



ELECTRONIC TUBE REFERENCE

3J202E

Power - Triode (over 1000V 100W) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

High-power industrial triode for Class C RF-heating oscillator service, also specified for Class B audio amplification or modulation. Its 6 kW plate-dissipation rating supports oscillator output in the multi-kilowatt range.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	5 V / 112 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
TRANSCONDUCTANCE	0.032 S
AMPLIFICATION FACTOR	16
MAXIMUM PLATE VOLTAGE	7000 V
MAXIMUM PLATE DISSIPATION	6000 W
MAXIMUM GRID DISSIPATION	280 W
MAXIMUM CATHODE CURRENT	3 A
Published maximum ratings and characteristics audited; remaining values retained densely in parameter table.	

The 3J202E is an industrial power triode for class-C RF heating oscillators and class-B audio-frequency power-amplifier or modulator service.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1962 ITT

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1962 ITT

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament voltage [1]	5429 V	Filament voltage 5429, 5+ 5% v
Filament voltage [2]	5 V	Filament voltage 5429, 5+ 5% v
Filament voltage [3]	5 V	Filament voltage 5429, 5+ 5% v
Filament current (nominal)	112 A	Filament current (nominal) 112 A
Filament cold resistance	0.007 ohm	Filament cold resistance 0.007 Q
Mutual conductance at V, [1]	2 mA/V	Mutual conductance at V, 2kV, Vg —75V 32 mA/vV
Mutual conductance at V, [2]	-75 mA/V	Mutual conductance at V, 2kV, Vg —75V 32 mA/vV
Mutual conductance at V, [3]	32 mA/V	Mutual conductance at V, 2kV, Vg —75V 32 mA/vV
Grid to anode	30	Grid to anode 30 pF
Grid to filament	60	Grid to filament 60 ' pF
Anode to filament	1.5	Anode to filament 1.5 pF
Maximum radiator core temperature	220	Maximum radiator core temperature 220 °C
Maximum seal temperature (Note [1])	1	Maximum seal temperature (Note 1) 180 °C
Maximum seal temperature (Note [2])	180	Maximum seal temperature (Note 1) 180 °C
Note	1	Note 1.—To ensure that the stera seals are kept below the stated temperatures, it is
necessary to direct into the grid flange a flow of cooling air of the order of	10	necessary to direct into the grid flange a flow of cooling air of the order of 10 to
Published value [1]	50	50 ft3/min (0,28 to 1,42 m3/min) dependent upon the circuit and frequency

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Published value [2]	28	50 ft3/min (0,28 to 1,42 m3/min) dependent upon the circuit and frequency
Published value [3]	142	50 ft3/min (0,28 to 1,42 m3/min) dependent upon the circuit and frequency
Published value [1]	214	214-LVA-001A Filament connector, smaller
Published value [2]	1	214-LVA-001A Filament connector, smaller
Published value [1]	214	214-LVA-001B Filament connector, larger
Published value [2]	1	214-LVA-001B Filament connector, larger
Published value [1]	214	214-LYA-001C Grid connector -
Published value [2]	1	214-LYA-001C Grid connector -
direct voltage plus ripple)	7 kV	direct voltage plus ripple) 7 kv
Maximum direct anode current	3 mA	Maximum direct anode current 3 A
Maximum direct anode dissipation (continuous)	6 kW	Maximum direct anode dissipation (continuous) 6 kW
Maximum direct grid dissipation (continuous)	280 W	Maximum direct grid dissipation (continuous) 280 w
Maximum direct grid current (Note [1])	2 mA	Maximum direct grid current (Note 2) 700 mA
Maximum direct grid current (Note [2])	700 mA	Maximum direct grid current (Note 2) 700 mA
Maximum negative grid bias [1]	-1	Maximum negative grid bias —1 500 \
Maximum negative grid bias [2]	500	Maximum negative grid bias —1 500 \
Note	2 W	Note 2.—This figure is given for guidance. Grid dissipation is absolute rating.
Direct anode voltage [1]	6 kV	Direct anode voltage 6 6-5 kv
Direct anode voltage [2]	6 kV	Direct anode voltage 6 6-5 kv
Direct anode voltage [3]	-5 kV	Direct anode voltage 6 6-5 kv
Direct grid voltage [1]	-670	Direct grid voltage —670 —770 \
Direct grid voltage [2]	-770	Direct grid voltage —670 —770 \
Direct anode current [1]	2 A	Direct anode current 2:5 3 A
Direct anode current [2]	5 A	Direct anode current 2:5 3 A
Direct anode current [3]	3 A	Direct anode current 2:5 3 A
Peak r.f. grid voltage [1]	950 V	Peak r.f. grid voltage 950 1050 v

