

13E1

BEAM TETRODE

Indirectly heated—for D.C. Control Applications

GENERAL

This Low Impedance Beam Tetrode is intended for general D.C. Control applications and has a centre tapped heater. It is suitable for Triode connection and has a maximum anode dissipation of 90 watts.

RATING

Heater Voltage (volts)	V_h	26.0	13.0	
Heater Current (amps)	I_h	1.3	2.6	
Maximum Anode Voltage (volts)	$V_a(\text{max})$	800	1500†	←
Maximum Screen Voltage (volts)	$V_{g2}(\text{max})$	300		
Maximum Control Grid Voltage (volts)	$V_{g1}(\text{max})$	—100		
Maximum Anode Dissipation (watts)	$P_a(\text{max})$	90		
Maximum Screen Dissipation (watts)	$P_{g2}(\text{max})$	10		
Maximum Anode plus Screen Dissipation (Triode Connection) (watts)	$P_a + g2(\text{max})$	95		←
Maximum Control Grid Dissipation (watts)	$P_{g1}(\text{max})$	1		←
Maximum Cathode Current (mA)	$I_k(\text{max})$	800	5000†	←
Maximum Heater/Cathode Voltage (volts D.C.) (Heater—ve)	$V_{h-k}(\text{max})$	300		
Mutual Conductance (Triode Connection) (mA/V)	g_m	35*		
Amplification Factor (Triode Connection)	μ_t	4.5*		
Anode Resistance ($\delta V_a / \delta i_a$) (Triode Connection) (ohms)	$r_a(t)$	130*		
* $V_a = 150$ volts $I_a = 500$ mA.				

All maximum ratings are absolute values not design centres.

† Series pulse rating. For peak currents greater than 2 amps, ← the product of the peak current and pulse duration in amp-microseconds should not exceed 10. The valve should not operate for longer than 5μ s in any 100 μ s period.

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INTER-ELECTRODE CAPACITANCES (pF)

Control Grid/Earth	c_{in}	56
Anode/Earth	c_{out}	20.4
Anode/Control grid	c_{a-g1}	1.3

DIMENSIONS

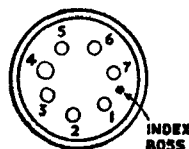
Maximum Overall Length	(mm)	166.0
Maximum Diameter	(mm)	65.0
Maximum Seated Height	(mm)	157.0
Approximate Nett Weight	(ozs)	6.0
Approximate Packed Weight	(ozs)	30.0



MOUNTING POSITION—Vertical

BULB—Clear

BASE—B7A

Viewed from free
end of pins.

VALVEHOLDER—Ediswan Clix Cat. No. VH117/701

CONNECTIONS

Pin 1	Heater	h
Pin 2	Heater Centre Tap	h tap
Pin 3	Control Grid	g1
Pin 4	Cathode	k
Pin 5	Screen Grid	g2
Pin 6	Anode	a
Pin 7	Heater	h

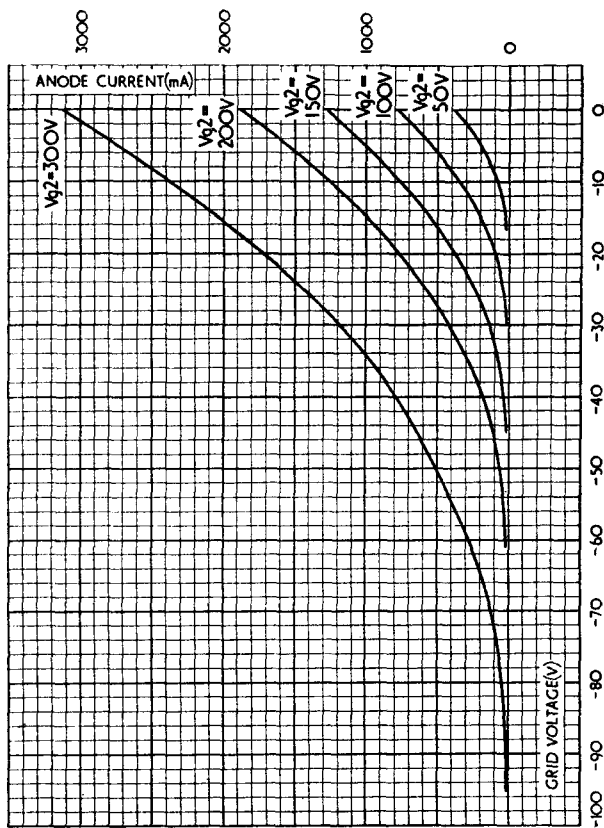
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AVERAGE CHARACTERISTIC CURVES: I_a/V_{g1} $V_a = 600V$

