



Hot-Cathode Gas-Filled Miniature Thyatron

Code: 2D21 (CV797) ←

The 2D21 is a miniature tetrode-type, inert-gas-filled thyatron. It is directly equivalent to the U.S.A. 2D21 type.

CATHODE

Indirectly-heated, oxide-coated

Heater voltage	6.3	V
Nominal current	0.6	A
Cathode heating time, minimum	10	sec

DIRECT INTERELECTRODE CAPACITANCES

Grid to anode	0.026	pF
Input	2.4	pF
Output	1.6	pF

CHARACTERISTICS

Ionization time, approx.	$\left\{ \begin{array}{l} \text{Measured at} \\ V_a 100 \text{ V} : V_{g1} + 50 \text{ V } \dagger \\ I_a \text{ pk } 0.5 \text{ A} \end{array} \right\}$	0.5	μsec
Deionization time, approx.	$\left\{ \begin{array}{l} \text{Measured at} \\ V_a 125 \text{ V} : V_{g1} - 100 \text{ V} \\ R_{g1} 1000 \Omega : I_a 0.1 \text{ A} \end{array} \right\}$	35	μsec
	$\left\{ \begin{array}{l} \text{Measured at} \\ V_a 125 \text{ V} : V_{g1} - 10 \text{ V} \\ R_{g1} 1000 \Omega : I_a 0.1 \text{ A} \end{array} \right\}$	75	μsec
Critical grid current, max.	$\left\{ \begin{array}{l} \text{With } V_a 460 \text{ V r.m.s.} \\ I_a \text{ av } 0.1 \text{ A} \end{array} \right\}$	0.5	μA
Voltage drop, approx.		8	V
Control grid			
Control Ratio, approx. ($R_{g1} = 0\Omega$)		250	
Screen grid			
Control Ratio, approx. ($R_{g2} = 0\Omega$)		1000	

MECHANICAL DATA

Maximum overall length	54	mm
Maximum seated height	47.6	mm
Maximum diameter	19.1	mm
Base	B7G	
Net weight	8	g
Mounting position		Unrestricted

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MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

Maximum Ratings

Maximum peak forward anode voltage	650	V
Maximum peak inverse voltage	1 300	V
Maximum peak screen grid voltage before conduction	-100	V
††Maximum average screen grid voltage during conduction	-10	V
Maximum peak control grid voltage before conduction	-100	V
††Maximum average control grid voltage during conduction	-10	V
Maximum peak cathode current	0.5	A
††Maximum average cathode current	0.1	A
Maximum fault current	10	A
Maximum duration of fault current	0.1	sec
††Maximum average screen current	0.01	A
††Maximum average control grid current	0.01	A
Maximum grid circuit resistance	10	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

Typical Operating Conditions

Relay Service

Anode voltage (r.m.s.)	117	400	V
Direct screen grid voltage	0	0	V
*Control grid voltage (r.m.s.)	5	—	V
Direct control grid voltage	—	-6	V
Peak control grid signal voltage	5	6	V
Control grid circuit resistance	1	1	MΩ
**Anode circuit resistance	1.2	2	kΩ

† Square pulse voltage.

†† Averaged over any interval of 30 seconds.

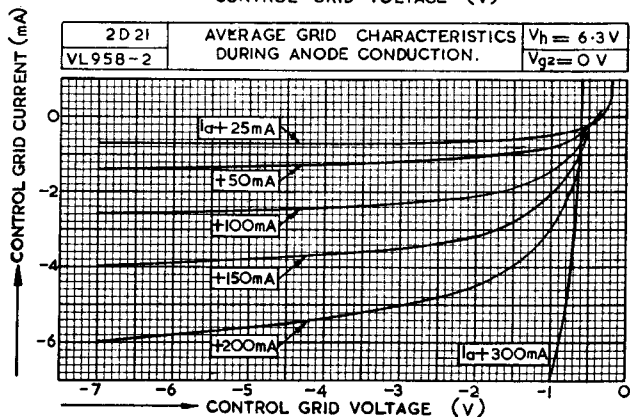
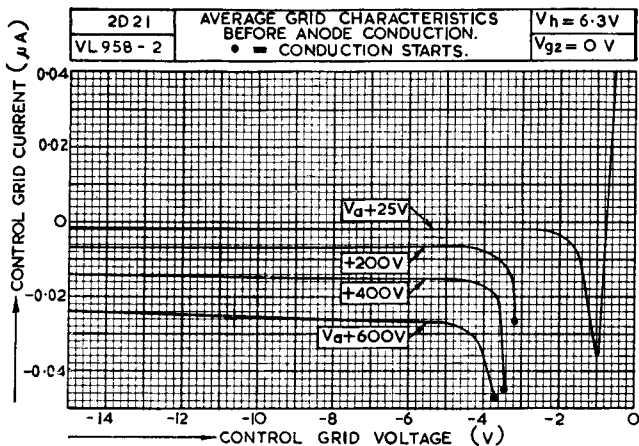
* Approximately 180° out of phase with respect to the anode voltage.