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak r.f. grid voltage [2]	1050 V	Peak r.f. grid voltage 950 1050 v
Direct grid current (INote [1])	3 mA	Direct grid current (INote 3) 450 (650) 350 (500) mA
Direct grid current (INote [2])	450 mA	Direct grid current (INote 3) 450 (650) 350 (500) mA
Direct grid current (INote [3])	650 mA	Direct grid current (INote 3) 450 (650) 350 (500) mA
Direct grid current (INote [4])	350 mA	Direct grid current (INote 3) 450 (650) 350 (500) mA
Direct grid current (INote [5])	500 mA	Direct grid current (INote 3) 450 (650) 350 (500) mA
Grid dissipation (Note [1])	3 W	Grid dissipation (Note 3) 140 115 w
Grid dissipation (Note [2])	140 W	Grid dissipation (Note 3) 140 115 w
Grid dissipation (Note [3])	115 W	Grid dissipation (Note 3) 140 115 w
Grid resistor [1]	1	Grid resistor 1-5 22 k2
Grid resistor [2]	-5	Grid resistor 1-5 22 k2
Grid resistor [3]	22	Grid resistor 1-5 22 k2
Power input [1]	15 kW	Power input 15 19-5 kW
Power input [2]	19 kW	Power input 15 19-5 kW
Power input [3]	-5 kW	Power input 15 19-5 kW
Output power (oscillator) [1]	11.5 kW	Output power (oscillator) 11.5 141 kw
Output power (oscillator) [2]	141 kW	Output power (oscillator) 11.5 141 kw
Power into load at [1]	85 kW	Power into load at 85%, transfer efficiency 10 12 kW
Power into load at [2]	10 kW	Power into load at 85%, transfer efficiency 10 12 kW
Power into load at [3]	12 kW	Power into load at 85%, transfer efficiency 10 12 kW
Maximum direct anode voltage	7 kV	Maximum direct anode voltage 7 kv
Maximum direct anode dissipation (intermittent)	7 kW	Maximum direct anode dissipation (intermittent) 7 kW
Maximum direct anode dissipation (continuous)	6 kW	Maximum direct anode dissipation (continuous) 6 kw
Maximum direct grid voltage [1]	-1 kV	Maximum direct grid voltage —1:5 kv

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum direct grid voltage [2]	5 kV	Maximum direct grid voltage —1:5 kv
Direct anode voltage	5 kV	Direct anode voltage 5 kv
Direct grid voltage —~	350 V	Direct grid voltage —~350 \
Direct anode current (zero signal), per valve	5 A	Direct anode current (zero signal), per valve 05 A
Direct anode current (maximum signal), per valve [1]	1 mA	Direct anode current (maximum signal), per valve 1-9 A
Direct anode current (maximum signal), per valve [2]	-9 mA	Direct anode current (maximum signal), per valve 1-9 A
Load resistor, anode-to-anode	2.7	Load resistor, anode-to-anode 2.7 kQ
Peak a.f. grid to grid voltage	920 V	Peak a.f. grid to grid voltage 920 v
Grid drive power, approximately ([1]	2 W	Grid drive power, approximately (2 valves) 75 w
Grid drive power, approximately ([2]	75 W	Grid drive power, approximately (2 valves) 75 w
Direct grid current, per valve	84 mA	Direct grid current, per valve 84 mA
Direct grid dissipation, per valve [1]	7 W	Direct grid dissipation, per valve 7-6 w
Direct grid dissipation, per valve [2]	-6 W	Direct grid dissipation, per valve 7-6 w
Output power ([1]	2 kW	Output power (2 valves) 12 kW
Output power ([2]	12 kW	Output power (2 valves) 12 kW
A	2	A 2 FILAMENT
Published value	3	3 GRID
*	4	* 4 ANODE

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