Curves taken with short duration pulse



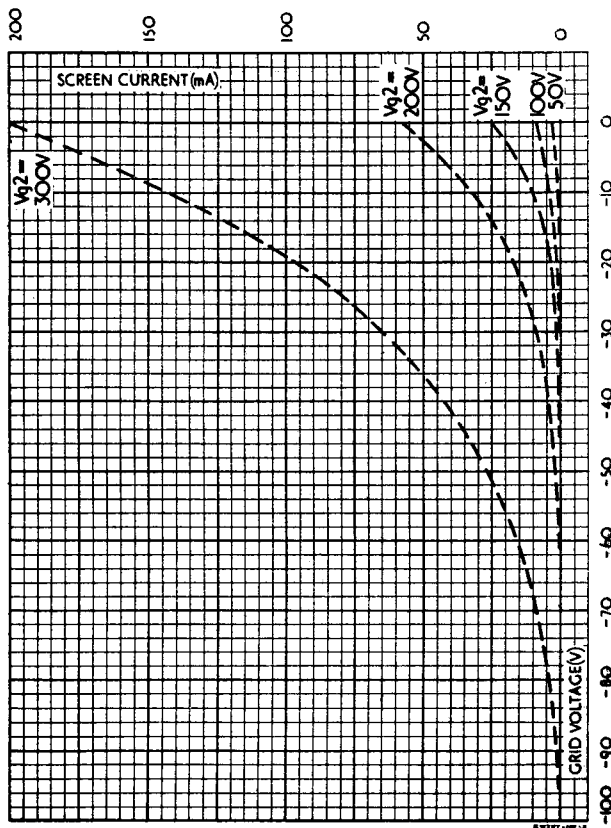
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AVERAGE CHARACTERISTIC CURVES: I_{g2}/V_{g1} $V_a = 600V$

Curves taken with short duration pulse



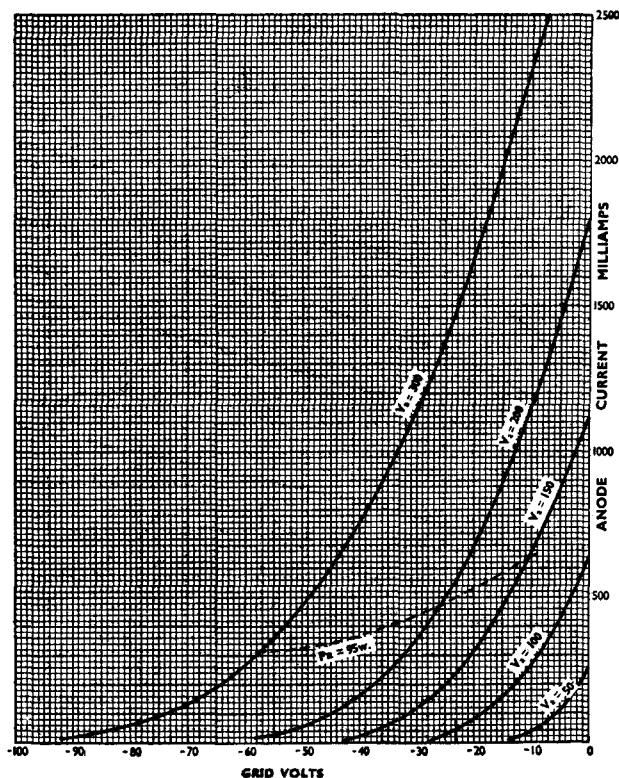
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AVERAGE CHARACTERISTIC CURVES: I_a/V_{g1}
TRIODE CONNECTED

Curves taken with short duration pulse

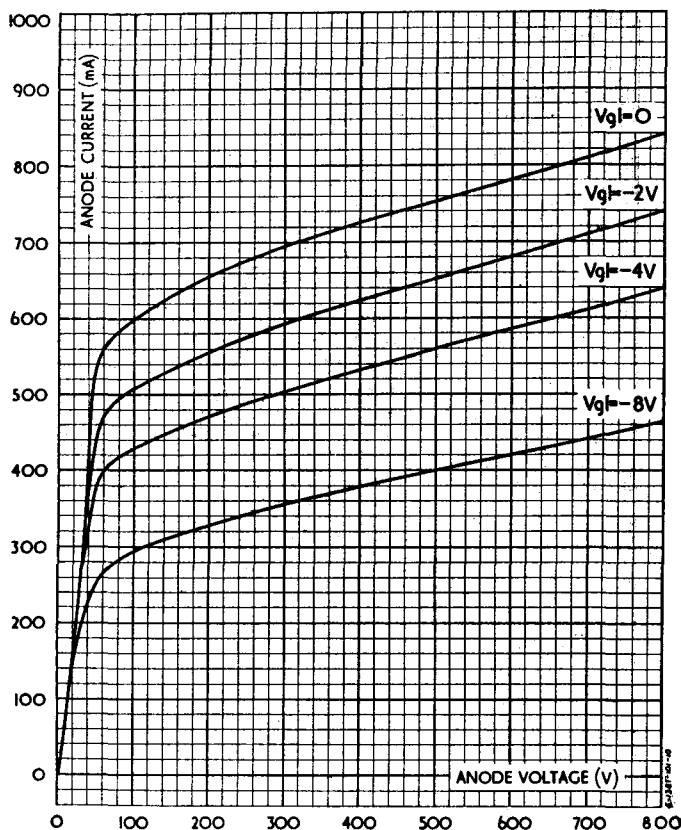


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AVERAGE CHARACTERISTIC CURVES: I_a/V_a

$V_{g2}=100V$

Curves taken with short duration pulse



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AVERAGE CHARACTERISTIC CURVES: I_{g2}/V_a $V_{g2}=100V$

Curves taken with short duration pulse

