



ELECTRONIC TUBE REFERENCE

6Y10

Voltage - Dual Pentode electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

PENTODE-PENTODE

Compactron with dissimilar pentodes combining an audio power-output section with a dual-control pentode for television FM sound detection.

GENERAL CHARACTERISTICS

BASE DESIGNATION	12EZ	BASE PINS	12
NOMINAL HEATER	6.3 V / 830 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

12EZ - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – Pin 1	–	H – Heater	CONNECTED • verified
PIN2 – Pin 2	B	K – Cathode	CONNECTED • verified
PIN2 – Pin 2	B	SH – Internal Shield	CONNECTED • verified
PIN2	–	IS – Internal Screen	CONNECTED
PIN3 – Pin 3	B	G1 – Control Grid	CONNECTED • verified
PIN4 – Pin 4	–	–	NC • verified
PIN5 – Pin 5	B	G3 – Suppressor Grid	CONNECTED • verified
PIN6 – Pin 6	B	G2 – Screen Grid	CONNECTED • verified

TERMINAL	SECTION	ELEMENT	STATUS
PIN7 – Pin 7	B	P – Plate (Anode)	CONNECTED · verified
PIN8 – Pin 8	A	G1 – Control Grid	CONNECTED · verified
PIN9 – Pin 9	A	BP – Beam-Forming Plate	CONNECTED · verified
PIN9	A	G3 – Suppressor Grid	CONNECTED
PIN9 – Pin 9	A	K – Cathode	CONNECTED · verified
PIN10 – Pin 10	A	G2 – Screen Grid	CONNECTED · verified
PIN11 – Pin 11	A	P – Plate (Anode)	CONNECTED · verified
PIN12 – Pin 12	–	H – Heater	CONNECTED · verified

SECTION RATINGS

SECTION1 Pentode	
PLATE RESISTANCE	150000 Ω
TRANSCONDUCTANCE	0.0084 S
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	4.8 W
MAXIMUM SCREEN DISSIPATION	1.1 W
MAXIMUM CATHODE CURRENT	30 mA

SECTION2 Pentode	
PLATE RESISTANCE	140000 Ω
TRANSCONDUCTANCE	0.0037 S
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	1.7 W
MAXIMUM SCREEN DISSIPATION	1 W
MAXIMUM CATHODE CURRENT	20 mA

Compactron with dissimilar pentodes: an audio power pentode and a dual-control pentode for TV FM detector service.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1961 Tung Sol

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

1961 TUNG SOL

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Nominal
Heater current	830 mA	Nominal
Plate voltage	250 V	Average characteristics
Grid 2 voltage	250 V	Average characteristics
Cathode resistor	270 ohm	Average characteristics
Load resistance	15000 ohm	ClassA; PowerAmplifier
Power output	1.8 W	ClassA; PowerAmplifier; NoBypass
Power output	1.1 W	ClassA; PowerAmplifier; CapacitorBypass
Total harmonic distortion	10 %	ClassA; PowerAmplifier

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate current	16 mA	Average characteristics
Grid 2 current	2.7 mA	Average characteristics
Transconductance grid 1 to plate	8400 uS	Average characteristics
Plate resistance	150000 ohm	Average characteristics

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid 1 to plate	0.24 pF	Direct interelectrode capacitance
Input capacitance	7.5 pF	Direct interelectrode capacitance
Output capacitance	6 pF	Direct interelectrode capacitance

1961 TUNG SOL

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Nominal
Heater current	830 mA	Nominal
Plate voltage	150 V	Average characteristics
Grid 2 voltage	100 V	Average characteristics
Grid 3 voltage	0 V	Average characteristics
Cathode resistor	180 ohm	Average characteristics

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate current	3.7 mA	Average characteristics
Grid 2 current	3 mA	Average characteristics
Transconductance grid 1 to plate	3700 uS	Average characteristics
Transconductance grid 3 to plate	600 uS	Average characteristics
Plate resistance	140000 ohm	Average characteristics
Grid 1 cutoff voltage	-4.5 V	Average characteristics
Grid 3 cutoff voltage	-7 V	Average characteristics

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid 1 to plate	0.022 pF	Direct interelectrode capacitance
Grid 1 to all	7.5 pF	Direct interelectrode capacitance
Grid 3 to plate	1.5 pF	Direct interelectrode capacitance
Grid 3 to all	6.5 pF	Direct interelectrode capacitance
Grid 1 to grid 3	0.15 pF	Direct interelectrode capacitance
Plate-to-plate coupling capacitance	0.075 pF	Cross-section capacitance



SOURCE DATA APPENDIX

1966 Tung Sol Electronic Tubes 2 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4
Section 1 · Pentode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid #1-to-plate capacitance	0.24 pF	—
Input capacitance	7.5 pF	—
Output capacitance	6 pF	—
Plate-to-plate coupling capacitance	0.075 pF	BetweenSections

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	AverageCharacteristics
Grid #2 voltage	250 V	AverageCharacteristics
Cathode resistor	270 ohm	AverageCharacteristics
Plate current	16 mA	AverageCharacteristics
Grid #2 current	2.7 mA	AverageCharacteristics
Load resistance	15000 ohm	ClassA
Power output	1.8 W	ClassA;UnbypassedCathode
Power output	1.1 W	ClassA;BypassedCathode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance grid #1 to plate	8400 uS	—
Plate resistance	150000 ohm	—

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4
Section 2 · Pentode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid #1-to-plate capacitance	0.022 pF	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid #1 total capacitance	7.5 pF	—
Grid #3-to-plate capacitance	1.5 pF	—
Grid #3 total capacitance	6.5 pF	—
Grid #1-to-grid #3 capacitance	0.15 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	150 V	AverageCharacteristics
Grid #2 voltage	100 V	AverageCharacteristics
Cathode resistor	180 ohm	AverageCharacteristics
Plate current	3.7 mA	AverageCharacteristics
Grid #2 current	3 mA	AverageCharacteristics

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance grid #1 to plate	3700 uS	—
Plate resistance	140000 ohm	—
Transconductance grid #3 to plate	600 uS	—

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes, and their source documents.

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