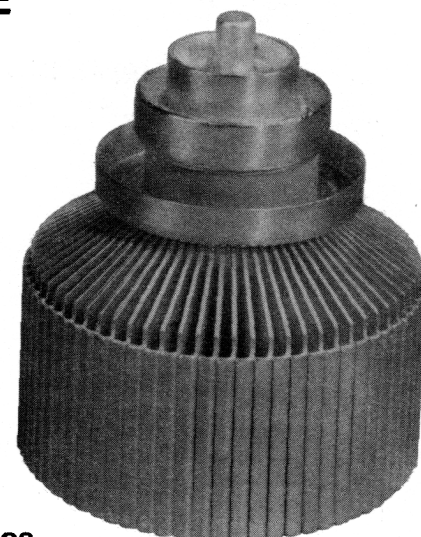


TH 312 TRIODE

The TH 312 is a forced air cooled, ceramic metal triode of coaxial structure. This tube is specially designed for highly linear amplifier operating up to 1000 MHz without grid current in T.V. translators handling both sound and vision signals in the same channel with a cross-modulation better than 52 dB.

The anode is capable to dissipate 1200 W maximum.



GENERAL CHARACTERISTICS

Electrical

Type of cathode	thoriated tungsten
Type of heating	direct
Heater voltage (1)	3.5 V
Heater current, approximate	35 A
Interelectrode capacitances :	
- grid-anode	8.5 pF
- grid-cathode (cold)	27 pF
- anode-cathode (cold)	0.15 pF
Amplification factor	65
Transconductance	40 mA/V

Mechanical

Mounting position	vertical
Anode cooling	forced air
Minimum air flow (dissipation power 1200 W and inlet air temperature 25 °C)	1.5 m ³ /mn
Maximum inlet air temperature	40 °C
Maximum outlet air temperature	100 °C
Anode maximum temperature	250 °C
Grid and cathode terminals : maximum temperature (2)	250 °C
Dimensions	see drawing
Net weight, approximate	1 kg

- (1) In high frequency operation the cathode is subjected to considerable back bombardment which raises its temperature. After the circuit has been adjusted for proper tube operation, the heater voltage must be reduced to prevent overheating of the cathode with resulting short life. Ask for information for any special applications.
- (2) For maximum life, temperature should not exceed 200 °C. The cooling airflow must be established before application of any electrode voltage and maintained during 3 minutes at least after heater voltage has been removed.



CLASS A - LINEAR AMPLIFIER FOR TELEVISION TRANSLATORS
HANDLING BOTH SOUND AND VISION SIGNALS
C.C.I.R. STANDARD

MAXIMUM RATINGS

Anode D.C. voltage	3	kV
Grid D.C. voltage	-300	V
Anode D.C. current	0.8	A
Peak cathode current	4	A
Anode dissipation power	1200	W
Frequency	1000	MHz

TYPICAL OPERATION (Note 3)

Operating frequency	780	MHz
Anode D.C. voltage	2.8	kV
Grid D.C. voltage, approximate	-30	V
Anode D.C. current	0.38	A
Gain	13	dB
Video output power	200	W
Cross modulation level (3 tones test)	≥ 52	dB*

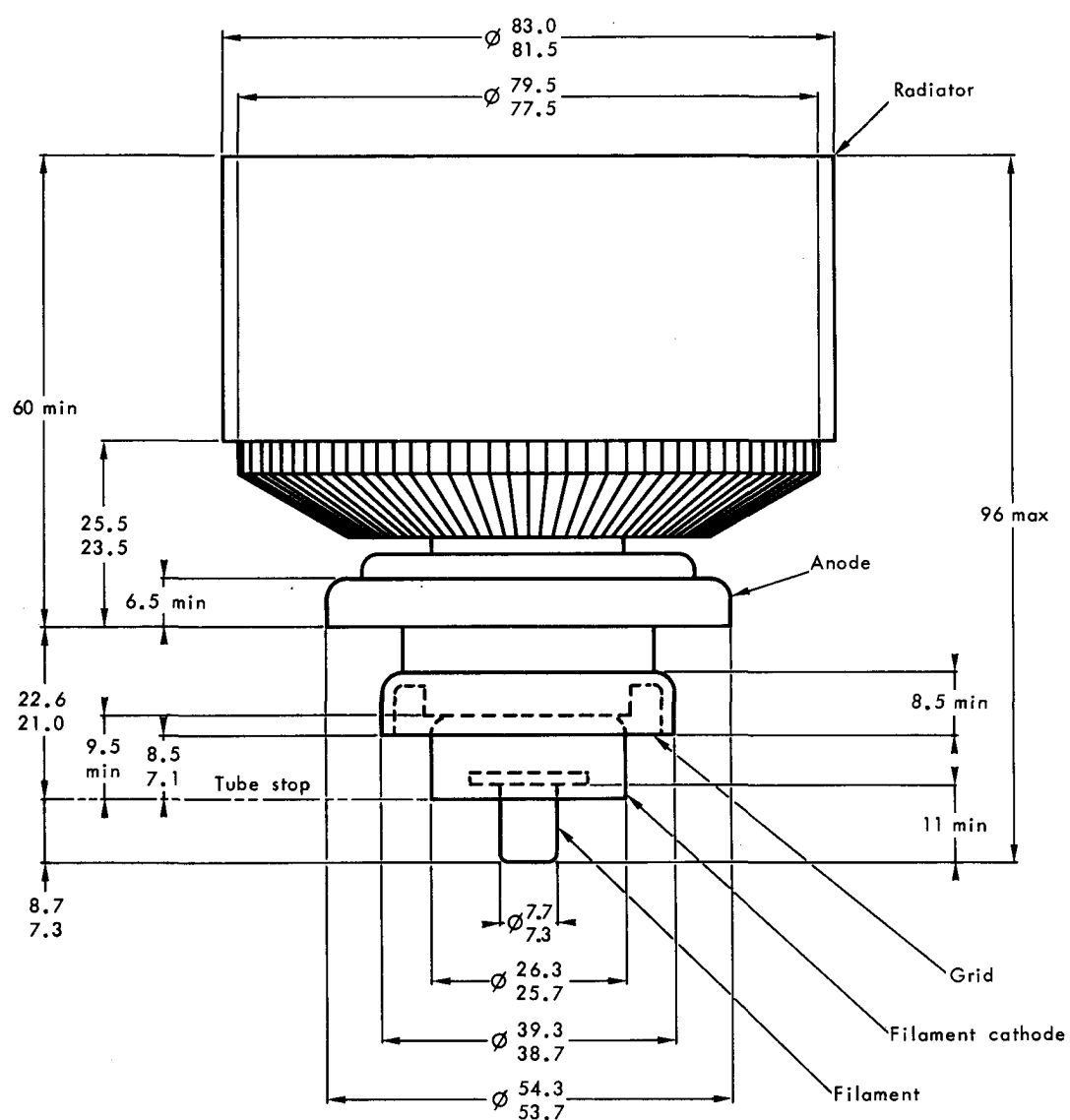
* under video level

(3) In order to achieve long tube life, maximum operating efficiency and circuit stability consistent with the full tube capability, electrode voltage supplies should be applied in the following order :

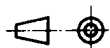
- $\frac{1}{2}$ Vf (filament voltage) during 60 s ;
- Nominal Vf during 60 s ;
- Grid voltage ;
- Anode voltage.



OUTLINE DRAWING



Dimensions in mm.





THOMSON-CSF
GROUPEMENT TUBES ELECTRONIQUES