KENOTRON

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

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.

TECHNICAL INFORMATION

GENERAL

Electrical	Minimum	Bogey	Maximum	
Filament Voltage	15.2	16	16.8	Volts
Filament Current at 16 Volts	18.0	19.1	20.2	Amperes
Filament Starting Current	—	—	30	Amperes
Filament Cold Resistance	—	0.1	—	Ohms
Filament Heating Time, before applying plate voltage	30	—	—	Seconds
Tube Voltage Drop, $I_b = 5$ amperes	850	950	1050	Volts
Interelectrode Capacitance	—	14	—	$\mu\mu f$

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

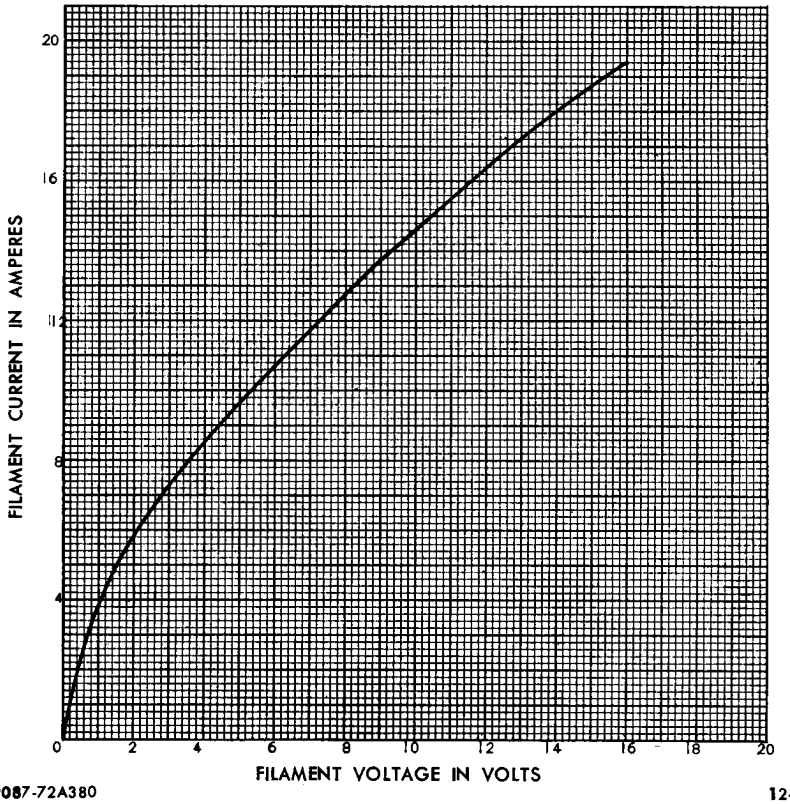
If the GL-5973 is operated at anode voltages in excess of 16 kilovolts, x-ray radiation shielding may be necessary to protect the user against possible danger of personal injury from prolonged exposure at close range. For further information consult the following references or other standard texts on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



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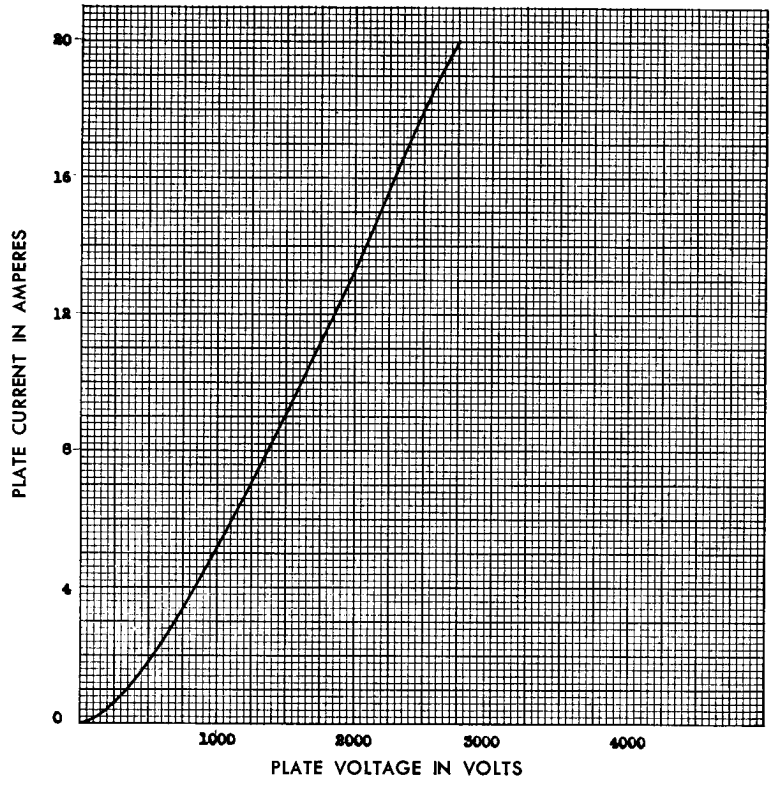
TYPICAL PLATE CHARACTERISTIC

