

MECHANICAL DATA

Base A4-76, Peewee 4 Pin
 Cap C1-3, Skirted Miniature
 Cooling Convection and Conduction.
 Contact rings are to make direct peripheral contact with metallic parts of the external cavity.
 Mounting Position Any
 Connections:
 Pin 1 — Control Electrode . . . Lower Contact Ring — 1st Resonator
 Pin 2 — Heater Upper Contact Ring — 2nd Resonator
 Pin 3 — Cathode Cap — Reflector
 Pin 4 — Heater

ELECTRICAL DATA

HEATER CHARACTERISTICS

Heater Voltage, AC or DC ($\pm 8\%$) 6.3 Volts
 Heater Current 675 Ma

RATINGS (Absolute Values)

Resonator Voltage 350 Volts d c Max.
 Resonator Current 29 Ma d c Max.
 Reflector Voltage -700 Volts d c Max.
 -15 Volts d c Min.
 Control Electrode Voltage +20 to -150 Volts Max.
 Control Electrode Current 12 Ma Max.
 Heater-Cathode Voltage ± 45 Volts d c Max.
 Power Input 12 Watts Max.
 Seal Temperature 175°C Max.

GENERAL

Reflector Mode	1-3/4	2-3/4	3-3/4
Frequency	2300	3000	3800 Mc
	550	1100	1500 Mc

TYPICAL OPERATION

CW Oscillator

Reflector Mode	1-3/4	2-3/4	3-3/4
Cavity Mode	1/4	1/4	1/4
Frequency	1500	2200	3000 Mc
Resonator Voltage	325	300	325 Volts
Cathode Current	28	28	28 Ma
Reflector Voltage (approx.)	-235	-215	-215 Volts
Control Electrode Voltage (Full Power Output)	+10	+10	+10 Volts
Power Output Cutoff	+3	+3	+3 Volts
Electronic Tuning Range (Between Half Power Points)	8	8	8 Mc

Pulse Modulated Oscillator

For pulse operation, the general conditions are the same except as noted below:
 The peak power output with the tube modulated by the control electrode is not more than 1.5 db below the cw output within the rated frequency range.

Control Electrode	-10 Volts
Pulse Modulation Voltage	+20 Volts
Pulse Repetition Rate	40-4000 PPS
Minimum Pulse Duration	0.5 μ sec.
Rise Time	0.1 μ sec.
Decay Time	0.1 μ sec.
Jitter15 μ sec.

QUICK REFERENCE DATA

The Sylvania Type 5837 is a broadband reflex klystron designed for operation from 1600-3000 Mc. It functions as a CW or pulsed oscillator with an external cavity.



**SYLVANIA ELECTRIC
PRODUCTS INC.**

**ELECTRONICS DIVISION
WOBURN, MASS.**

*Prepared and Released By The
TECHNICAL PUBLICATIONS SECTION
EMPORIUM, PENNSYLVANIA*

5-54-87

PAGE 1 OF 5

APPLICATION DATA

The Sylvania Type 5837 is a broadband reflex klystron designed for cw or pulsed operation in conjunction with external cavity resonators. This tube operates over the range from 1500 to 3000 Mc in three modes. The 5837 is particularly adapted for use in signal generators, spectrum analyzers, or local oscillator applications where broadband frequency coverage is needed.

