

ELECTRONIC TUBE REFERENCE

401A

Voltage - Pentode Sharp Cutoff (single) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
PENTODE

Seven-pin miniature professional pentode for Class-A voltage amplification, providing high plate resistance and flexible small-signal operation.

GENERAL CHARACTERISTICS

BASE DESIGNATION	E7-1	BASE PINS	7
NOMINAL HEATER	6.3 V / 150 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Pentode	
PLATE RESISTANCE	450000 Ω
TRANSCONDUCTANCE	0.002 S
MAXIMUM PLATE VOLTAGE	180 V
MAXIMUM SCREEN VOLTAGE	140 V
MAXIMUM PLATE DISSIPATION	1.7 W
MAXIMUM SCREEN DISSIPATION	0.5 W
MAXIMUM CATHODE CURRENT	18 mA
Promoted fields mapped from printed maximum-rating and characteristic headings; additional published values preserved in parameter rows.	

Seven-pin miniature pentode with 200 V plate and 155 V screen maximum ratings.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1956 Western Electric Tubes

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

1956 WESTERN ELECTRIC TUBES

Section 1 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentVoltage	6.3 V	—
HeaterOrFilamentCurrent	150 mA	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1965 Ericsson Longlife

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

1965 ERICSSON LONGLIFE

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate supply voltage	45 V	ClassA
Screen-grid supply voltage	45 V	ClassA
Cathode bias resistor	390 Ohm	ClassA
Plate current	2.7 mA	ClassA
Screen-grid current	0.8 mA	ClassA
Plate supply voltage	90 V	ClassA
Screen-grid supply voltage	90 V	ClassA
Cathode bias resistor	820 Ohm	ClassA
Plate current	3.9 mA	ClassA
Screen-grid current	1.2 mA	ClassA

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate supply voltage	120 V	ClassA
Screen-grid supply voltage	120 V	ClassA
Plate current	5 mA	ClassA
Transconductance minimum	1500 μ S	Va=90V;Vg2=90V
Transconductance maximum	2500 μ S	Va=90V;Vg2=90V

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	1900 μ S	ClassA;Va=45V;Vg2=45V
Plate resistance	0.3 M Ω hm	ClassA;Va=45V;Vg2=45V
Transconductance	2000 μ S	ClassA;Va=90V;Vg2=90V
Plate resistance	0.45 M Ω hm	ClassA;Va=90V;Vg2=90V
Transconductance	2200 μ S	ClassA;Va=120V;Vg2=120V
Plate resistance	0.5 M Ω hm	ClassA;Va=120V;Vg2=120V



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

2026 Western Electric Other

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

2026 WESTERN ELECTRIC OTHER

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	General characteristics
Heater Current	150 mA	General characteristics
Plate Voltage Maximum	180 V	Design-center value
Screen Voltage Maximum	140 V	Design-center value
Plate Dissipation Maximum	1.7 W	Design-center value
Screen Dissipation Maximum	0.5 W	Design-center value
Cathode Current Maximum	18 mA	Design-center value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater-Cathode Voltage Maximum	90 V	Design-center value
Bulb Temperature Maximum	120 degC	Design-center value
Plate Voltage	45 V	ClassA; operating column 1
Screen Grid Voltage	45 V	ClassA; operating column 1
Control Grid Voltage	-1.5 V	ClassA; operating column 1
Plate Voltage	90 V	ClassA; operating column 2
Screen Grid Voltage	90 V	ClassA; operating column 2
Control Grid Voltage	-5 V	ClassA; operating column 2
Plate Voltage	90 V	ClassA; cathode-bias operating column
Screen Grid Voltage	90 V	ClassA; cathode-bias operating column
Cathode Bias Resistor	820 ohm	ClassA; cathode-bias operating column
Plate Voltage	120 V	ClassA; operating column 4
Screen Grid Voltage	120 V	ClassA; operating column 4
Control Grid Voltage	-7 V	ClassA; operating column 4

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-Plate Capacitance Maximum	0.01 pF	With external shield RMA #316
Input Capacitance	3.4 pF	With external shield RMA #316
Output Capacitance	2.9 pF	With external shield RMA #316

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	3 mA	ClassA; operating column 1
Screen Grid Current	1.1 mA	ClassA; operating column 1
Plate Resistance	0.29 megohm	ClassA; operating column 1
Transconductance	2000 uS	ClassA; operating column 1
Plate Current	3.9 mA	ClassA; operating column 2
Screen Grid Current	1.3 mA	ClassA; operating column 2
Plate Resistance	0.45 megohm	ClassA; operating column 2
Transconductance	2000 uS	ClassA; operating column 2
Plate Current	4.3 mA	ClassA; cathode-bias operating column

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Screen Grid Current	1.4 mA	ClassA; cathode-bias operating column
Plate Resistance	0.41 megohm	ClassA; cathode-bias operating column
Transconductance	2100 uS	ClassA; cathode-bias operating column
Plate Current	5.1 mA	ClassA; operating column 4
Screen Grid Current	1.8 mA	ClassA; operating column 4
Plate Resistance	0.41 megohm	ClassA; operating column 4
Transconductance	2200 uS	ClassA; operating column 4

TUBE TINKER

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and their source documents.

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