Hot-Cathode Gas-Filled Thyratron

Code: 3D22 (CV2851) ←

The 3D22 is a tetrode type inert-gas-filled thyratron with a negative control characteristic for use in industrial and other control devices. It is directly equivalent to the U.S.A. 3D22 type.

CATHODE

Indirectly-heated, oxide-coated		
Heater voltage	6.3	V
Nominal current	2.6	A
Cathode heating time, minimum	30	sec

DIRECT INTERELECTRODE CAPACITANCES

Grid to anode	0.1	pF
Input	7	pF
Output	3.6	pF

CHARACTERISTICS

Ionization time, approx.	Measured at V_a 100 V : V_{g1} + 50 V † $I_{a\,pk}$ 8.0A	0.5	μsec
Deionization time, approx.	Measured at V_a 125 V : V_{g1} −200 V R_{g1} 1000 Ω : I_a 0.8A	150	μsec
	Measured at V_a 125 V : V_{g1} −14.8 V R_{g1} 1000 Ω : I_a 0.8 A	400	μsec
Critical grid current, max.	With V_a 460 V r.m.s. I_a 0.8A	0.8	μA
Voltage drop, approximately		10	V
Control grid control ratio, approx. (R_{g1} = 0.1 MΩ)		150	
Screen grid control ratio, approx. (R_{g2} = 0.1 MΩ)		650	

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MECHANICAL DATA

Maximum overall length	117.5	mm
Maximum seated height	101.6	mm
Maximum diameter	60	mm
Base	B7D	
Net weight	165	g
Mounting position	Unrestricted←	

MAXIMUM RATINGS

Maximum peak forward voltage	650	V
Maximum peak inverse voltage	1 500	V
Maximum peak screen voltage before conduction	−100	V
††Maximum average screen grid voltage during conduction	−10	V
Maximum peak control grid voltage before conduction	−200	V
††Maximum average control grid voltage during conduction	−10	V
Maximum peak cathode current	8	A
††Maximum average cathode current	0.8	A
Maximum fault cathode current	30	A
Maximum duration of fault cathode current	0.1	sec
††Maximum average screen current	0.1	A
††Maximum average control grid current	0.05	A
Maximum control grid circuit resistance	2	MΩ
Maximum peak V_{hk}, heater negative to cathode	100	V
Maximum peak V_{hk}, heater positive to cathode	25	V
Ambient temperature range	−75 to +90	°C

Note.—Sufficient resistance, including the valve load, must be used to prevent the cathode current exceeding the valve ratings.

† Square pulse voltage.

†† Averaged over any interval of 30 seconds.

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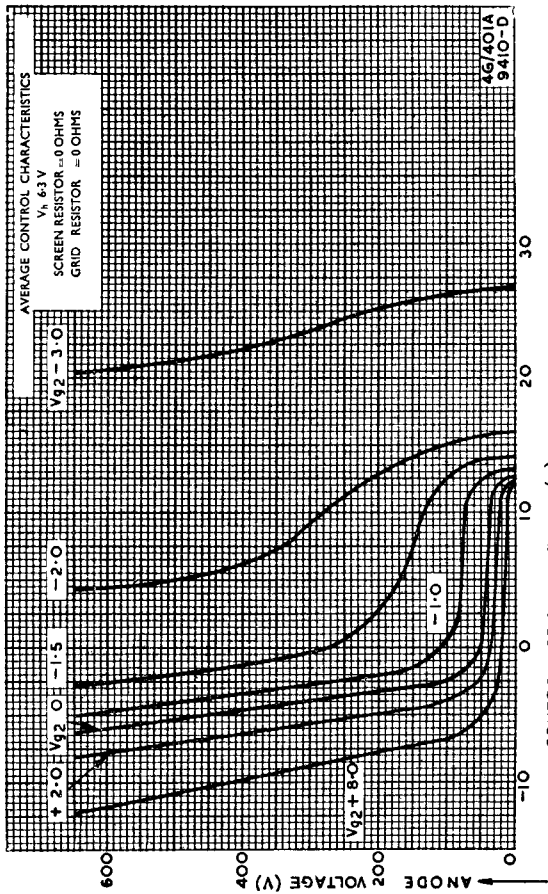