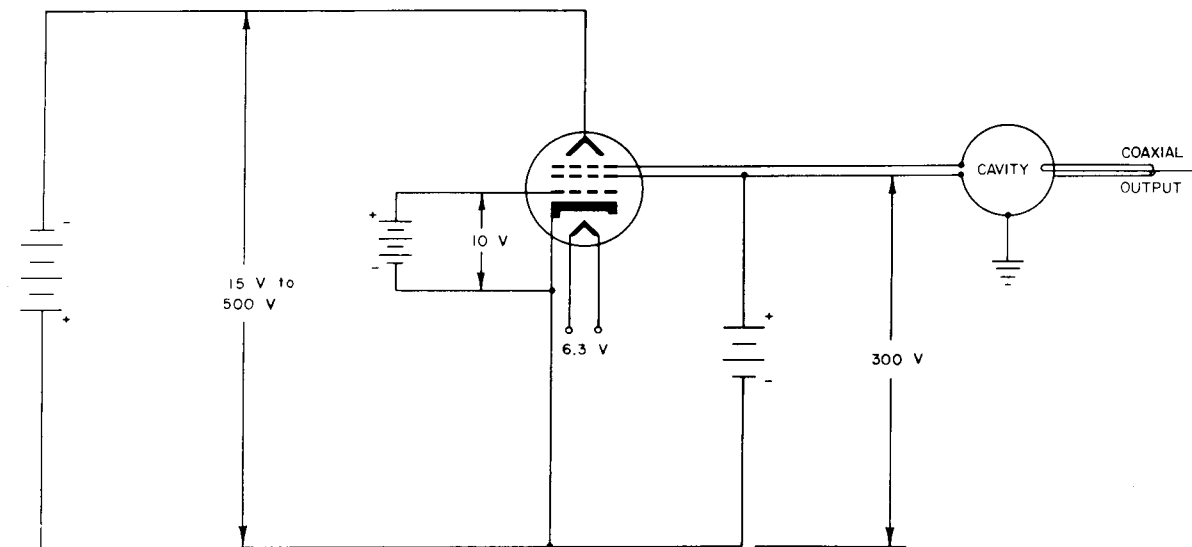


FIG. 1 — CW OSCILLATOR CIRCUIT EMPLOYING THE 5837 REFLEX KLYSTRON

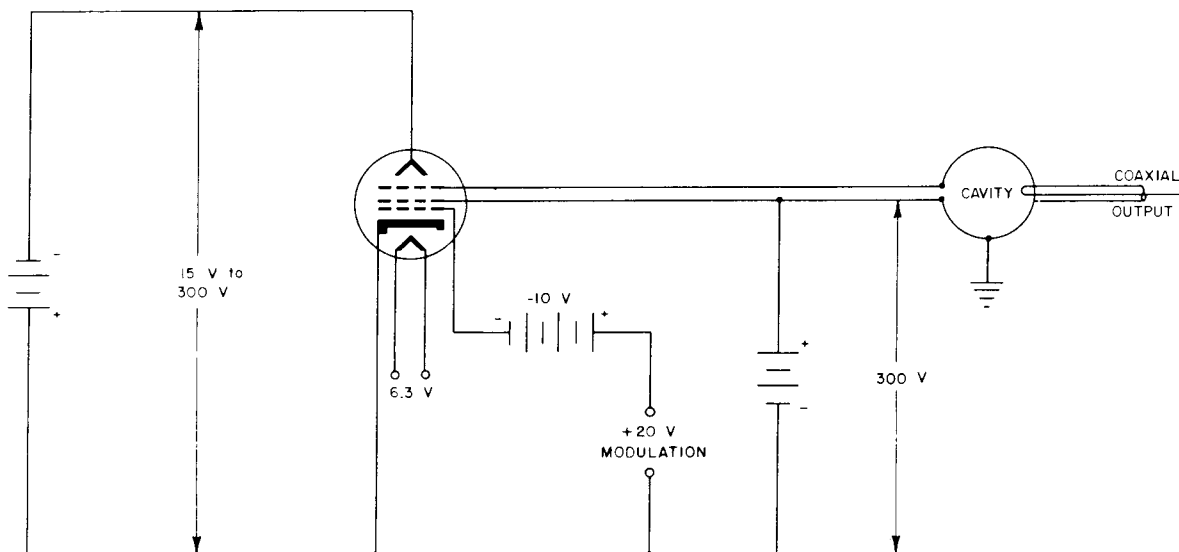


FIG. 2 — PULSE MODULATED OSCILLATOR CIRCUIT EMPLOYING THE 5837 REFLEX KLYSTRON

