

engineering TUBE DATA

F-7820
POWER TRIODE



Components Division

DESCRIPTION:

THE F-7820 IS A THREE ELECTRODE TUBE DESIGNED FOR USE AS A MODULATOR, ITS ELECTRICAL CHARACTERISTICS MAKING IT PARTICULARLY SUITABLE FOR CLASS AB MODULATOR CIRCUITS. THIS TUBE IS EXCEPTIONALLY DESIRABLE UNDER CONDITIONS OF OPERATION WHERE VIBRATION* OR SHOCK* ARE PRESENT. THE ANODE IS AIR-COOLED AND CAPABLE OF 4.3 KILOWATTS DISSIPATION. THE CATHODE IS A THORIATED TUNGSTEN FILAMENT. MAXIMUM RATINGS APPLY FOR AUDIO FREQUENCY USE ONLY.

ELECTRICAL:

FILAMENT VOLTAGE	7.0	VOLTS
FILAMENT CURRENT	110	AMPERES
AMPLIFICATION FACTOR	6	
Ec = -200 V. Ib = 1.0 AMPS.		
DIRECT INTER-ELECTRODE CAPACITANCE		
GRID PLATE	42	UUF
GRID FILAMENT	43	UUF
PLATE FILAMENT	12	UUF

MECHANICAL:

MOUNTING POSITION	VERTICAL, ANODE DOWN		
TYPE OF COOLING	FORCED AIR		
MAXIMUM INCOMING AIR TEMPERATURE	45 °C		
REQUIRED AIR FLOW ON ANODE			
PLATE DISSIPATION - KW	4.3	3.75	2.75
AIR FLOW - CFM	200	160	100
PRESSURE - INCHES OF WATER	4.8	3.2	1.6
MAXIMUM GLASS & SEAL TEMPERATURE**	180 °C		
MAXIMUM RADIATOR TEMPERATURE (MEASURED ON THE CORE AT THE END AWAY FROM INCOMING AIR)**	200 °C		
WEIGHT, APPROXIMATE	16 LBS.		

* FOR SPECIFIC INFORMATION, PLEASE WRITE TO THE ELECTRON TUBE ENGINEERING DEPARTMENT.

** A TEMPERATURE SENSITIVE LACQUER MANUFACTURED BY THE TEMPIL CORPORATION, 132 WEST 22ND STREET, NEW YORK 11, NEW YORK IS CONVENIENT FOR THIS MEASUREMENT.

from JEDEC release #3064, Dec. 12, 1960



ELECTRON TUBE DEPARTMENT
COMPONENTS DIVISION

INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

10-60

P. O. BOX 412, CLIFTON, NEW JERSEY

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS:

