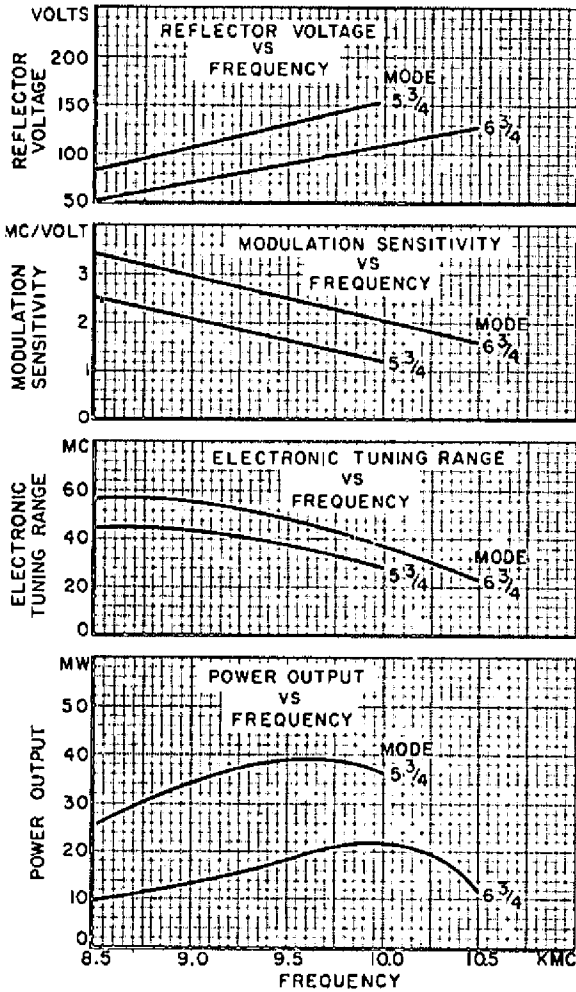


ALL CURVES ARE TYPICAL DATA

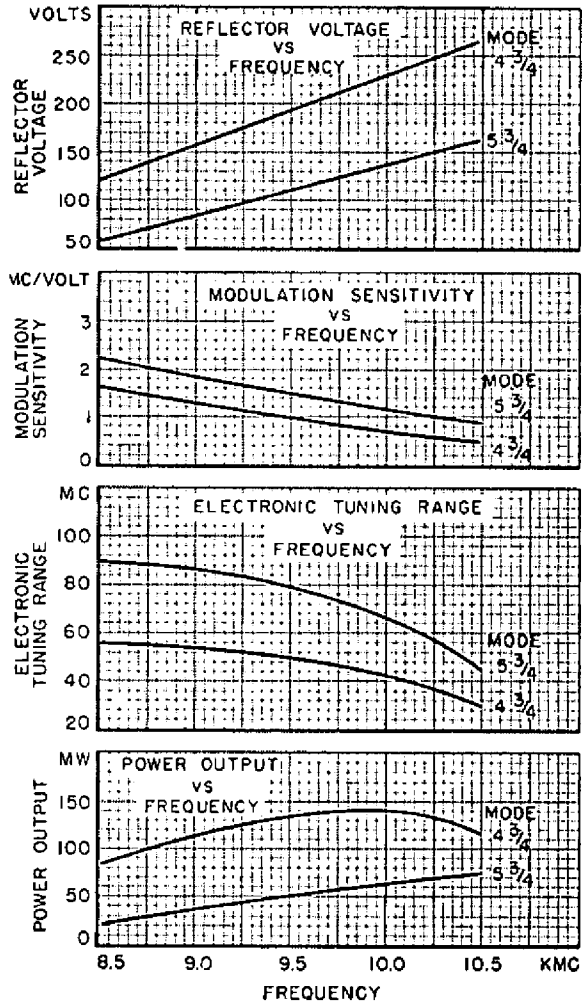
RESONATOR VOLTAGE = 200 V

LOAD VSWR > 1.1

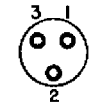
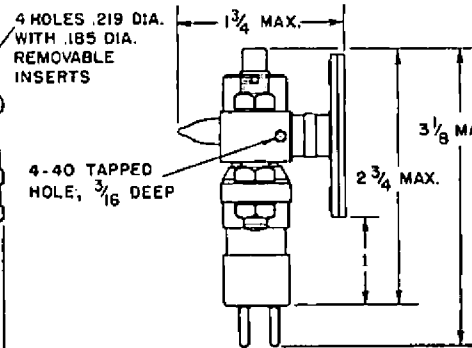
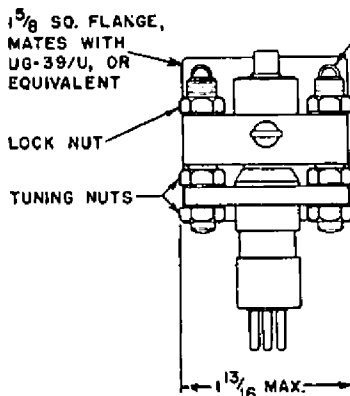
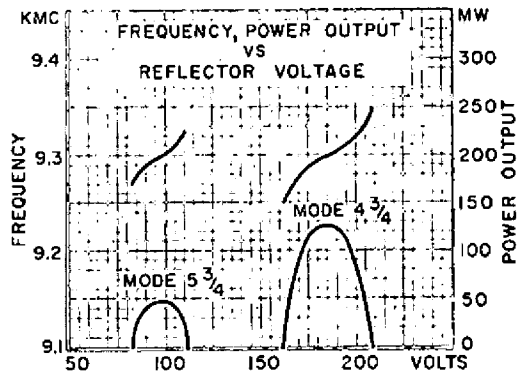
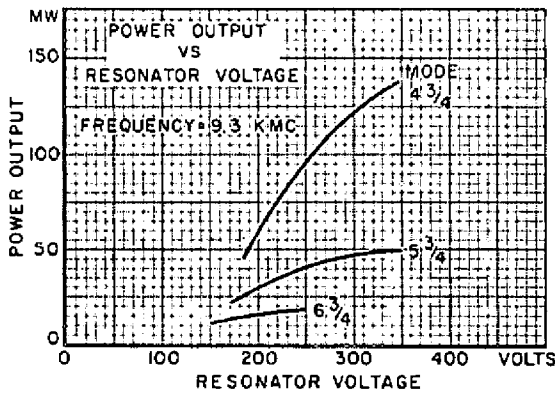
RESONATOR VOLTAGE = 300 V



ErS = 200 VOLTS



ErS = 300 VOLTS



BASE CONNECTIONS

1* HEATER

2* CATHODE

3 HEATER

* PINS 1 & 2 INTERNALLY CONNECTED

ALL DIMENSIONS INCHES NOMINAL UNLESS OTHERWISE NOTED

OUTLINE DRAWING VA-6313 REFLEX KLYSTRON



SPECIFICATION

TYPE VA-6313/V-280 REFLEX KLYSTRON
VA-6314/V-290

Description: Klystron, Integral Cavity, Tuner, Waveguide Output

Ratings:	Ef	Ers	Er	Ik	Tuner Plate Temp	Altitude Feet	Altitude Feet
Absolute	V	Vdc	Vdc	mAdc	°C	VA-6313/V-280	VA-6314/V-290
Maximum:	6.3+ 10%	385	0 to -1000	74	200	10,000	No Limit
Test Cond:	6.3	350	-50 to -300	----	Notes 1 & 2		
Dimensions:	As per outline				**Cathode: Coated Unipotential		

