

ELECTRON TUBE, TRAVELING WAVE AMPLIFIER

HUGGINS LABORATORIES, INC.

TYPE 8280

DESCRIPTION: 30 TO 35 DBM POWER OUTPUT, PERIODIC PERMANENT MAGNET FOCUSED, TRAVELING WAVE (FORWARD WAVE), CW AMPLIFIER FOR OPERATION FROM 2100 TO 2500 MEGACYCLES.

ELEMENT OR TEST	LIMITS		UNITS
	MIN.	MAX.	
<u>ELECTRICAL SPECIFICATIONS</u>			
HEATER VOLTAGE	6.9	7.5	V <sub>RMS</sub>
HEATER CURRENT	0.8	1.2	A <sub>AMP</sub>
CATHODE CURRENT	15.0	25.0	mA <sub>DC</sub>
HELIX VOLTAGE	800	1100	V <sub>DC</sub>
HELIX CURRENT	--	2.0	mA <sub>DC</sub>
ANODE VOLTAGE	160	450	V <sub>DC</sub>
ANODE CURRENT	--	0.05	mA <sub>DC</sub>
COLLECTOR VOLTAGE *	800	1100	V <sub>DC</sub>
COLLECTOR CURRENT	15.0	25.0	mA <sub>DC</sub>
VOLTAGES ARE REFERENCED TO THE CATHODE			
<u>R.F. SPECIFICATIONS</u>			
POWER OUTPUT (RF)	30	35	DBM
POWER INPUT (RF)	-11	-1	DBM
Δ POWER OUTPUT OVER A 30 MIN. PERIOD	--	±0.25	DBM
NOISE FIGURE	--	30	DB
V.B.W.R (INPUT/OUTPUT)	--	2:1	--
CATHODE PRE-HEATING TIME	90	--	Sec.
DUTY CYCLE	--	1.0	--

ENVIRONMENTAL SPECIFICATIONS

TEMPERATURE (OPERATING) - -10°C TO +52°C.  
 RELATIVE HUMIDITY (OPERATING) - UP TO 100%.  
 BAROMETRIC PRESSURE (OPERATING) - FROM 28 TO 20.4 INCHES OF MERCURY, (0 TO 10,000 FT).  
 TEMPERATURE (STORAGE) - -54°C TO +71°C.  
 RELATIVE HUMIDITY (NON-OPR.) - UP TO 100%  
 BAROMETRIC PRESSURE (NON-OPR.) - FROM 28 TO 7 INCHES OF MERCURY, (0 TO 35,000 FT).  
 SHOCK (NON-OPR) - FORCE OF 15 G, WITH A TIME DURATION OF 11 ±1 MILLISECONDS.  
 VIBRATION (NON-OPR.) - 2G, 10 TO 500 CPS. 0.04 INCHES DA, 5 TO 10 CPS

MECHANICAL DATA, GENERAL

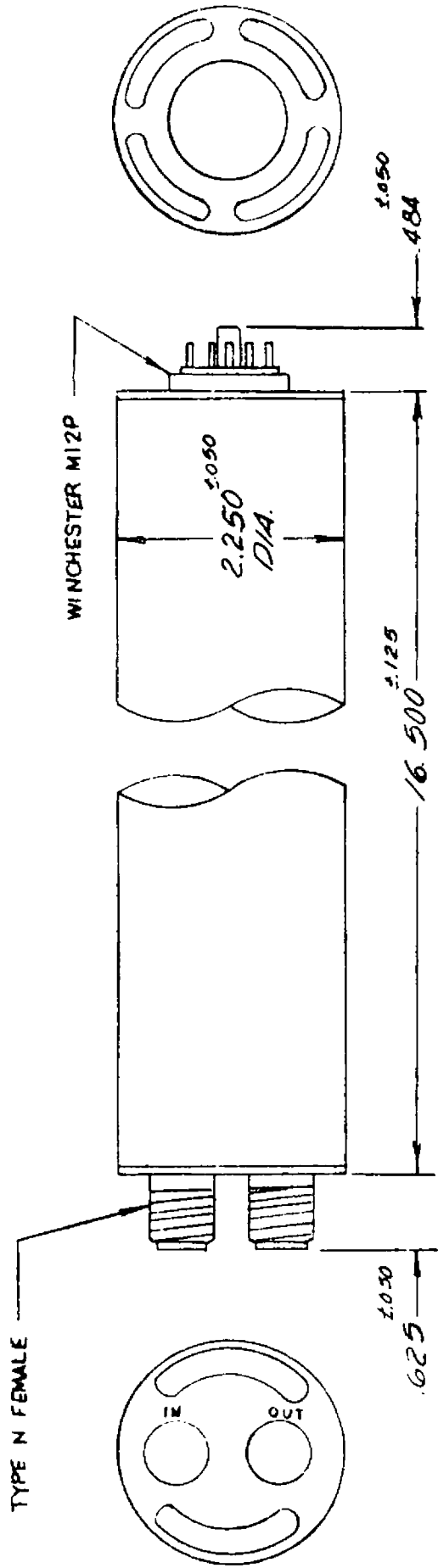
PHYSICAL DIMENSIONS - SEE FIGURE 1  
 MOUNTING POSITIONS - ANY  
 COOLING - FORCED AIR  
 INPUT/OUTPUT IMPEDANCE (RF) - 50 OHMS  
 RF CONNECTORS - TYPE N FEMALE  
 WEIGHT (APPROX.) - 6.5 POUNDS

\* THE COLLECTOR IS CONNECTED INTERNALLY TO THE TUBE CAPSULE AND MUST BE GROUNDED FOR SAFE OPERATION.

from JEDEC release #4754,  
 July 13, 1964

FIGURE 1

8280



POWER CONNECTIONS

PIN D - CAPSULE-COLLECTOR-GROUND

F - HEATER CATHODE

H - HEATER

J - CATHODE

L - HELIX

N - ANODE

GRID CONNECTED INTERNALLY  
TO CATHODE.

MATERIALS AND FINISHES

CAPSULE - - BRUSH CHROME PLATED STEEL

END CAPS - - BLACK ANODIZED ALUMINUM

MARKING

MANUFACTURERS NAME, TRADEMARK OR CODE SYMBOL,  
AND PART NUMBER.

LABEL ON TUBE TO CONTAIN CATHODE VOLTAGE†  
CATHODE CURRENT AND HEATER VOLTAGE.

IN AND OUT ARE PERMANENTLY MARKED ON THE RF  
END CAP.

\* HELIX TO GROUND VOLTAGE.