ELECTRONIC TUBE REFERENCE

4019A

Voltage - Triode (single) electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
TRIODE

Directly heated oxide-filament triode with published audio operating conditions, load resistance, output, and harmonic-performance data for low-frequency amplifier service.

General characteristics

BASE DESIGNATION	—	**BASE PINS**	4
NOMINAL HEATER	4 V / 250 mA	**PARALLEL HEATER**	— / —
HEATING	Direct	**SERIES OPERATION**	Not specified
CATHODE ARRANGEMENT	Separate cathodes	**SECTION CONSTRUCTION**	Similar

Section ratings

SECTION1 Triode	
PLATE RESISTANCE	5500 Ω
TRANSCONDUCTANCE	0.00127 S
AMPLIFICATION FACTOR	7
MAXIMUM PLATE VOLTAGE	190 V

Published ratings/characteristics promoted; remaining useful source values represented as parameters.

Standard Valves 4019A is an oxide-coated directly heated triode. The sheet publishes its filament rating, static constants, interelectrode capacitances, and a table of typical anode/grid/load operating conditions with output and harmonic performance. Oxide-coated filament triode, medium 4-pin bayonet-thrust base.

SOURCE OPERATING CONDITIONS

1937 Standard Valves

SOURCE PDF

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

1937 STANDARD VALVES

Section 1 · Triode

CAPACITANCE

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-Anode Capacitance	**5.4 pF**	Published specification
Anode-Filament Capacitance	**4.8 pF**	Published specification
Grid-Filament Capacitance	**7.3 pF**	Published specification

CHARACTERISTICS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Characteristic Anode Voltage	**130 V**	For impedance/amplification factor/transconductance values
Characteristic Grid Bias	**-8 V**	For impedance/amplification factor/transconductance values

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Output Power	**54 mW**	TypicalOperatingConditions; PlateVoltage=130V; GridBias=-6V; AnodeCurrent=9.7mA; AnodeResistance=4800ohm; LoadResistance=4600ohm
Total Harmonics Below Fundamental	**30 dB**	TypicalOperatingConditions; PlateVoltage=130V; GridBias=-6V; AnodeCurrent=9.7mA; AnodeResistance=4800ohm; LoadResistance=4600ohm
Output Power	**49 mW**	TypicalOperatingConditions; PlateVoltage=130V; GridBias=-6V; AnodeCurrent=9.7mA; AnodeResistance=4800ohm; LoadResistance=9200ohm

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Total Harmonics Below Fundamental	**34 dB**	TypicalOperatingConditions; PlateVoltage=130V; GridBias=-6V; AnodeCurrent=9.7mA; AnodeResistance=4800ohm; LoadResistance=9200ohm
Output Power	**36 mW**	TypicalOperatingConditions; PlateVoltage=130V; GridBias=-6V; AnodeCurrent=9.7mA; AnodeResistance=4800ohm; LoadResistance=13800ohm
Total Harmonics Below Fundamental	**37 dB**	TypicalOperatingConditions; PlateVoltage=130V; GridBias=-6V; AnodeCurrent=9.7mA; AnodeResistance=4800ohm; LoadResistance=13800ohm
Output Power	**83 mW**	TypicalOperatingConditions; PlateVoltage=130V; GridBias=-8V; AnodeCurrent=6.8mA; AnodeResistance=5500ohm; LoadResistance=5500ohm
Total Harmonics Below Fundamental	**24 dB**	TypicalOperatingConditions; PlateVoltage=130V; GridBias=-8V; AnodeCurrent=6.8mA; AnodeResistance=5500ohm; LoadResistance=5500ohm
Output Power	**74 mW**	TypicalOperatingConditions; PlateVoltage=130V; GridBias=-8V; AnodeCurrent=6.8mA; AnodeResistance=5500ohm; LoadResistance=11000ohm
Total Harmonics Below Fundamental	**30 dB**	TypicalOperatingConditions; PlateVoltage=130V; GridBias=-8V; AnodeCurrent=6.8mA; AnodeResistance=5500ohm; LoadResistance=11000ohm
Output Power	**61 mW**	TypicalOperatingConditions; PlateVoltage=130V; GridBias=-8V; AnodeCurrent=6.8mA; AnodeResistance=5500ohm; LoadResistance=16500ohm
Total Harmonics Below Fundamental	**32 dB**	TypicalOperatingConditions; PlateVoltage=130V; GridBias=-8V; AnodeCurrent=6.8mA; AnodeResistance=5500ohm; LoadResistance=16500ohm