AUDIO-FREQUENCY POWER AMPLIFIER AND MODULATOR - CLASS AB₁

MAXIMUM RATINGS, ABSOLUTE VALUES

D-C PLATE VOLTAGE	8	KV
MAXIMUM SIGNAL D-C PLATE CURRENT***	5	AMPERES
PLATE DISSIPATION***	4.3	KW

TYPICAL OPERATION

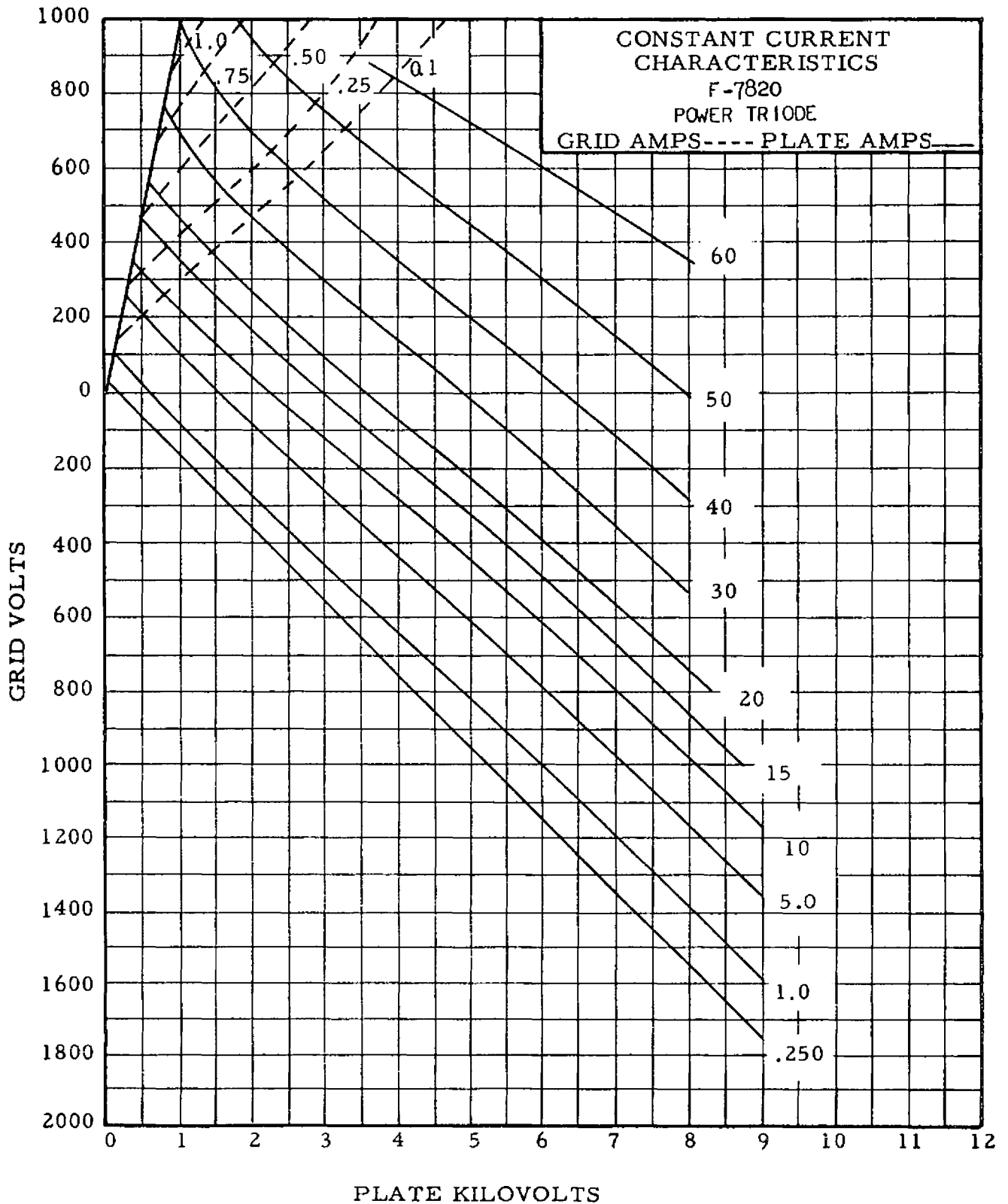
(UNLESS OTHERWISE SPECIFIED, VALUES ARE FOR TWO TUBES)

D-C PLATE VOLTAGE	3750	5000	7000	VOLTS
D-C GRID VOLTAGE	-650	-900	-1400	VOLTS
PEAK A-F GRID-TO-GRID VOLTAGE	1260	1760	2700	VOLTS
ZERO SIGNAL D-C PLATE CURRENT	0.6	0.8	0.5	AMPERES
MAXIMUM SIGNAL D-C PLATE CURRENT	2.8	2.6	2.55	AMPERES
EFFECTIVE LOAD RESISTANCE PLATE-TO-PLATE	2250	3700	5500	OHMS
MAXIMUM SIGNAL DRIVING POWER	0	0	0	WATTS
MAXIMUM SIGNAL POWER OUT	5.4	7.4	11.0	KW

*** AVERAGED OVER ANY AUDIO FREQUENCY CYCLE OF SINE WAVE FORM.

ADDITIONAL INFORMATION FOR SPECIFIC APPLICATIONS CAN BE OBTAINED FROM THE:

