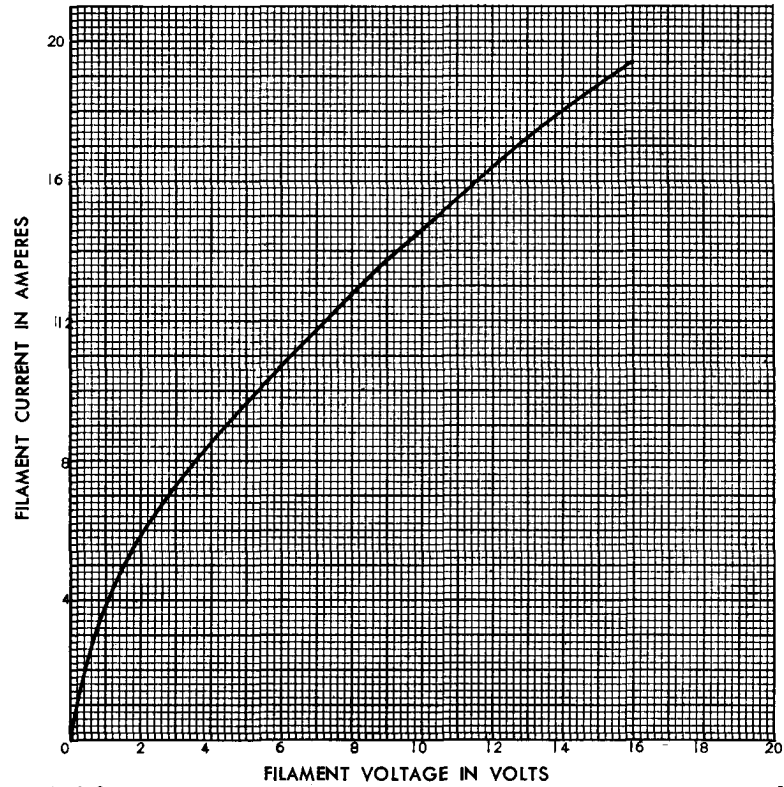
□X-RAY WARNING NOTICE

If the GL-5973 is operated at anode voltages in excess of 16 kilovolts, x-ray radiation shielding may be necessary to protect the user against possible danger of personal injury from prolonged exposure at close range. For further information consult the following references or other standard texts on the subject:

- (a) *X-Ray Protection Design*, Handbook No. 50. National Bureau of Standards, Washington, D.C.
- (b) *X-Ray Protection*, Handbook No. 60. National Bureau of Standards, Washington, D.C.

The above references are available from the Superintendent of Documents, Government Printing Office, Washington 25, D.C.