Ref.	Test	Conditions	Min.	Max.
3.1	Qualification Approval:	Required for JAN markings		
4.5	Holding Period:	t=168 hours		
4.9.5.1	*Torque:	Note 3		
4.9.18	*Carton Drop:	(d)Package Group 1 Carton Size N		
4.9.19	**Vibration(1):	Power Output (3) 10G; F=50 to 1000 cps t=5 min.		
4.9.19	Vibration(2):	Ers=200 Vdc; 10G; F=60 t=120; Note 4	Ir: 0	10 uAdc
4.9.20.5	**Shock:	Power Output(3) G=200		
4.10.8	*Heater Current:		If: 1.08	1.32 A
4.10.6.7.1	∕Total Reflector Current:	Notes 5 & 6	Ir: ----	3 uAdc
4.10.1.1	∕Emission:	Ef=5.7; Note 6	Δ Ik/Ik: ---	-15 %
4.10.4.6	Cathode Current:	Er(Mode 4)/max Po F=10,000 + .3% Mc	Ik: ----	60 mAdc
4.10.7.3.2	Tunable Frequency:		F; 8500	10,500 Mc
4.15.1	Power Output(1):	Er(Mode 4)/max Po F=8500 + .3%	Po: 50	---- mW

<u>Ref.</u>	<u>Test</u>	<u>Conditions</u>	<u>Min.</u>	<u>Max.</u>
4.15.1	Power Output(2):	Er(Mode 4)/max Po F=10,000 \pm .3% Mc	Po: 100	--- mW
4.15.1	*Power Output(3):	Ers=200 Vdc; Er (Mode 6)/max Po; F=9300 \pm .3% Mc	Po: 8	--- mW.
4.10.5.4	Reflector Voltage(1):	Power Output(1)	Er: -85	-145 Vdc
4.10.5.4	Reflector Voltage(2):	Power Output(2)	Er: -170	-255 Vdc
4.10.5.4	*Reflector Voltage(3):	Power Output(3)	Er: -40	-110 Vdc
4.15.3	*Electronic Tuning Range(1):	Mode 4; 50% max Po F=8500 to 10,000 Mc Note 7	ΔF : 40	--- Mc
4.15.3	*Electronic Tuning Range(2):	Mode 6; 50% max Po F=9300; Ers=200 v Note 7	ΔF : 35	--- Mc
--	*Modulation Sensitivity:	Power Output(3) $\Delta F = \pm 2.5$ Mc max	Coeff: 2.0	4.0 Mc/V
4.15.5	**Temperature Compensation:	Power Output(3) TA = -10 to +40°C	Coeff: --	.20 Mc/°C
--	**Frequency Modulation:	Power Output (2) Er=5.7 to 7.0 Vdc	ΔF : --	.1 Mc
4.11	Life Test:	Group C Power Output(3)	t: 500	--- hrs
4.11.4	Life Test End Point:	Power Output(1) Reflector Current t=5 min.	$\Delta Po/Po$: 0 Ir: --	-20 % 10 uAde

