ELECTRONIC TUBE REFERENCE

5590

Voltage - Pentode electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
PENTODE

Long-life RF pentode designed for amplifier service from low through very high frequencies, including operation from comparatively low supply voltages.

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.

RF amplifier pentode designed for low supply voltages and operation from low through very high frequencies.

SOURCE OPERATING CONDITIONS

1965 Ericsson Longlife

SOURCE PDF

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
Plate supply voltage	**120 V**	ClassA
Screen-grid supply voltage	**120 V**	ClassA
Plate current	**5 mA**	ClassA
Transconductance minimum	**1500 uS**	Va=90V;Vg2=90V
Transconductance maximum	**2500 uS**	Va=90V;Vg2=90V

CHARACTERISTICS		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
Transconductance	**1900 uS**	ClassA;Va=45V;Vg2=45V
Plate resistance	**0.3 MOhm**	ClassA;Va=45V;Vg2=45V
Transconductance	**2000 uS**	ClassA;Va=90V;Vg2=90V
Plate resistance	**0.45 MOhm**	ClassA;Va=90V;Vg2=90V
Transconductance	**2200 uS**	ClassA;Va=120V;Vg2=120V

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	**0.5 MOhm**	ClassA;Va=120V;Vg2=120V

SOURCE OPERATING CONDITIONS

SOURCE PDF

196X LM Ericsson

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196X LM ERICSSON

Section 1 · Pentode

CHARACTERISTICS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	**6.3 V**	—
Heater current	**150 mA**	—
Plate resistance	**820 ohm**	—
Transconductance	**1900 uS**	—

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	**200 V**	—
Maximum screen voltage	**155 V**	—
Maximum plate dissipation	**1.85 W**	—
Low-voltage plate and screen operating point	**45 V**	—

SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

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
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
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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