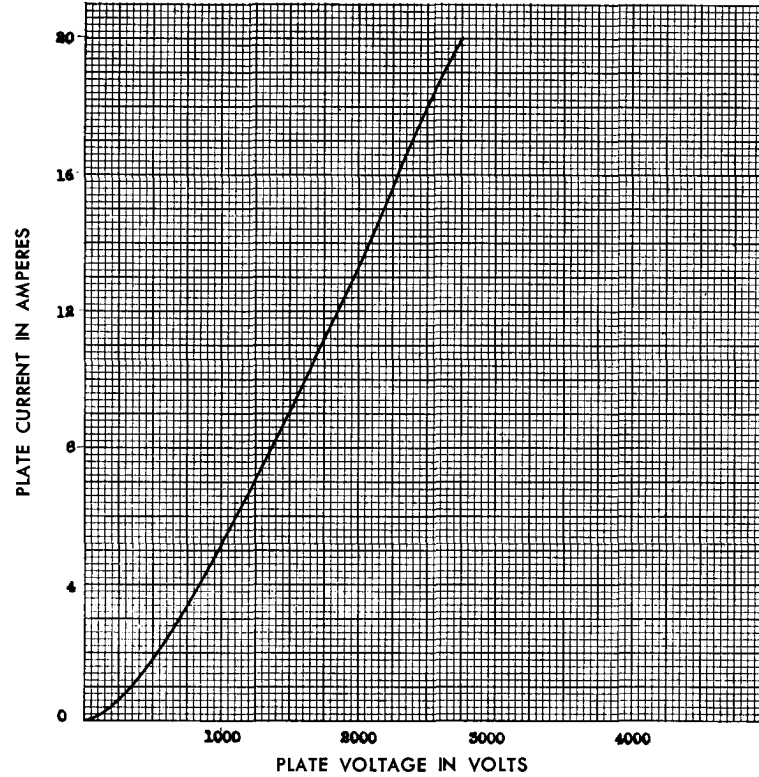
TYPICAL FILAMENT CURRENT CHARACTERISTIC



K-69087-72A380

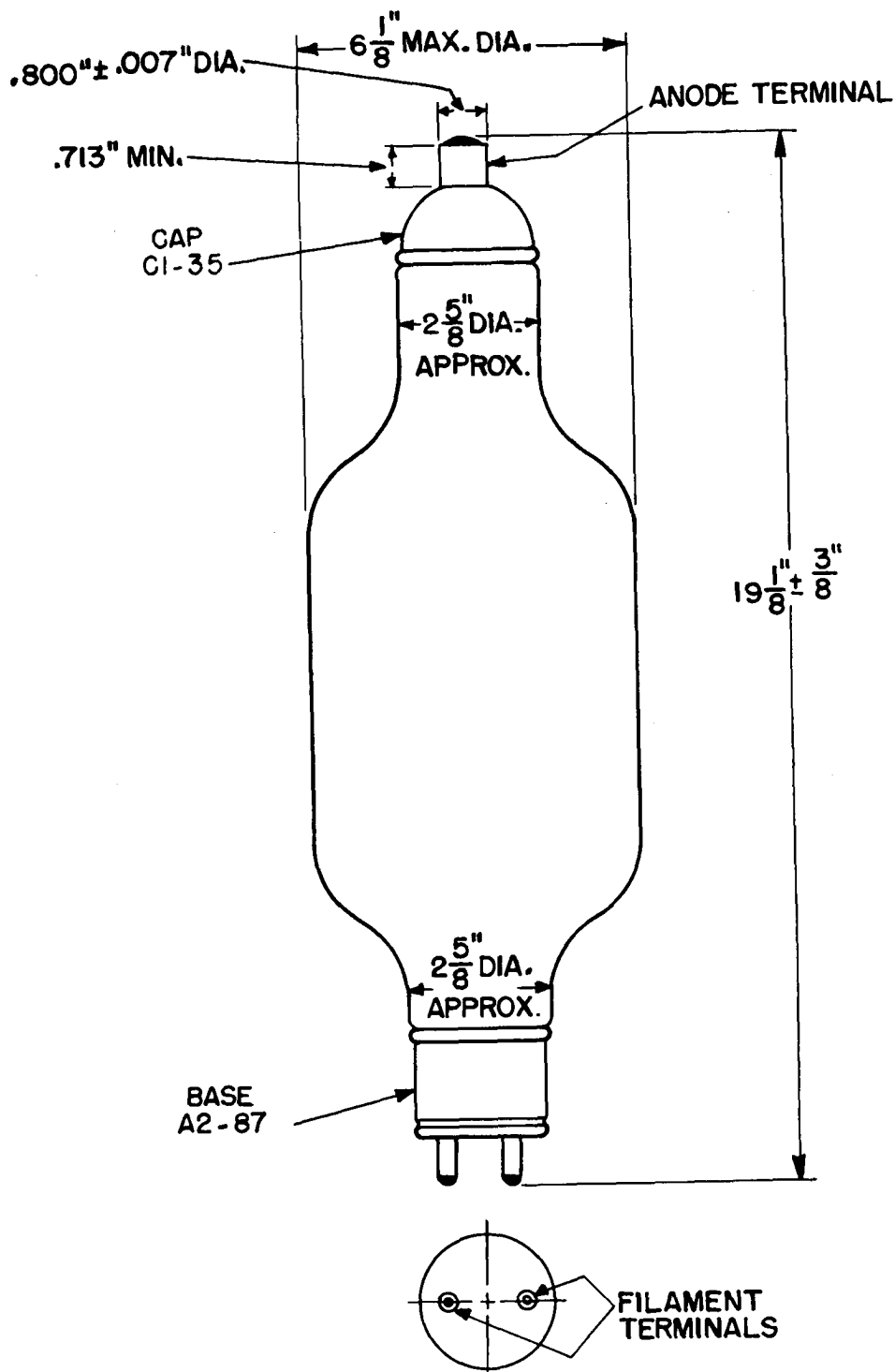
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TYPICAL PLATE CHARACTERISTIC
 $E_f = 16$ VOLTS



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