

SPLIT ELECTROMETER TUBE

Tube 6196

The 6196 is a split tetrode miniature tube for electrometer applications. It consists of a low filament power, a space-charge grid n° 1 and two grid n° 2-anode elements which are geometrically similar and are symmetrically situated on each side of the filament plane.

One of the n° 2 grids is connected to the top of the bulb. The tube has been treated both inside and outside to provide this grid with maximum leakage resistance and absolute minimum current.

The use of this tube in a balanced Wheatstone bridge arrangement provides not only a means of compensating for fluctuations in anode voltage and filament current but also for random filament emission fluctuations. For these reasons the circuit drift is reduced to the lowest value.

CHARACTERISTICS

ELECTRICAL:

Filament, coated:				
	<u>Min.</u>	<u>Nominal</u>	<u>Max.</u>	
Voltage		3		Volts
Current	45	50	55	mA

Capacitance\* Grid n° 2                    3.7     $\mu\text{pF}$

MECHANICAL:

Maximum overall length		2-1/2"
Maximum diameter		7/8"
Base	Small button Noval	9 pin

Basic designation (bottom view) :

- Pin 1 - Grid n° 1
- Pin 2 - Compensating element Grid n° 2
- Pin 3 - Filament (+)
- Pin 4 - Filament (-)
- Pin 5 - Compensating element Plate
- Pin 6 - Grid n° 1
- Pin 7 - No connection
- Pin 8 - Measuring element Plate
- Pin 9 - Measuring element Plate

MAXIMUM RATINGS (each element) :

Plate voltage	9 Volts max.
Grid n° 1 voltage	6 Volts max.
Grid n° 2 voltage	-2 Volts max.

TYPICAL OPERATION (each element)

Plate voltage	9 volts
Grid n° 1 voltage	6 volts
Grid n° 2 voltage	-4 volts
Plate current	40 $\mu\text{A}$
Grid n° 1 current	500 $\mu\text{A}$
Transconductance	20 $\mu\text{mho}$
Grid n° 2 Leakage resistance (measuring element) ;	$>10^{15}$ ohms
Grid n° 2 total inverse current (measuring element) :	$2 \cdot 10^{-15}$ amp. (approx)

The measuring element grid n° 2 is connected to the top of the bulb.

\* Control grid of the measuring element to all other electrodes in parallel.

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