

N.V. PHILIPS ' GLOEILAMPENFABRIEKEN EINDHOVEN HOLLAND

TUBE TYPE 12S7

The 12S7 is a single diode, remote cut-off R.F. pentode.

PHYSICAL SPECIFICATIONS

Cathode	Coated unipotential
Base	E8-30
Bulb	Glass
Maximum overall length	2-3/8" { 60mm }
Maximum seated height	2-1/16" { 53mm }
Maximum diameter	7/8" { 22mm }
Mounting position	Any

BASING CONNECTIONS 8GX

Pin 1	Heater	Pin 5	Grid No. 2
Pin 2	Pentode plate	Pin 6	Grid No. 1
Pin 3	Diode plate	Pin 7	Cathode, Internal Shield
Pin 4	Grid No. 3	Pin 8	Heater

GENERAL ELECTRICAL DATA

Heater voltage	12.6	volts
Heater current	0.1	amps

ELECTRODE CAPACITANCES

Diode plate to grid No. 1	<0.0015	μμF
Diode plate to Pentode plate	<0.15	μμF

Pentode Section

Plate to Grid No. 1	<0.002	μμF
Grid No. 1 to heater	<0.05	μμF
Input	4.5	μμF
Output	5.1	μμF

Diode Section

Plate to cathode	3.8	μμF
Plate to heater	<0.02	μμF

CHARACTERISTICS

Plate voltage	200	volts
Grid No. 2 voltage	85	volts
Plate current	5.0	ma
Grid No. 2 current	1.5	ma
Grid No. 1 voltage	-2.0	volts
Transconductance	2,000	μmhos
Plate resistance	1	megohm
Grid No. 1 voltage for transconductance of 20 μmhos	-34	volts
Amplification factor of Grid No. 2 with respect to Grid No. 1	18	

MAXIMUM RATINGS (Design Centre Values)Pentode Section

Plate supply voltage	550	volts
Plate voltage	250	volts
Plate dissipation	2	watts
Grid No. 2 supply voltage	550	volts
Grid No. 2 voltage (plate current $\leq 2.5\text{ma}$)	250	volts
Grid No. 2 voltage (plate current = 5.0ma)	125	volts
Grid No. 2 dissipation	0.3	watts
Cathode current	10	ma
Grid No. 1 circuit resistance	3	megohms
Grid No. 3 circuit resistance (for peak voltage on Grid No. 3 not exceeding 10 volts positive)	3	megohms
Voltage between heater and cathode	150	volts
External resistance between heater and cathode	20,000	ohms

Diode Section

Peak Plate voltage	200	volts
Plate current	0.8	ma

12S7

Plate voltage = 100-200 volts Grid No.3 voltage = 0 volt	
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Supply voltage = 170 volts	
Grid No.2 series	
resistor = 56 000 ohms	

= 100 volts
= 56 000 ohms



