



ELECTRONIC TUBE REFERENCE

12F8

Voltage Pentode or Tetrode (under 100V) electronic tube

CONSOLIDATED TECHNICAL DATA

3 SECTIONS

CONSTRUCTION

DIODE-DIODE-PENTODE

Low-voltage combination of two detector diodes and a remote-cutoff pentode for 12 V automobile receivers. The pentode provides controlled-gain amplification while the common-cathode diodes perform detector or AVC rectification.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9FH	BASE PINS	9
NOMINAL HEATER	12.6 V / 150 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Common cathode	SECTION CONSTRUCTION	Dissimilar

SECTION RATINGS

SECTION1 Pentode	
PLATE RESISTANCE	330000 Ω
TRANSCONDUCTANCE	0.001 S
MAXIMUM PLATE VOLTAGE	30 V
MAXIMUM SCREEN VOLTAGE	30 V
Remote-cutoff pentode.	

SECTION2 Diode	
NOMINAL OUTPUT CURRENT	1 mA
Representative of two identical detector diodes.	

SECTION3 Diode

No fixed ratings recorded.

Added approved missing physical diode section row.

12F8 combines two detector diodes and a remote-cutoff pentode on a common cathode. It is intended for AF voltage amplification, detection and AVC in automobile receivers operating directly from a 12-volt battery.

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	12.6 V	—
Heater current	150 mA	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	4.5 pF	—
Output capacitance	3 pF	—

1961 TUNG SOL

Section 2 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum average diode current	1 mA	EachDiode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Diode-to-diode capacitance	0.3 pF	—

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAX	12.6 V	Published datasheet; published column 1
MAX	0.15 V	Published datasheet; published column 2
HEATER VOLTAGE	12.6 V	Maximum ratings
MAXIMUM HEATER –CATHODE VOLTAGE t_3	0 V	Maximum ratings
MAXIMUM PLATE VOLTAGE	30 V	Maximum ratings
MAXIMUM GRID N2 VOLTAGE	30 V	Maximum ratings
xTN1G TUBE	1 V	Maximum ratings; published column 1
xTN1G TUBE	12 V	Maximum ratings; published column 4
HEATER VOLTAGE	126 V	Typical operating conditions
HEATER CURRENT	150 mA	Typical operating conditions
PLATE VOLTAGE	12.6 V	Typical operating conditions
GRID /	2 V	Typical operating conditions; published column 1
GRID /	12.6 V	Typical operating conditions; published column 2
GRID N1 VOLTAGE	0 V	Typical operating conditions
PLATE CURRENT	1 mA	Typical operating conditions
TRANSCONDUCTANCE	1000 μS	Typical operating conditions
$E_f =$	12.6 V	Typical operating conditions
$E_{\sim Z} =$	12.6 V	Typical operating conditions
$E_t =$	12.6 V	Typical operating conditions
$E_b =$	12.6 V	Typical operating conditions; published column 1
$E_b =$	1 V	Typical operating conditions; published column 2
$E_b =$	1000 V	Typical operating conditions; published column 3
$E_b =$	0 V	Typical operating conditions; published column 4
Maximum plate voltage	30 V	Published datasheet; promoted section value
Maximum screen voltage	30 V	Published datasheet; promoted section value

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	330000 ohm	Published datasheet; promoted section value
Transconductance	0.001 A/V	Published datasheet; promoted section value

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 2 · Diode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DIODE TO DIODE	0.3 pF	Interelectrode capacitances

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAXIMUM AVERAGE DIODE CURRENT	1 mA	Maximum ratings
AVERAGE DIODE CURRENT WITH	1 V	Typical operating conditions; published column 1
AVERAGE DIODE CURRENT WITH	0 V	Typical operating conditions; published column 2
AVERAGE DIODE CURRENT WITH	2 V	Typical operating conditions; published column 3
Maximum/average diode output current	1 mA	Published datasheet; promoted section value

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Average diode current at 10 V applied	2 mA	Each diode