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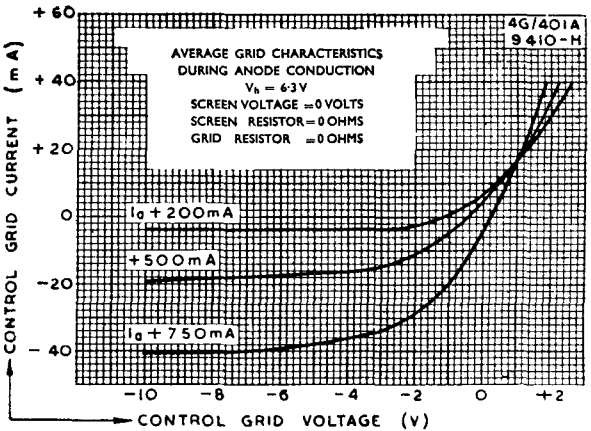

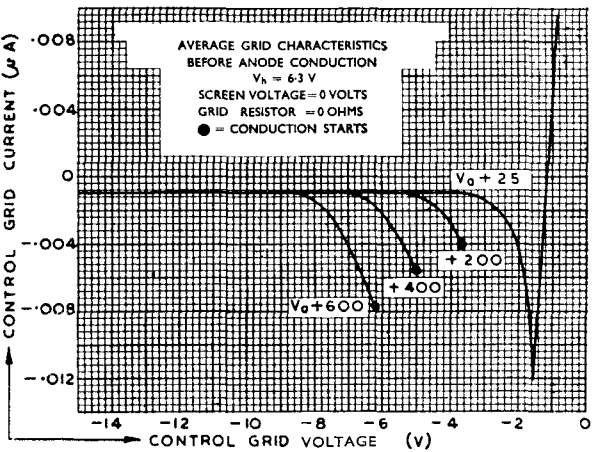

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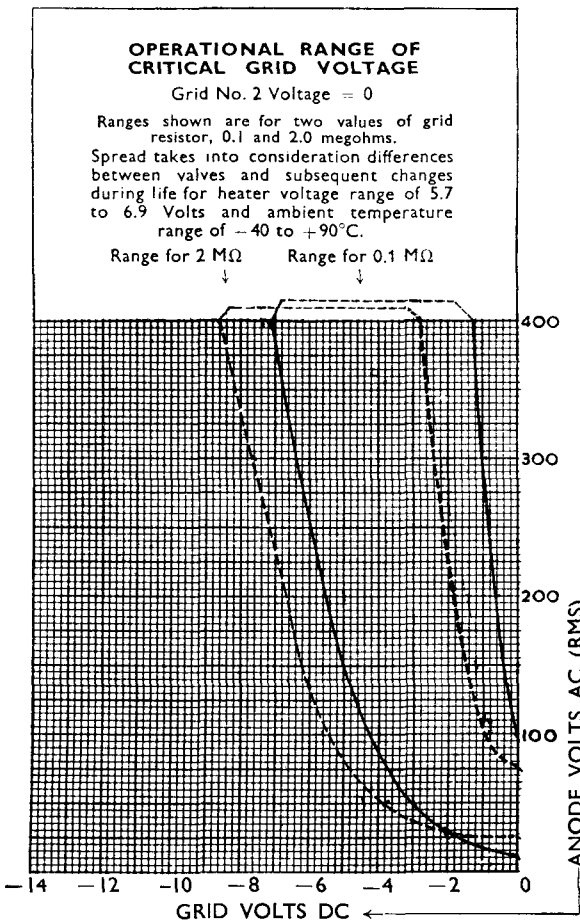

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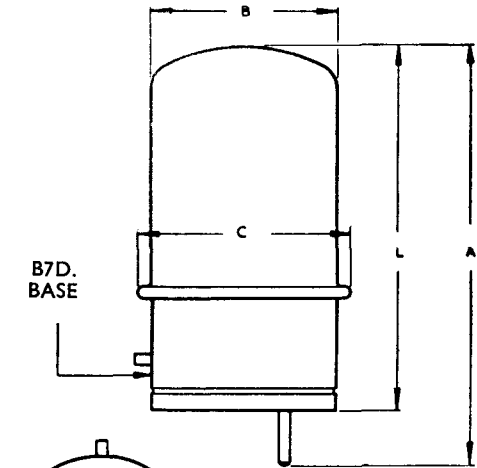

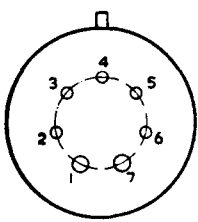

BASING

1. HEATER.
2. GRID 2.
3. CATHODE
4. GRID 1.
5. GRID 2.
6. ANODE.
7. HEATER.

DIM.	MILLIMETERS	INCHES
A	117.5 MAX	4 5/8 MAX
B	52.4 MAX	2 1/16 MAX
C	60 MAX	2 3/8 MAX
L	101.6 MAX.	4 MAX.

NOTE - BASIC FIGURES ARE INCHES.