21A1

GAS FILLED TETRODE

Indirectly heated—for use as a Grid Controlled Rectifier

GENERAL

The 21A1 is a Gas Filled Tetrode intended for use as a Half Wave Grid Controlled Rectifier at altitudes up to 55,000 feet.

RATING

Heater Voltage (volts)	V_h	6·3
Heater Current (amps)	I_h	0·95
Arc Voltage Drop (volts)		9·0
Maximum Peak Forward Anode Voltage (volts)	$V_{a\ (max)}$	600*
Maximum Peak Inverse Anode Voltage (volts)	PIV (max)	1,300*‡
Maximum Shield Grid Voltage (Before Anode Conduction) (volts)	$V_{g2\ (max)}$	—100‖
Maximum Control Grid Voltage (Before Anode Conduction) (volts)	$V_{g1\ (max)}$	—100‖
Maximum Peak Cathode Current (mA)	$I_{k(pk)\ max}$	1,250
Maximum Mean Cathode Current (mA)	$I_{k(av)\ max}$	250†
Maximum Mean Positive Control Grid Current (mA)	$I_{g1(av)\ max}$	5†§
Control Grid Series Resistance (megohms)	R_{g1}	0·01 to 10
Maximum Peak Heater to Cathode Voltage (Heater Positive) (volts)	$V_{h\text{-}k(max)}$	25
Maximum Peak Heater to Cathode Voltage (Heater Negative) (volts)	$V_{h\text{-}k(max)}$	100
Ambient Temperature Range (C°)		—50 to +90

NOTES—See overleaf

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NOTES

The heater must be switched on for 15 seconds minimum before the application of anode voltage.

* Maximum ratings are Absolute Values not Design Centres and apply at air pressure corresponding to an altitude of 55,000 feet and up to a maximum supply frequency of 1·6kc/s.

‡ Under transient switching conditions and note (*) the Maximum Surge Peak Inverse Voltage is 2000V.

‖ Maximum Negative Voltage during Conduction is 10V.

† Maximum averaging time, 15 seconds.

§ Currents of this order may not be drawn when the anode is more negative than —10 volts.

DIMENSIONS

Maximum Overall Length	(mm)	85
Maximum Diameter	(mm)	33
Maximum Seated Height	(mm)	71
Approximate Nett Weight	(ozs)	$1\frac{1}{4}$
Approximate Packed Weight	(ozs)	2

MOUNTING POSITION—Unrestricted

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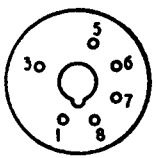
BASE—International Octal (6 Pin)



Viewed from free end of pins.

CONNECTIONS

Pin 1	Heater	h
Pin 2	No Pin	NP
Pin 3	Anode	a
Pin 4	No Pin	NP
Pin 5	Control Grid	g1
Pin 6	Shield Grid	g2
Pin 7	Heater	h
Pin 8	Cathode	k

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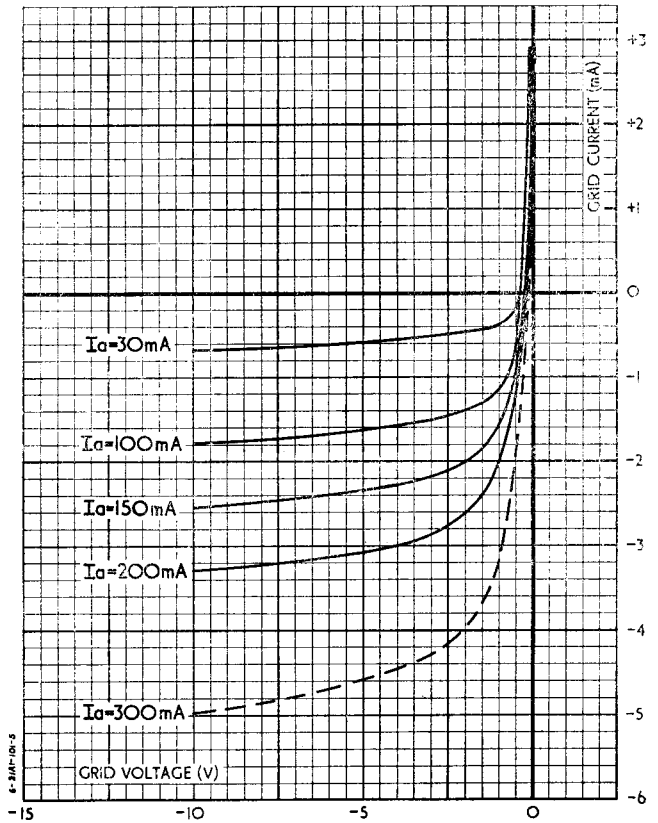
AVERAGE CHARACTERISTIC CURVES : I_{g1}/V_{g1}



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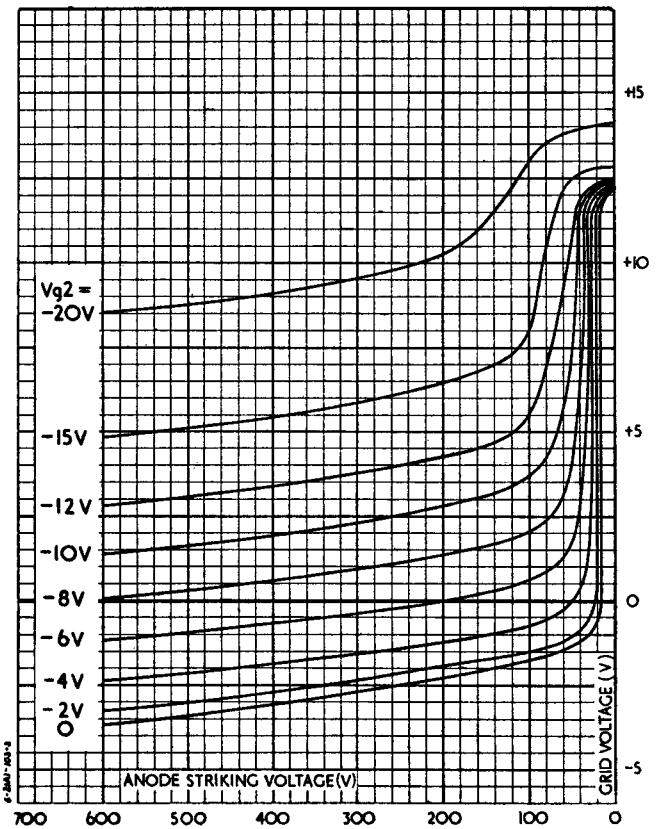
AVERAGE CHARACTERISTIC CURVES : $V_{a(ign)}/V_{g1}$

$R_{g1}=0\Omega$ $R_{g2}=0\Omega$



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