



Reflex Klystron

Code : Z239/1G (CV2187)

The Z239/1G is a Reflex Klystron developed for use as a frequency modulated transmitter and capable of delivering an output of approximately one watt.

ELECTRICAL DATA.

Cathode

Indirectly-heated, oxide-coated

Heater voltage	6.3	V
Nominal current	1.0	A
Cathode heating time	60	secs

Characteristics

Frequency range	3600 to 4200	Mc/s
Minimum output power	1.0	W
Bandwidth to half power	40	Mc/s

MECHANICAL DATA.

Mounting position :—Vertical, base up or down

Maximum overall length, less leads	141.81	mm
Maximum diameter over seals	35.027	mm
Base : None, connections made to flexible leads		
Net weight	42	g
Top cap	Skirted CT.1	

Resonant cavity :

Not an integral part of valve ; various sizes may be fitted to the valve. (Minimum contact diameter of resonator 1.15 in.)

Air flow required with recommended cooler :

When operated with gun end uppermost (approx.)	7	cu ft/min
When operated with gun end down (approx.)	5	cu ft/min
Maximum seal temperature	90	°C

The cooling air should be directed towards the gun end of the valve.

Tentative data
May 1952

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MAXIMUM RATINGS.

Maximum direct resonator voltage	1100	V
Maximum direct reflector voltage	-700	V
Maximum direct resonator current	70	mA

TYPICAL OPERATING CONDITIONS.**Mode 7 at 7.6 cm**

Direct resonator voltage	950 to 1100	V
Direct reflector voltage (Relative to cathode)	-150 to -250	V
Direct resonator current	60	mA
Bandwidth to half power	45 to 70	Mc/s
Modulation sensitivity, approx.	0.5	Mc/s/V
Modulation capacity, approx.	3	pF
Power output	1.2	W

OPERATING DETAILS.

All tabulated data shown for the Z239/1G were taken with the recommended cavity and waveguide. The dynamic figures shown relate to operation into a resistive load with a standing wave ratio of at least 0.94 and are measured at the highest frequency and at mid-band.

When switching on care should be taken to ensure that the reflector is never allowed to receive a positive bias.

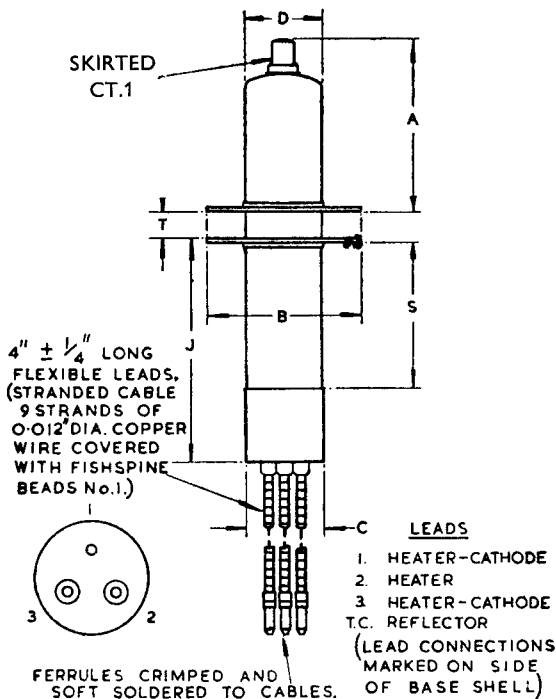
The valve should normally be operated with the resonator earthed and the cathode negative.

Two heater-cathode leads are brought out from the valve so that one can be used as a separate d.c. return path to avoid hum.



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DIM.	MILLIMETRES	INCHES
A	55.56 \pm 4.75	2 $\frac{3}{16}$ \pm $\frac{3}{16}$
B	34.9 \pm 0.127	1.375 \pm 0.005
C	22.23 MAX.	0.875 MAX.
D	22.2 MAX.	$\frac{7}{8}$ MAX.
J	73.03 MAX.	2 $\frac{7}{8}$ MAX.
S	50.80 \pm $\frac{3.18}{8.00}$	2 \pm $\frac{1}{8}$
T	7.97 \pm 0.5	0.314 \pm 0.020

NOTE: BASIC FIGURES ARE INCHES