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Output Power	**100 mW**	TypicalOperatingConditions; PlateVoltage=130V; GridBias=-10V; AnodeCurrent=4.3mA; AnodeResistance=6500ohm; LoadResistance=5500ohm
Total Harmonics Below Fundamental	**16 dB**	TypicalOperatingConditions; PlateVoltage=130V; GridBias=-10V; AnodeCurrent=4.3mA; AnodeResistance=6500ohm; LoadResistance=5500ohm
Output Power	**85 mW**	TypicalOperatingConditions; PlateVoltage=130V; GridBias=-10V; AnodeCurrent=4.3mA; AnodeResistance=6500ohm; LoadResistance=11000ohm
Total Harmonics Below Fundamental	**23 dB**	TypicalOperatingConditions; PlateVoltage=130V; GridBias=-10V; AnodeCurrent=4.3mA; AnodeResistance=6500ohm; LoadResistance=11000ohm
Output Power	**80 mW**	TypicalOperatingConditions; PlateVoltage=130V; GridBias=-10V; AnodeCurrent=4.3mA; AnodeResistance=6500ohm; LoadResistance=16500ohm
Total Harmonics Below Fundamental	**27 dB**	TypicalOperatingConditions; PlateVoltage=130V; GridBias=-10V; AnodeCurrent=4.3mA; AnodeResistance=6500ohm; LoadResistance=16500ohm
Output Power	**150 mW**	TypicalOperatingConditions; PlateVoltage=160V; GridBias=-10V; AnodeCurrent=9.8mA; AnodeResistance=4700ohm; LoadResistance=4600ohm
Total Harmonics Below Fundamental	**24 dB**	TypicalOperatingConditions; PlateVoltage=160V; GridBias=-10V; AnodeCurrent=9.8mA; AnodeResistance=4700ohm; LoadResistance=4600ohm
Output Power	**132 mW**	TypicalOperatingConditions; PlateVoltage=160V; GridBias=-10V; AnodeCurrent=9.8mA; AnodeResistance=4700ohm; LoadResistance=9200ohm

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Total Harmonics Below Fundamental	**30 dB**	TypicalOperatingConditions; PlateVoltage=160V; GridBias=-10V; AnodeCurrent=9.8mA; AnodeResistance=4700ohm; LoadResistance=9200ohm
Output Power	**112 mW**	TypicalOperatingConditions; PlateVoltage=160V; GridBias=-10V; AnodeCurrent=9.8mA; AnodeResistance=4700ohm; LoadResistance=13800ohm
Total Harmonics Below Fundamental	**37 dB**	TypicalOperatingConditions; PlateVoltage=160V; GridBias=-10V; AnodeCurrent=9.8mA; AnodeResistance=4700ohm; LoadResistance=13800ohm
Output Power	**180 mW**	TypicalOperatingConditions; PlateVoltage=160V; GridBias=-12V; AnodeCurrent=7.1mA; AnodeResistance=5300ohm; LoadResistance=5500ohm
Total Harmonics Below Fundamental	**19 dB**	TypicalOperatingConditions; PlateVoltage=160V; GridBias=-12V; AnodeCurrent=7.1mA; AnodeResistance=5300ohm; LoadResistance=5500ohm
Output Power	**156 mW**	TypicalOperatingConditions; PlateVoltage=160V; GridBias=-12V; AnodeCurrent=7.1mA; AnodeResistance=5300ohm; LoadResistance=11000ohm
Total Harmonics Below Fundamental	**23 dB**	TypicalOperatingConditions; PlateVoltage=160V; GridBias=-12V; AnodeCurrent=7.1mA; AnodeResistance=5300ohm; LoadResistance=11000ohm
Output Power	**130 mW**	TypicalOperatingConditions; PlateVoltage=160V; GridBias=-12V; AnodeCurrent=7.1mA; AnodeResistance=5300ohm; LoadResistance=16500ohm
Total Harmonics Below Fundamental	**31 dB**	TypicalOperatingConditions; PlateVoltage=160V; GridBias=-12V; AnodeCurrent=7.1mA; AnodeResistance=5300ohm; LoadResistance=16500ohm

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Output Power	**290 mW**	TypicalOperatingConditions; PlateVoltage=190V; GridBias=-14V; AnodeCurrent=9.7mA; AnodeResistance=4900ohm; LoadResistance=5500ohm
Total Harmonics Below Fundamental	**23 dB**	TypicalOperatingConditions; PlateVoltage=190V; GridBias=-14V; AnodeCurrent=9.7mA; AnodeResistance=4900ohm; LoadResistance=5500ohm
Output Power	**240 mW**	TypicalOperatingConditions; PlateVoltage=190V; GridBias=-14V; AnodeCurrent=9.7mA; AnodeResistance=4900ohm; LoadResistance=11000ohm
Total Harmonics Below Fundamental	**30 dB**	TypicalOperatingConditions; PlateVoltage=190V; GridBias=-14V; AnodeCurrent=9.7mA; AnodeResistance=4900ohm; LoadResistance=11000ohm
Output Power	**180 mW**	TypicalOperatingConditions; PlateVoltage=190V; GridBias=-14V; AnodeCurrent=9.7mA; AnodeResistance=4900ohm; LoadResistance=16500ohm
Total Harmonics Below Fundamental	**33 dB**	TypicalOperatingConditions; PlateVoltage=190V; GridBias=-14V; AnodeCurrent=9.7mA; AnodeResistance=4900ohm; LoadResistance=16500ohm

SOURCE OPERATING CONDITIONS

SOURCE PDF

1946 Standard Telephone and Cables

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

1946 STANDARD TELEPHONE AND CABLES

Section 1 · Triode

CHARACTERISTICS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/filament voltage	**4 V**	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/filament current	**250 mA**	—
Plate resistance	**5500 ohm**	—
Amplification factor	**7**	—

OTHER		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
Maximum direct anode voltage	**190 V**	—

Tube Tinker

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