

ELECTRONIC TUBE REFERENCE

1L6

Voltage Radio Detector Converter electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

HEPTODE

Battery pentagrid converter for portable superheterodyne receivers, combining local-oscillator and mixer functions in one multi-grid tube. Its economical filament minimizes battery drain while providing useful frequency conversion.

GENERAL CHARACTERISTICS

BASE DESIGNATION	7DC	BASE PINS	7
NOMINAL HEATER	1.4 V / 50 mA	PARALLEL HEATER	– / –
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

7DC - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – F	–	F – Filament	CONNECTED
PIN2 – P	A	P – Plate (Anode)	CONNECTED
PIN3 – G2	A	G2 – Screen Grid	CONNECTED
PIN4 – G1	A	G1 – Control Grid	CONNECTED
PIN5 – G3	A	G3 – Suppressor Grid	CONNECTED
PIN5 – G5	A	G5 – Fifth Grid	CONNECTED
PIN6 – G4	A	G4 – Fourth Grid	CONNECTED
PIN7 – F	–	F – Filament	CONNECTED

SECTION RATINGS

SECTION1 Heptode	
PLATE RESISTANCE	650000 Ω
TRANSCONDUCTANCE	0.0003 S
MAXIMUM PLATE VOLTAGE	110 V
MAXIMUM SCREEN VOLTAGE	65 V
MAXIMUM CATHODE CURRENT	4 mA
<i>Pentagrid converter; conversion transconductance promoted; oscillator transconductance preserved separately.</i>	

1L6 is listed as a pentagrid converter in the supplied receiving-tube handbook. It uses a 1.4 V, 0.05 A directly heated filament. The handbook publishes maximum ratings and representative operating characteristics for its intended service.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1950 Sylvania

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

1950 SYLVANIA

Section 1 · Heptode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical Plate Voltage	90 V	—
Typical Grid No. 2 Voltage	90 V	—
Typical Grid No. 3 and 5 Voltage	45 V	—
Typical Plate Current	0.5 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Conversion Transconductance	300 μS	Grid No. 4 at 0 V
Conversion Transconductance	10 μS	Grid No. 4 at approx. -3.5 V
Oscillator Transconductance	550 μS	—



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 · Heptode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	110 V	Published handbook rating

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum screen voltage	65 V	Published handbook rating
Plate voltage	90 V	ClassA
Screen voltage	45 V	ClassA
Control-grid voltage	0 V	ClassA
Plate current	0.5 mA	ClassA
Screen current	0.6 mA	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	650000 ohm	Published handbook characteristic
Transconductance	300 μ S	Published handbook characteristic
Filament voltage	1.4 V	DirectlyHeated DC filament
Filament current	50 mA	DirectlyHeated DC filament



SOURCE DATA APPENDIX

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 · Heptode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Conversion Transconductance	300 μ S	Converter
Oscillator Transconductance	650 μ S	Oscillator