HIGH-VACUUM RECTIFIER TYPE WL-5973A

The WL-5973A is a two-electrode high-vacuum tube designed for service as a rectifier or surge-limiting diode. Design features include ruggedized anode and filament support structures, an efficient thoriated-tungsten filament, and a low tube-voltage-drop which allows the tube to carry high-average currents without exceeding rated plate dissipation.

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.

ELECTRICAL

	Min.	Bogey	Max.	
Cathode	Thoriated-Tungsten Filament			
Filament:				
Voltage	15.2	16	16.8	Volts
Current at 16 Volts	18.0	19.1	20.2	Amperes
Starting Current	–	–	30	Amperes
Cold Resistance	–	0.1	–	Ohms
Heating Time	30	–	–	Seconds
Tube Voltage Drop at 5 Amperes:				
Plate Current	850	950	1050	Volts
Interelectrode Capacitance	–	14	–	$\mu\mu f$

RECTIFIER SERVICE

MAXIMUM RATINGS

Absolute Maximum Values

Peak Inverse Anode Voltage	75		max.	Kilovolts
	40 KV or Less	more than 40 KV		
Anode Current:				
Peak	5	5	max.	Amperes
Average	1.25	1.00	max.	Amperes
Plate Dissipation	850 (Note 2)	800 (Note 3)	max.	Watts

LIMITER SERVICE

MAXIMUM RATINGS

Absolute Maximum Values

Peak Inverse Anode Voltage	75	max.	Kilovolts
Peak Anode Current	20	max.	Amperes
Plate Dissipation	800	max.	Watts

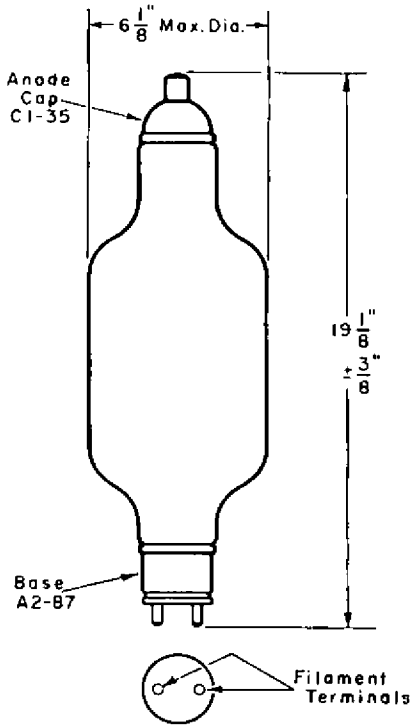
NOTES

1. Tubes enclosed or near other tubes may require forced-air cooling to limit bulb and base temperatures to rated values.
2. Observed temperature of 1010° C max. at any point on the anode.
3. Observed temperature of 985° C max. at any point on the anode.

X-Ray Warning: Operation of the WL-5973A at voltages in excess of 16 kilovolts may necessitate x-ray radiation shielding to protect the user from possible danger of personal injury due to prolonged exposure at close range.

MECHANICAL

Type of Cooling (Note 1)	Radiation
Maximum Glass Temperature	300° C
Maximum Base Temperature	150° C
Mounting Position	Vertical, Base Down
Net Weight (Approx.)	3 Pounds



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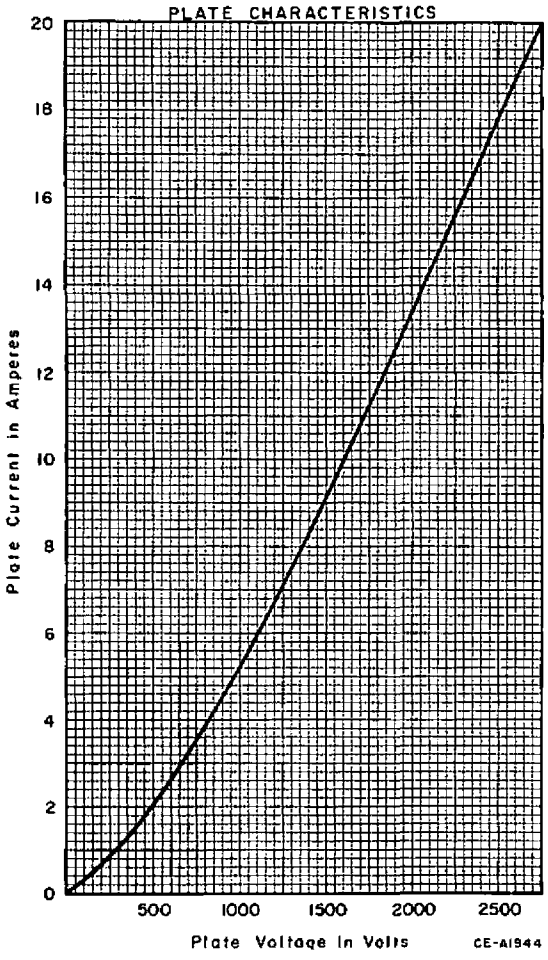

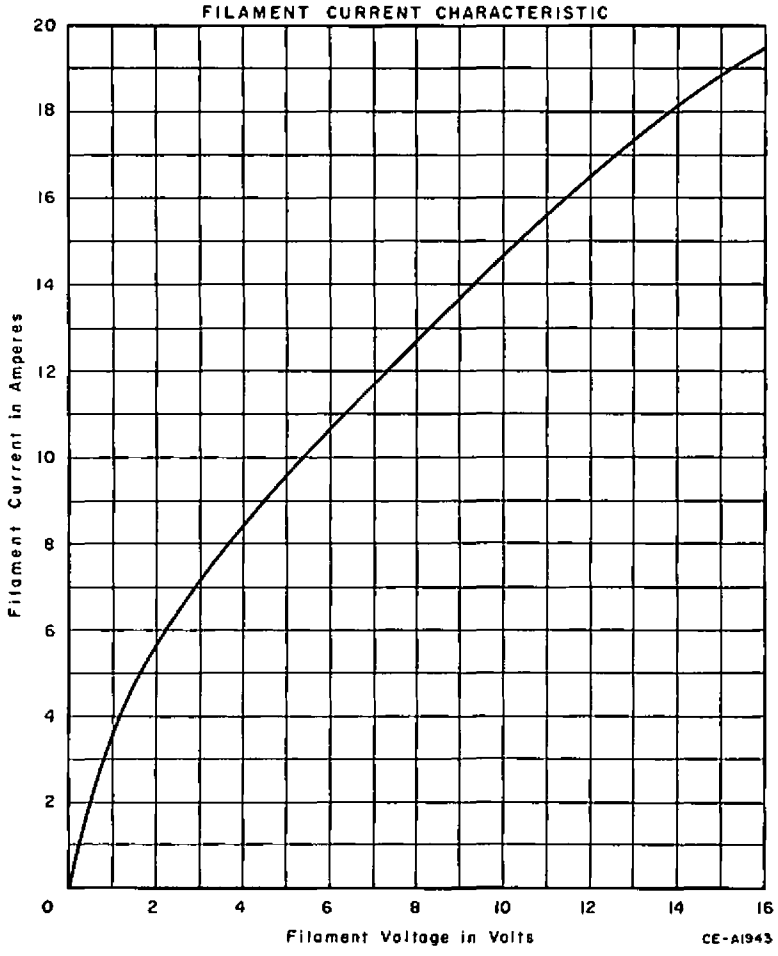

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