



ELECTRONIC TUBE REFERENCE

2G21

Voltage - Triode (with diode, heptode or hexode) electronic tube

CONSOLIDATED TECHNICAL
DATA

2 SECTIONS
CONSTRUCTION
HEPTODE-TRIODE

Ultra-low-power triode-heptode for battery receiver oscillator and frequency-converter service. The triode provides local oscillation while the heptode performs mixing from very modest filament and plate supplies.

GENERAL CHARACTERISTICS

BASE DESIGNATION	2G21	BASE PINS	7
NOMINAL HEATER	1.25 V / 50 mA	PARALLEL HEATER	– / –
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

SECTION RATINGS

SECTION1 Triode	
TRANSCONDUCTANCE	0.0006 S
AMPLIFICATION FACTOR	20
MAXIMUM PLATE VOLTAGE	50 V
MAXIMUM PLATE DISSIPATION	0.1 W
MAXIMUM CATHODE CURRENT	2 mA
<i>Promoted from clearly identified printed ratings/characteristics; additional published operating points and capacitances retained in TUBE_SECTION_PARAMETER.</i>	

SECTION2 Heptode	
PLATE RESISTANCE	500000 Ω
TRANSCONDUCTANCE	0.00006 S
MAXIMUM PLATE VOLTAGE	45 V
MAXIMUM SCREEN VOLTAGE	45 V
MAXIMUM PLATE DISSIPATION	0.1 W
MAXIMUM CATHODE CURRENT	2.2 mA
<i>Promoted from clearly identified printed ratings/characteristics; additional published operating points and capacitances retained in TUBE_SECTION_PARAMETER.</i>	

Directly heated subminiature triode-heptode frequency converter for low-voltage battery radio equipment.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1938 Raytheon

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

1938 RAYTHEON

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterVoltageNominal	1.25 V	Nominal
HeaterCurrentNominal	50 mA	Nominal
Maximum Plate Voltage	45 V	—
Maximum Plate Dissipation	0.1 W	—
Maximum Cathode Current	2 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	600 μ S	Typical
Amplification Factor	20	Typical

1938 RAYTHEON

Section 2 · Heptode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterVoltageNominal	1.25 V	Nominal
HeaterCurrentNominal	50 mA	Nominal
Maximum Plate Voltage	45 V	—
Maximum Screen Voltage	45 V	—
Maximum Plate Dissipation	0.1 W	—
Maximum Cathode Current	2 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	250 μ S	Typical

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

195X General Electric Essential Characteristics

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

195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Oscillator plate voltage	22.5 V	Converter
Oscillator plate current	1 mA	Converter
Oscillator grid current	0.03 mA	Converter
Oscillator grid resistor	50000 Ω	Converter

195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

Section 2 · Heptode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	22.5 V	Converter
Screen voltage	22.5 V	Converter
Control-grid voltage	0 V	Converter
Plate current	0.2 mA	Converter
Screen current	0.3 mA	Converter

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	500000 Ω	Converter
Conversion transconductance	60 μ S	Converter

195X Raytheon Special Purpose Tubes

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

195X RAYTHEON SPECIAL PURPOSE TUBES

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	22.5 V	TriodeSection
Plate Current	1 mA	TriodeSection

195X RAYTHEON SPECIAL PURPOSE TUBES

Section 2 · Heptode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	22.5 V	—
Grid 1 Voltage	Rg=50000 ohm V	—
Grid 2 Voltage	22.5 V	—
Grid 3 Voltage	0 V	—
Plate Current	0.2 mA	—
Grid 2 Current	0.3 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	60 uS	—
Plate Resistance	0.5 Mohm	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

1960 Mazda

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

1960 MAZDA

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Triode anode voltage	45 V	—
Heptode anode voltage	45 V	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid 3 to heptode anode capacitance	0.065 pF	—
Grid 1 to triode anode capacitance	1.3 pF	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1968 Mazda Belvu

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

1968 MAZDA BELVU

Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater or filament voltage	1.25 V	Published nominal value
Heater or filament current	53 mA	Published nominal value
Conversion transconductance	75 $\mu\text{A/V}$	Published nominal

1968 MAZDA BELVU

Section 2 · Heptode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater or filament voltage	1.25 V	Published nominal value
Heater or filament current	53 mA	Published nominal value