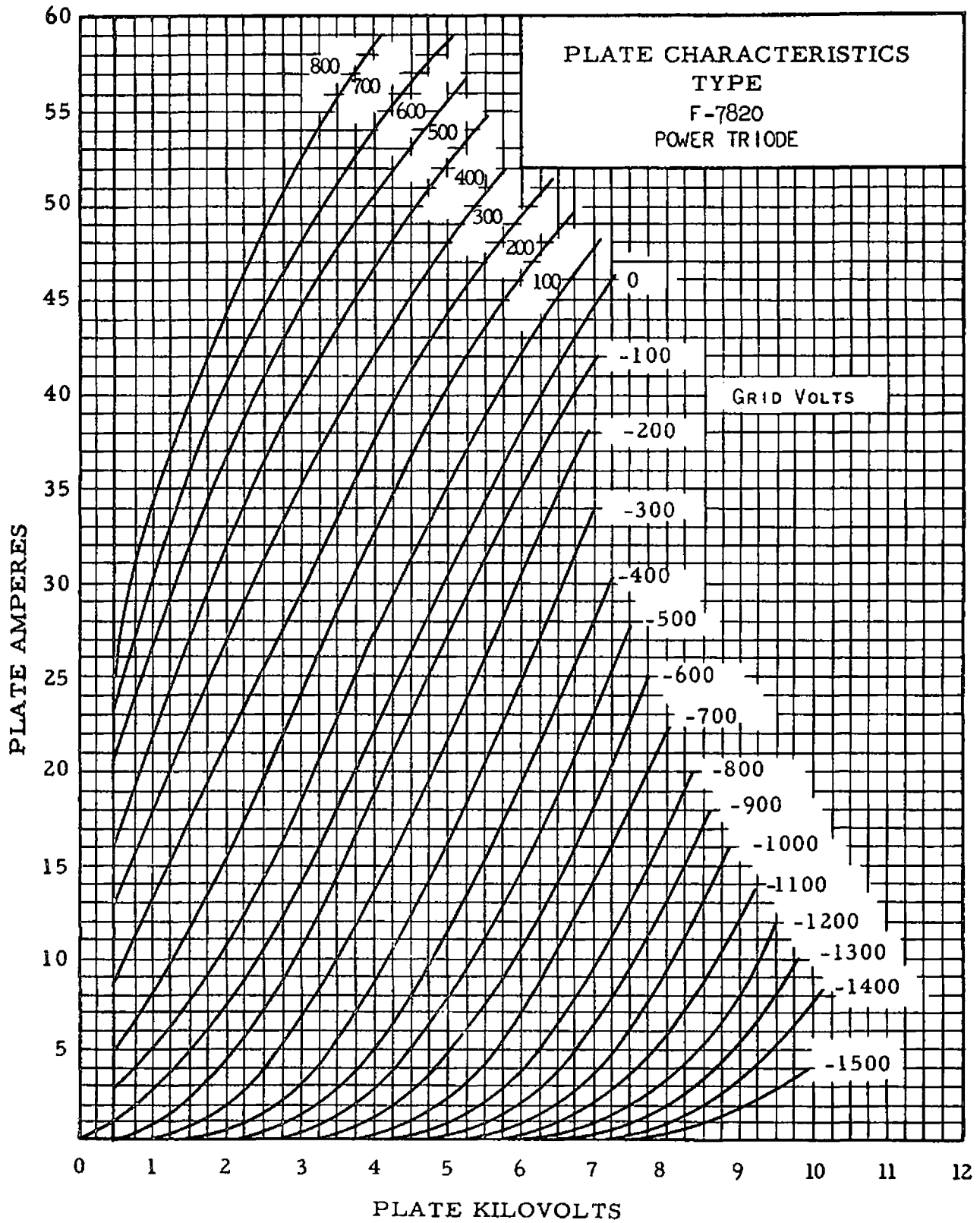
ELECTRON TUBE APPLICATIONS SECTION
ITT COMPONENTS DIVISION
POST OFFICE BOX 412
CLIFTON, NEW JERSEY

