



KLYSTRON

K301

May 1958 Page 1

Service Type CV2161

INTRODUCTION

The K301 is a low voltage reflex klystron with a separate resonator (not supplied) designed for use as a local oscillator. When used with an appropriate cavity (the cavity in Spectrum Analyser Type 1, Ref. No. 10S/16147 being suitable) it will cover the frequency range from 2500 to 3500Mc/s.

The electronic tuning range is typically 15Mc/s obtained by a voltage sweep of 15 volts.

Reflector voltages are with respect to the cathode. The reflector voltage must never become equal to or more positive than the cathode; if under A.F.C. working there is any chance of this happening, a protective diode must be fitted. It is imperative that the reflector connection be made at all times during operation.

GENERAL DATA

Electrical

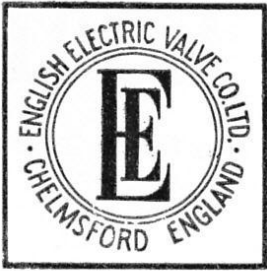
Cathode.. .. .	Indirectly Heated, Oxide Coated
Heater Voltage.. .. .	6.3 V
Heater Current.. .. .	0.6 A
Total Impedance in Reflector-Cathode Circuit	0.5 MΩ Max

Mechanical

Dimensions:	
Height	2.76 inches (70.0 mm) Max
Diameter	1.35 inches (34.1 mm) Max
Net Weight	1 ounce (30 gm) Approx
Mounting Position	Any
Top Cap	Dia. 0.512 inch (13 mm.) Max
Base	Solder Tags

Cooling	Natural
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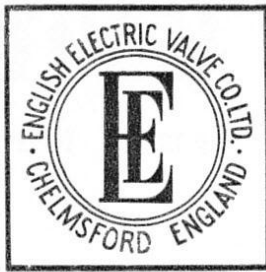
KLYSTRON

K301

May 1958 Page 2

NOTES

1. Reflector voltages given here correspond to the maximum power point of the mode; the limits include the variations over the mechanical tuning range and also variations from valve to valve.



KLYSTRON

K301

May 1958 Page 3

MAXIMUM AND MINIMUM RATINGS

(Absolute Values)

No individual rating should be exceeded

	<i>Min</i>	<i>Max</i>	
Heater Voltage	5.8	6.8	V
Resonator Voltage	—	400	V
Resonator Current	—	50	mA
Resonator Dissipation	—	20	W
Reflector Voltage (negative)	20	500	V
Body Temperature	—	140	°C

RANGE OF CHARACTERISTICS FOR EQUIPMENT DESIGN

	<i>Min</i>	<i>Max</i>	
Heater Current at heater voltage 6.3V	0.52	0.61	A
Resonator Current*	20	44	mA
Reflector Voltage* (negative) (<i>See Note 1</i>)	120	400	V
Output Power* (Load V.S.W.R. ∇ 1.1 : 1)	10	—	mW
Mechanical Tuning Range	2500	3500	Mc/s
Electronic Tuning Range between 3db points*	12	—	Mc/s

*Resonator Voltage 350V; Heater 6.3V

TYPICAL OPERATION

(with load V.S.W.R. ∇ 1.1 : 1)

Resonator Voltage	350	V
Resonator Current	35	mA
Reflector Voltage Range	—140 to —375	V
Output Power	30	mW
Mechanical Tuning Range	2500 to 3500	Mc/s
Electronic Tuning Range	15	Mc/s
Nominal Reflector Voltage change to give 15Mc/s electronic tuning	15	V



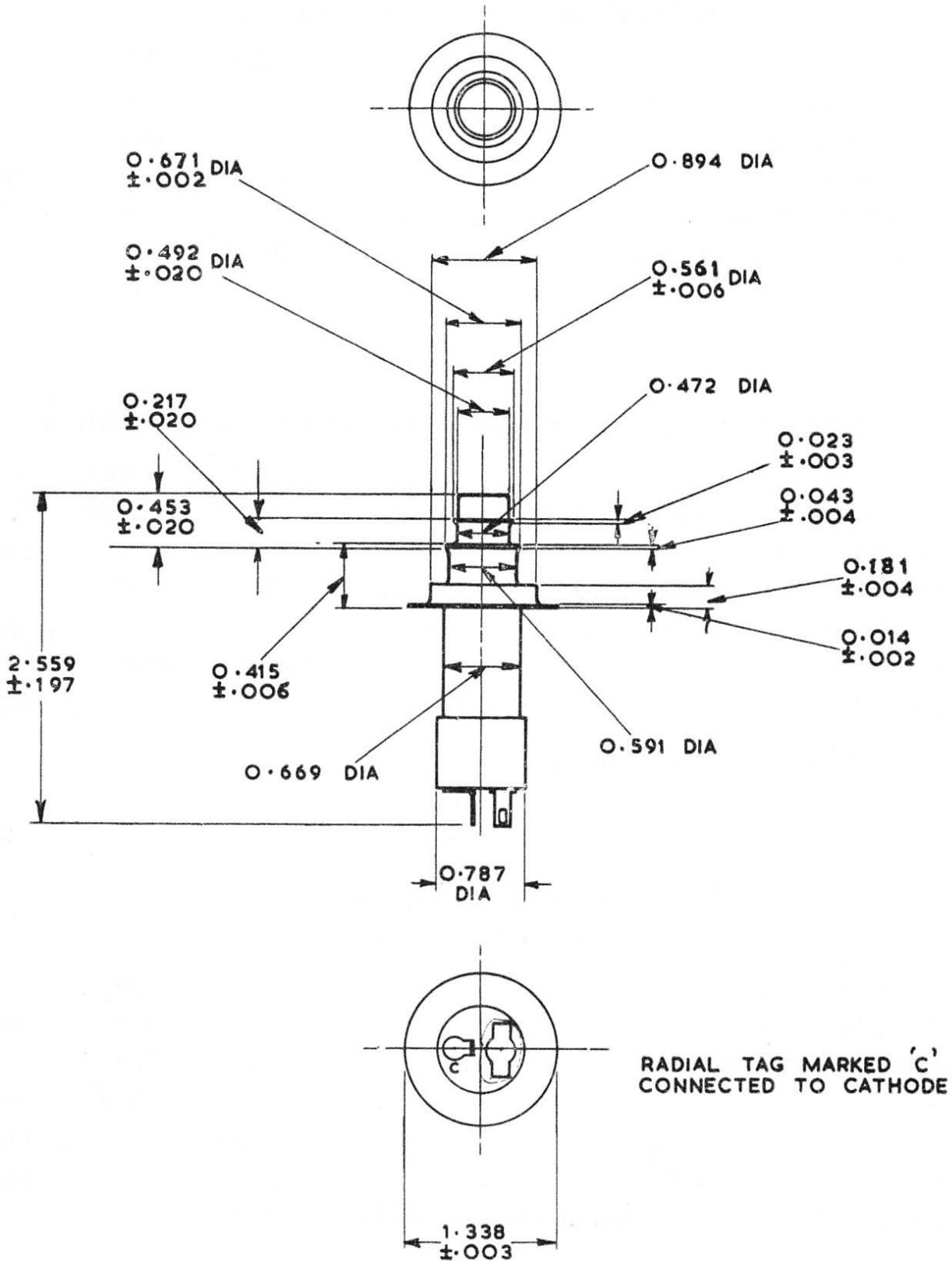
KLYSTRON

K301

May 1958 Page 4

OUTLINE

387



ALL DIMENSIONS IN INCHES

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