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



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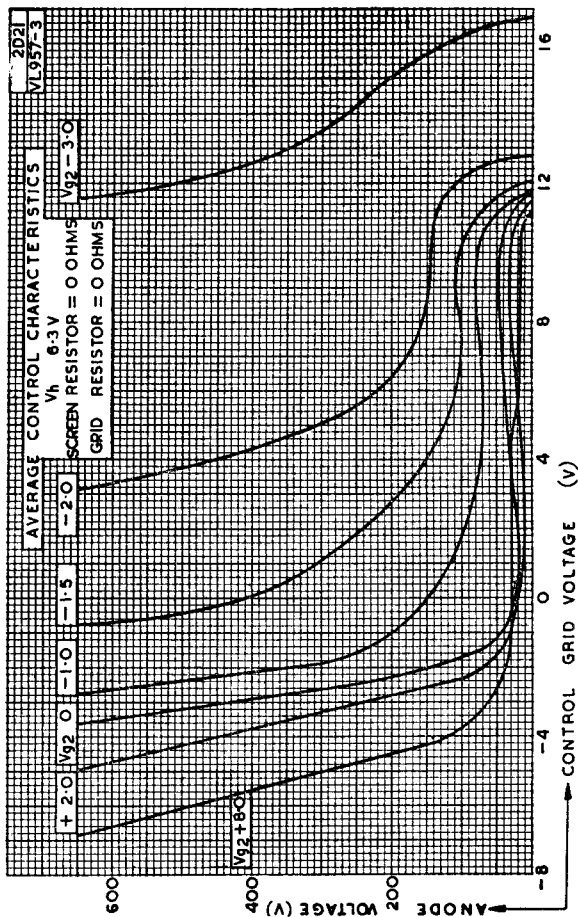
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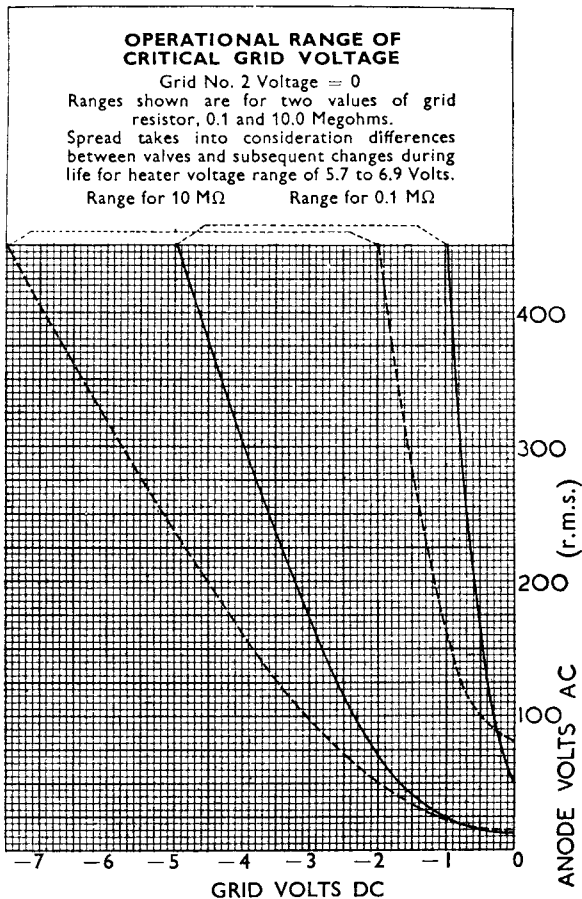
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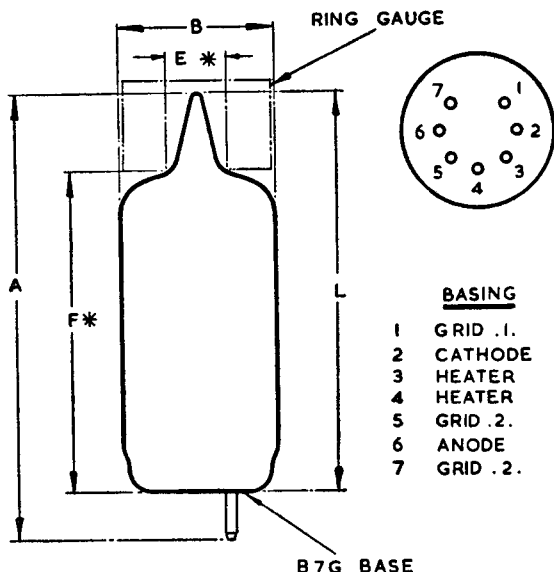
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**BASING**

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

B7G BASE

* DENOTES:- MEASURED FROM BASE SEAT TO BULB TOP LINE, AS DETERMINED BY RING GAUGE OF 'E' INT. DIA.

DIM	MILLIMETRES	INCHES
A	54.0 MAX:	2 ¹ / ₈ MAX:
B	19.1 MAX:	³ / ₄ MAX:
* F	38.1 ± 2.4	1 ¹ / ₂ ± ³ / ₃₂
L	47.6 MAX:	1 ⁷ / ₈ MAX:
* E	11.1	⁷ / ₁₆

NOTE:- BASIC FIGURES ARE INCHES