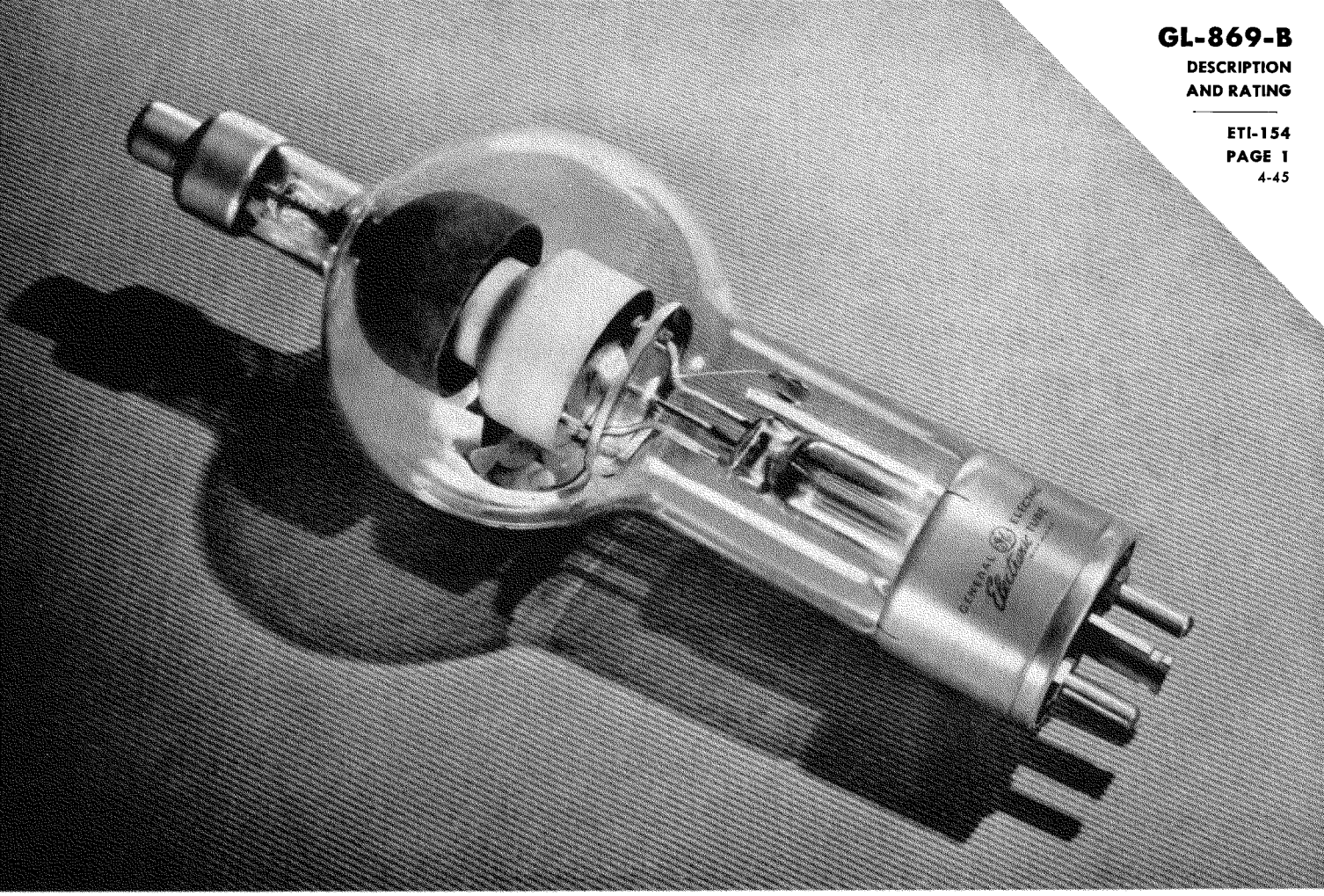


PHANOTRON

DESCRIPTION

The GL-869-B is a half-wave, mercury-vapor rectifier tube for use in broadcast transmitters and other applications where high d-c voltages are required. Economy of operation and high over-all efficiency result from several unique design features incorporated in this tube. The design of cathode allows the further advantage of operation with either in-phase or quadrature filament excitation. In quadrature operation the filament and anode voltages are approximately ninety degrees out of phase with each other. Such an arrangement, allowing uniform utilization of the cathode, results in greater uniformity of characteristics than is possible with other methods.

