LOW PRESSURE ION GAUGE TUBE TYPE 8057

The 8057 is an ionization type of vacuum-gauge tube for measurement of gas pressure as low as 10^{-9} mm of mercury. The tube has a hard glass bulb with a 3/4 inch diameter tubulation. The 8057 employs a Bayard-Alpert electrode structure having a minimum of metal surface for ease of out-gassing.

The 8057 is a triode having two tungsten filaments which may be operated singly, in series, or in parallel. The helical grid structure is made of non-sag tungsten and is easily outgassed by connecting it directly to a suitable A-C or D-C supply.

The grid structure is operated at a positive potential with respect to the filament while the ion collector is at a negative potential. Electrons are accelerated from the filament to the grid; they bombard and ionize gas molecules, and the resultant positive ions are attracted to the collector. The ratio of the collector current (positive ion current) to the grid current is proportional to the gas pressure.

ELECTRICAL:

Filament Type	Tungsten
Filament Voltage (1 Filament)	Approx. 7 AC or DC Volts
Filament Current (1 Filament)	2.5 ± 8% Amperes

MECHANICAL:

Maximum Tube Length	5-1/4"
Maximum Bulb Diameter	2-1/16
Tubulation:	
Size	3/4 Inch
Material	Nonex (Corning Code 7720)
Mounting Position	Vertical

MAXIMUM RATINGS:

Absolute Maximum Values

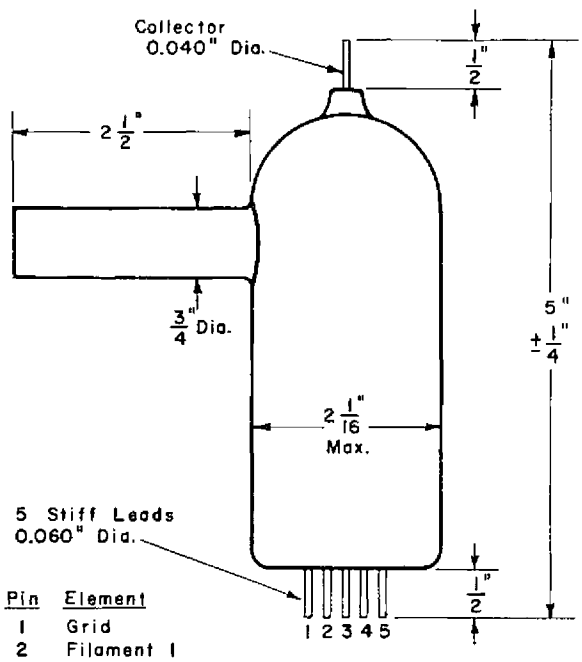
Ion Collector Voltage	−100	max.	Volts
Grid Voltage	+500	max.	Volts
Ambient Temperature	100	max.	°C
Gas Pressure	0.001	max.	mm Hg.

Typical Operation:

Ion Collector Voltage	−30	Volts
Grid Voltage	+150	Volts
Grid Current	10	Ma.
Sensitivity	1μa/10^{-9}	mm Hg.

Conditions For Outgassing Grid:

Grid Voltage	Approx.	6 to 7	Volts
Grid Current	Approx.	9 to 10	Amperes



Pin	Element
1	Grid
2	Filament 1
3	Filament Common
4	Filament 2
5	Grid

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