

## 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

Cathode . . . . .	Thoriated-Tungsten Filament			Volts
	Min.	Bogey	Max.	
Filament:				
Voltage . . . . .	15.2	16	16.8	
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	-	$\mu\text{mf}$

### 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

### RECTIFIER SERVICE

#### MAXIMUM RATINGS

Absolute Maximum Values

Peak Inverse Anode Voltage . . . . .	75 max.	Kilovolts
Anode Current:	40 KV or Less	more than 40 KV
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 10 10° 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.