TECHNICAL INFORMATION

These data are for reference only. For design information refer to specifications.

GENERAL CHARACTERISTICS

Number of electrodes	2	
Electrical		
Cathode—Filamentary type		
Filament voltage	5.0	volts
Filament current, approx.	18.0	amperes
Heating time, typical	1	minute
Peak voltage drop, typical	15	volts
Mechanical		
Type of cooling		convection
Net weight, approx.	1½	pounds
Shipping weight, approx.	6	pounds
Mounting position		vertical, base down

Electronic TUBE

GENERAL ELECTRIC

TECHNICAL INFORMATION (CONT'D)

MAXIMUM RATINGS

In-phase filament excitation

Maximum peak inverse anode voltage
- Type of cooling ..... Convection ..... Forced-air
  - 150 cycles or less ..... 10,000 volts ..... 20,000 volts
  - Corresponding mercury temperature ..... 30–60 centigrade ..... 30–40 centigrade

Maximum anode current
- Instantaneous, 25 to 150 cycles ..... 10 amperes
- Average ..... 2.5 amperes

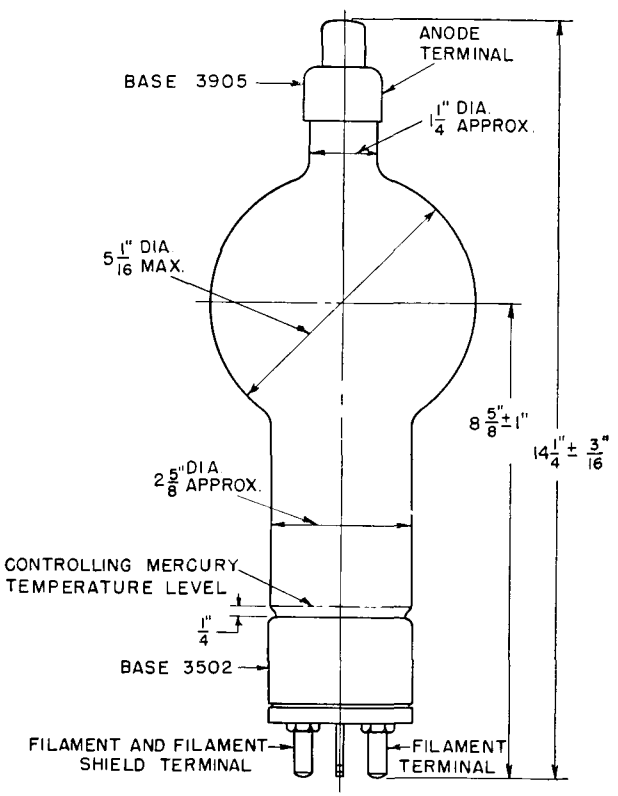
Quadrature filament excitation

Maximum peak inverse anode voltage
- Type of cooling ..... Forced-air
  - 150 cycles or less ..... 15,000 volts
  - Corresponding mercury temperature ..... 30–40 centigrade

Maximum anode current
- Instantaneous, 25 to 150 cycles ..... 15 amperes
- Average ..... 5 amperes

Quadrature or In-phase filament excitation

Surge, for design only ..... 100 amperes
Duration of surge current ..... 0.1 second
Maximum time of averaging current ..... 30 seconds
Recommended temperature, condensed mercury ..... 35 ± 5 centigrade



OUTLINE
GL-869-B PHANOTRON

K-4909011 9-23-44

Electronics Department
GENERAL ELECTRIC
Schenectady, N. Y.