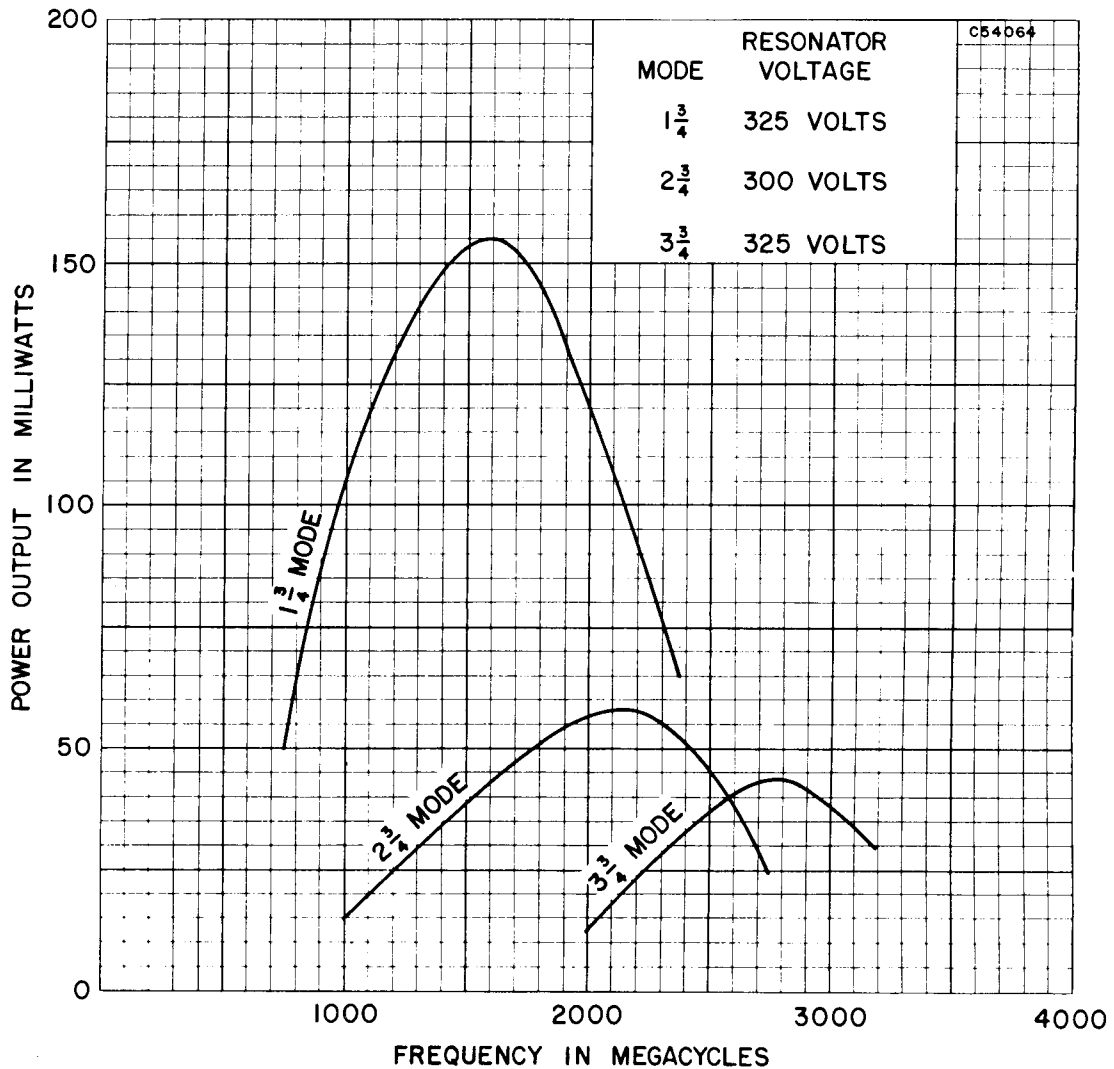
APPLICATION DATA

Recess in Contact Plunger 1/2" Loop Size for 3000-5000 mc 9/32"
 Loop Size for 800-3500 mc 9/16" Loop Width for Both Ranges175"