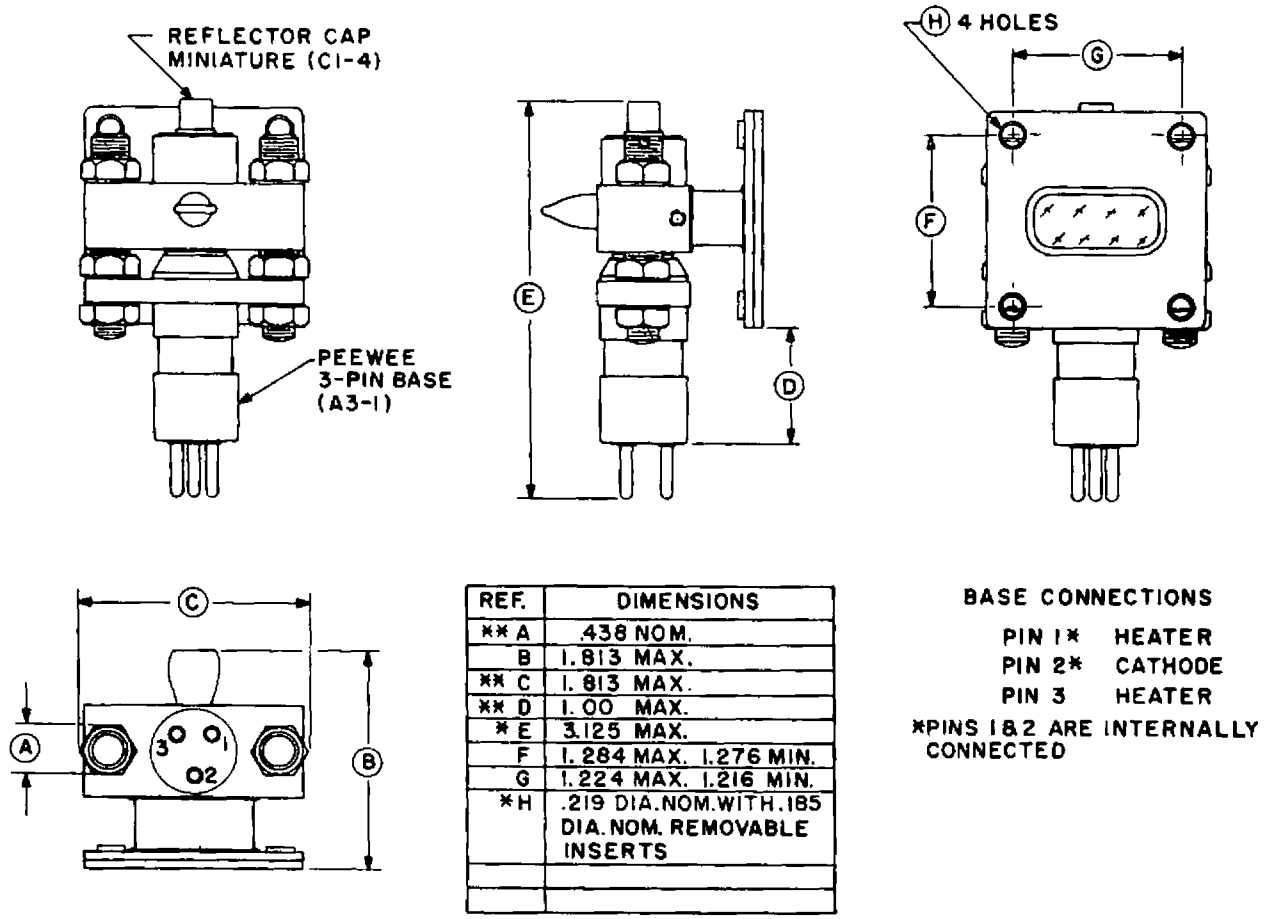
References are to paragraphs in "Military Specifications for Electron Tubes MIL-E-1B".

Note 1: All oscillation tests except vibration test shall be made with the tube rigidly connected to a UG39/U flange on appropriate RG52/U waveguide equipment and the load VSWR for the tube shall be less than 1.1. Forced air cooling is required for power inputs above 10 watts.

Note 2: Temperature of base and cap of VA-6313/V-280 should not exceed 120°C.

Note 3: Not applicable to VA-6314/V-290.

- Note 4: The reflector current shall be recorded with a Brush Model BL202 recorder or equivalent. There shall be no reflector current bursts greater than the limits shown.
- Note 5: After two minutes with all voltages applied, total reflector current shall not exceed the specified limits.
- Note 6: The tube shall not be oscillating during the test.
- Note 7: The power output shall have no discontinuities between half-power points for either direction of reflector voltage change.



NOTE: Eyelet-type inserts in the flange mounting holes are 0.219 O.D., 0.185 I.D., nominal, and are easily removable from rear of flange. With inserts in place, the mounting holes provide clearance for #8 screws. With inserts removed, the mounting holes permit use of insulating bushings where d-c isolation between tube flange and waveguide system is desired.

SPECIFICATION DRAWING, VA-6313/V-280 REFLEX KLYSTRON

Dwg. 280B
 4-20-53