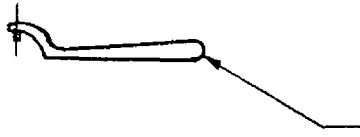


ELECTRON TUBE DEPARTMENT
COMPONENTS DIVISION
INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

10-60

P. O. BOX 412, CLIFTON, NEW JERSEY

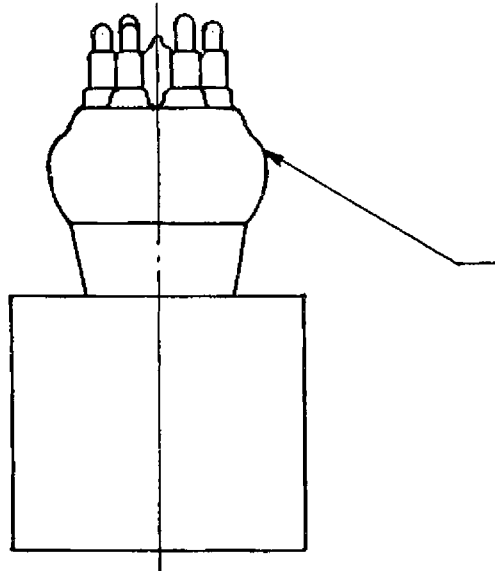




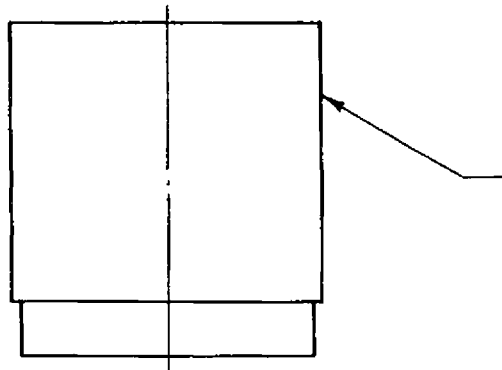
Spanner Wrench
RT-52843-1 - 2 required



Terminal Connector Assy.
RT-53978-1



Tube Types
F-8C25
F-7820



Air Jacket
RT-54632-1

Size I F-8C25
Size II F-7820

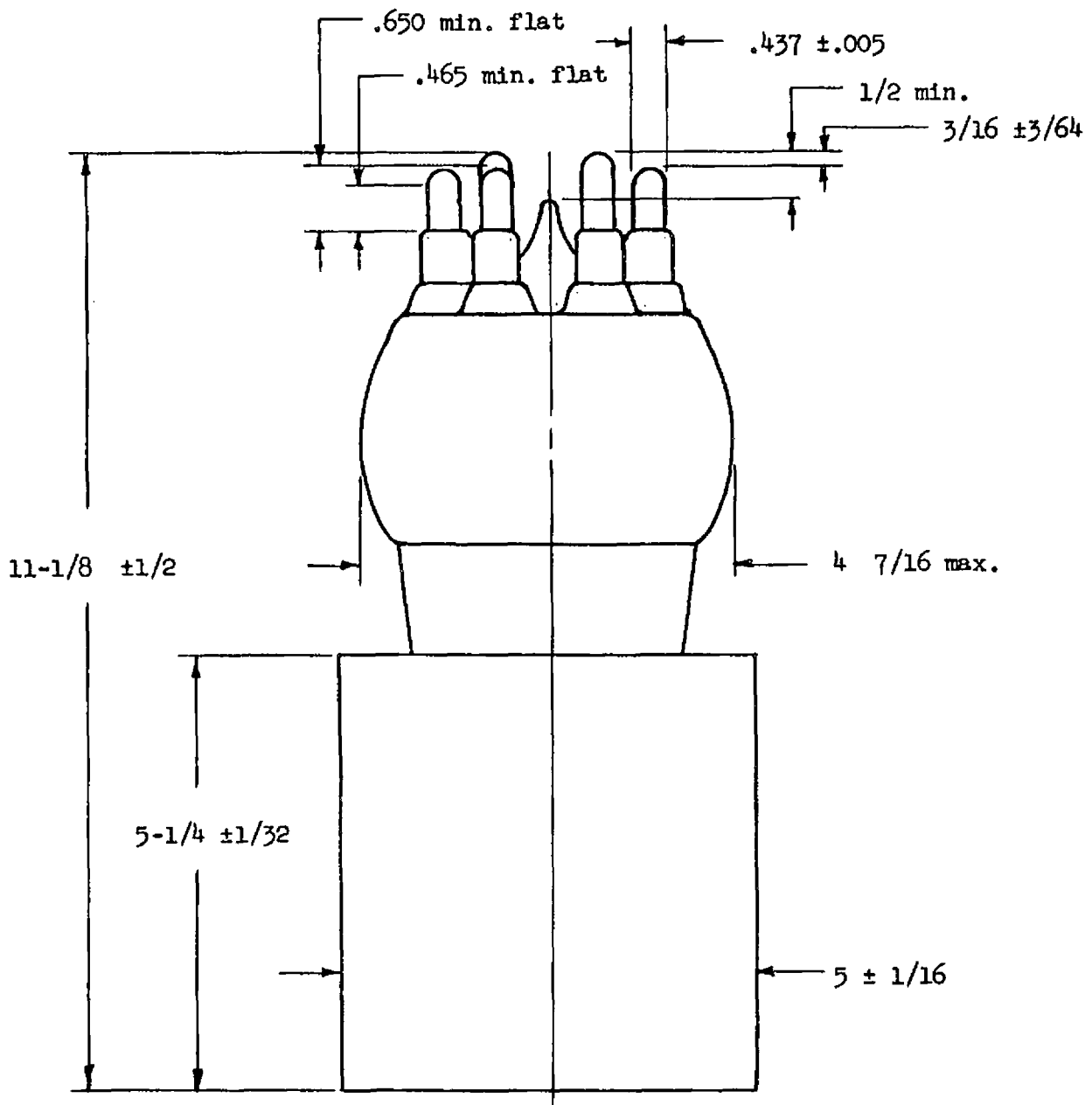
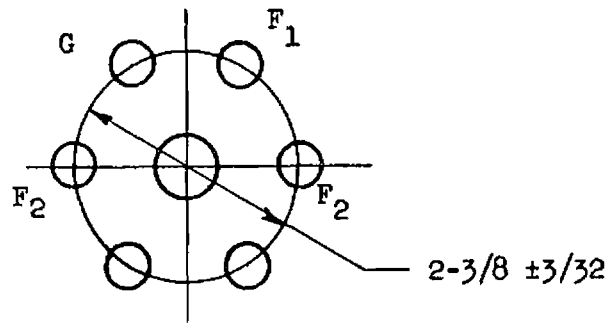
ACCESSORIES

ITT

ELECTRON TUBE DEPARTMENT
COMPONENTS DIVISION
INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

10-60

P. O. BOX 412, CLIFTON, NEW JERSEY



O U T L I N E

F-7820 POWER TRIODE