$E_f = 16$ VOLTS



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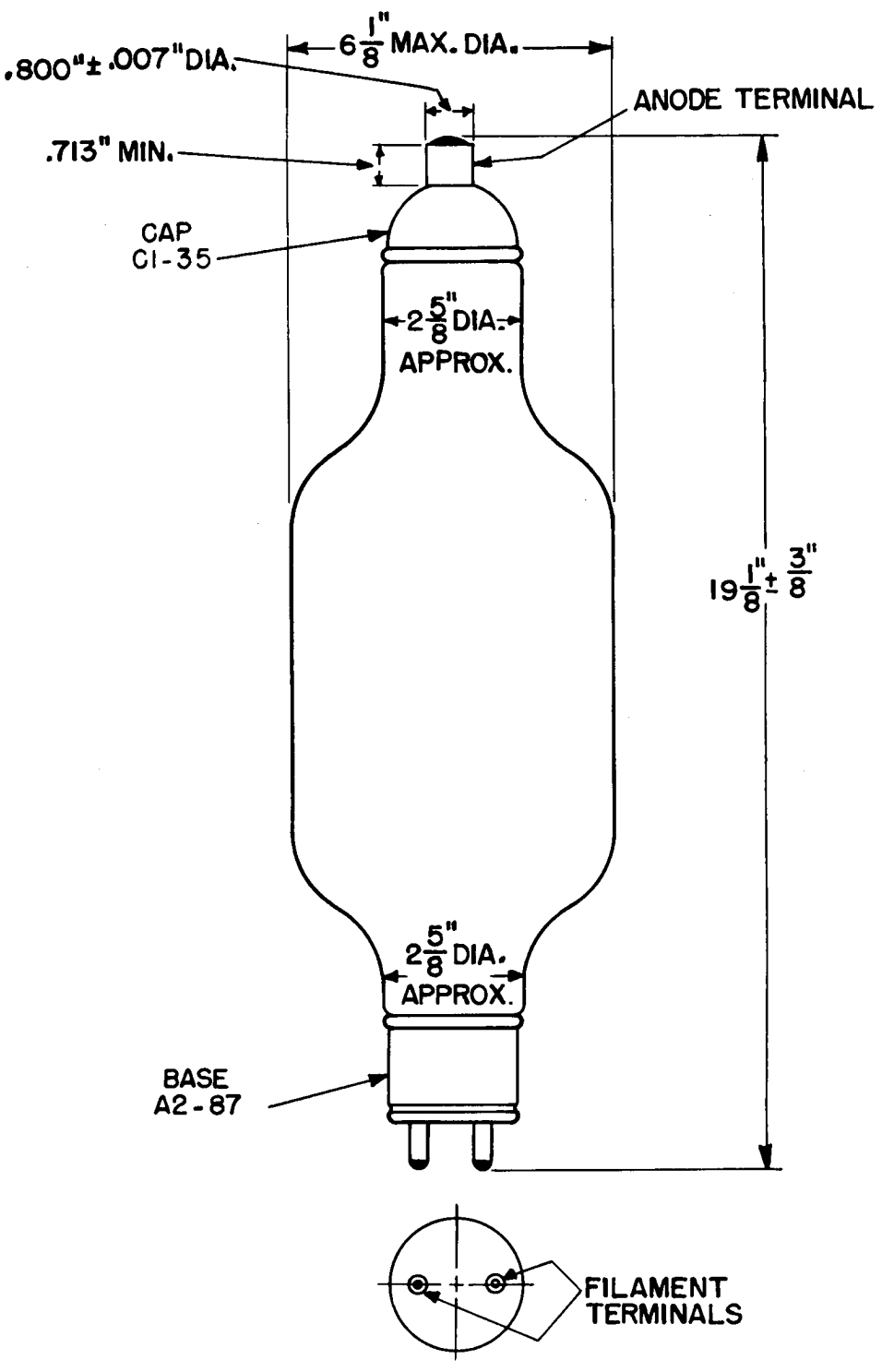

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ELECTRONIC COMPONENTS DIVISION

GENERAL ELECTRIC

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