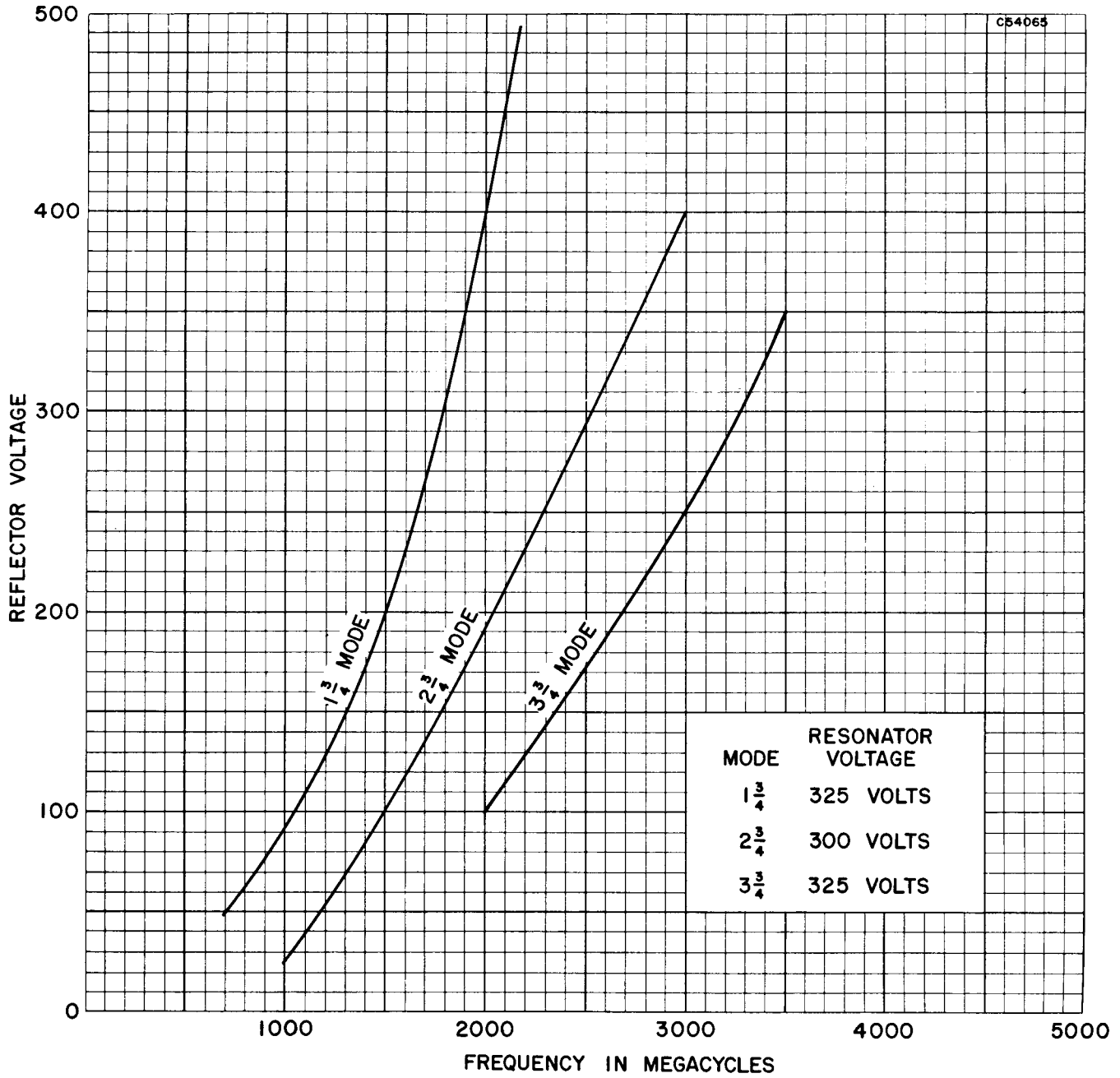
The length is determined by the frequency of operation and the range of plunger motion is set by the frequency band to be covered.

FIG. 3 — DIAGRAM OF A TYPICAL COAXIAL CAVITY FOR USE WITH THE 5837 REFLEX KLYSTRON

AVERAGE CHARACTERISTICS



AVERAGE CHARACTERISTICS



OUTLINE DRAWING

